APPENDIX F – WETLANDS AND WATERWAYS EVALUATION

Compensatory Stormwater Management Sites
for the I-495 and I-270 Managed Lanes Study

APPENDIX F: Wetland and Waterway Delineation
& Field Assessments

1. Introduction

The I-495 & I-270 Managed Lanes Study (MLS) is required to comply with Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344); the State of Maryland Environment Article Title 5, Subtitles 5 and 9 of the Maryland Annotated Code; and COMAR Title 26 to protect wetlands and waterways. All impacts to wetlands and waterways that would result from the construction of the MLS are required to be included in the Final Environmental Impact Statement (FEIS) and impacts for Phase I South of the MLS are required to be included in the revised Joint Permit Application (JPA). The MLS stormwater requirement cannot be met onsite and therefore stormwater facilities must be constructed offsite to meet the MLS stormwater requirement. These compensatory stormwater facilities have the potential to impact wetlands, their buffers, and waterways and therefore these resources were delineated within the proposed compensatory stormwater limits of disturbance (LODs) to determine this impact.

The MLS Natural Resources Team conducted a delineation of wetlands and waterways within the 1,000+ potential stormwater management (SWM) mitigation sites limits of disturbance (LOD) identified for environmental review (see **Appendix K**) from October 2020 through February 2021 on behalf of the Maryland Department of Transportation State Highway Administration (MDOT SHA), with ongoing delineation of properties pending access. Experts from various disciplines performed environmental and technical reviews on the potential compensatory stormwater sites. The disciplines included: forestry, wetlands and waterways, cultural resources, hazardous materials, geotechnical, maintenance of traffic, Right of Way, Section 4(f), structures, survey, utilities, and constructability. Many sites were dropped from consideration based on their potential impact to environmental resources or conflicts from one of the other technical disciplines, such as utilities. A total of 133 nontidal wetlands and their buffers and 174 stream segments were delineated within the 754 proposed compensatory SWM sites that resulted from this review, and are listed alphanumerically in **Attachment A**.

Supplemental information supporting the wetland and waterways delineation is included in **Attachments A** through **D**, as follows:

Attachment A:	Wetland and Waterway Feature Table
Attachment B:	Wetland Functions and Values Table
Attachment C:	Field Datasheets
Attachment D:	Photo Documentation

2. Background

The I-495 & I-270 MLS Natural Resources Team environmental scientists conducted a desktop investigation of mapped site topography; 100-year FEMA floodplain; vegetative cover; non-tidal and tidal wetlands and waterways; soil map unit boundaries; and hydric and highly erodible soils. Sources of these data included:

- The United States Geologic Survey (USGS) Geographic Information System (GIS) Quadrangle Mapping;
- The United States Department of Agriculture (USDA), NRCS *Web Soil Survey (WSS) for*

Montgomery, Anne Arundel, and Prince George's Counties, Maryland;
- US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) GIS data;
- Maryland Department of Natural Resources (MDNR) Wetlands and Waters GIS data; and FEMA GIS floodplain mapping.

Desktop investigations served as the foundation for the wetland delineation. The potential SWM mitigation sites are located within the Piedmont Plateau and Atlantic Coastal Plain Physiographic Provinces. Note that no potential SWM mitigation sites are located within the FEMA 100-year floodplain or the Chesapeake Bay Critical Area.

3. Field Assessments – Delineations

Methods:

The study area was split into nine field sub-segments, Sub-segments 30-38, for the purposes of the wetlands and waterways field investigation, and field sub-segment numbers were incorporated into the naming convention of features within each sub-segment. Wetlands and waterways were delineated if identified within the potential SWM mitigation site LODs and within a 25-foot buffer of each of the LODs to ensure that any wetland buffers were delineated within the LODs.

Wetland features were delineated in accordance with the following:
- U. S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0.* Ed. J.F. Berkowitz, J.S. Wakeley, R.W. Lichvar, C.V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: US Army Engineer Research and Development Center;
- U. S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0.* Ed. J.F. Berkowitz, J.S. Wakeley, R.W. Lichvar, C.V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: US Army Engineer Research and Development Center; and,
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. Technical Report Y-87-1.

These manuals employ a three-parameter approach to wetland identification using (1) hydrology, (2) hydrophytic vegetation, and (3) hydric soils. All three parameters must be present for an area to be considered a jurisdictional wetland under Section 404 of the Clean Water Act (CWA). Routine wetland determination methods with onsite inspection were used to determine the presence of wetlands in the study area. Potential SWM mitigation site LODs outside of the rights-of-way (ROW) will only be delineated using two parameters (hydrology and hydrophytic vegetation) due to lack of invasive access permission and noted as "potential wetlands." Once invasive access is permitted to properties outside of the ROW, the soil and groundwater hydrology data will be investigated to complete delineation of these "potential wetlands." Any changes to the wetland delineation will be coordinated with the resource agencies.

Wetland scientists completed a functions and values assessment for all delineated wetlands using the USACE New England Method as presented in The Highway Methodology Workbook Supplement – Wetland Functions and Values; A Descriptive Approach (USACE, 1999). Along with the best professional judgment of an experienced wetland scientist, this method uses the presence of certain physical characteristics broadly understood to indicate the presence of related functions.

The functions and values assessed include:

- Groundwater recharge/discharge,
- Floodflow alteration,
- Fish and shellfish habitat,
- Sediment/toxicant/pathogen retention,
- Nutrient removal/retention/transformation,
- Production export,
- Sediment/shoreline stabilization,
- Wildlife habitat,
- Recreation,
- Educational/scientific value,
- Uniqueness/heritage,
- Visual quality/aesthetics, and
- Endangered species habitat.

Waterways features were delineated using the limits defined in 33 Code of Federal Regulations (CFR) § 328. The boundaries of nontidal waterways features were set at the ordinary high water (OHW) mark and include, but are not limited to: palustrine open water (POW or ponds), stream systems (waterways), and some disturbed areas. The OHW mark was determined in the field using physical characteristics established by the fluctuations of water (e.g., change in plant community, changes in the soil character, shelving) in accordance with USACE Regulatory Guidance Letter No. 05-05. Jurisdiction of delineated features was determined in accordance with the Clean Water Act Navigable Waters Protection Rule, which went into effect on June 22, 2020.

Potential SWM mitigation sites that were almost entirely covered by wetlands and waterways features were not delineated, but instead the location, size, and basic information of features was noted and they were considered "walkthrough wetlands" or "walkthrough waterways." Data forms were not completed for the walkthrough features because the potential SWM mitigation sites with a high concentration of wetlands and waterways were subsequently eliminated from the site search based on their significant impacts to wetlands and waterways.

As part of the avoidance and minimization process, each SWM LOD was rated based on its relative impact to wetlands and waterways to determine whether it could be considered for compensatory SWM mitigation. SWM LODs that would result in zero functional loss to wetlands or waterways were given a rating of "no impact" and were considered viable SWM sites from a wetlands and waterways perspective. SWM LODs that would have minor impact to wetlands and/or waterways, where the functional loss would be partially compensated by the stormwater activity, were rated as "minor impact" sites and were included in the potential compensatory SWM site list. Sites rated as having a "moderate impact" had wetlands and/or waterways covering less than 50% of the site, and potential re-configuration of the site by the SWM Team could potentially reduce impacts to a level that would be acceptable to the regulatory agencies. These sites were either re-configured to remove much of the wetland and waterway impact or they were dropped from consideration. Sites were rated as having "significant impact" when greater than 50% of the site was covered by wetlands and/or waterways and construction of the site would result in functional loss to wetlands and/or waterways. These sites were either majorly re-configured or dropped from consideration as a compensatory SWM site.

A summary table of the functions and values for all wetlands delineated within the proposed compensatory SWM sites is included in **Attachment B**. Datasheets are included in **Attachment C**, and photo documentation is included in **Attachment D**.

4. Results

The I-495 & I-270 MLS Natural Resources Team conducted a wetlands and waterways delineation within the study area from October 2020 through February 2021, with ongoing delineation of properties pending

access. Detailed delineation results for the proposed compensatory SWM sites are summarized in **Attachment A**, organized by sub-segment and listed alphanumerically. Locations of these delineated features is included in the potential SWM mitigation site mapping in **Appendix K**. A Summary of the Wetland Functions and Values by Wetland Feature is included in **Appendix B.** Field datasheets and photographs for the delineated features can be found in **Attachments C** and **D,** respectively**.** Wetlands and waterways impact data is summarized in the **Compensatory SWM Mitigation Plan, Appendix L**.

ATTACHMENT A: WETLAND AND WATERWAY FEATURE TABLE

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
SUB-SEGMENT 30					
30AAAA	Perennial	WAS-4506	-	Cobble, sand, gravel, riprap Width: 6 ft Dept: 4 in	Right: forest Left: forest
30BB	PEM	WAS-0913	Narrow-Leaf Cat-Tail (*Typha angustifolia*) Black Willow (*Salix nigra*)	-	-
30BBB	PEM	PAX-2515	Broad-Leaf Cat-Tail (*Typha latifolia*) Broom rosette grass (*Dicanthelium scoparium*)	-	-
30C	Perennial	PAX-1205	-	Silt, sand, cobble, concrete Width: 25 ft Depth: 6 in	Right: forest Left: forest
30CCC	Intermittent	WAS-4509	-	Silt, sand, gravel. Riprap Width: 3-8 ft Depth: 2 in	Right: forest Left: emergent vegetation
30E	Perennial	PAX-0951	-	Silt, sand, gravel Width: 5 ft Depth: 6 in	Right: forest/mowed lawn Left: forest
30EE	PEM	WAS-0933	Curly dock (*Rumex crispus*) Grass sp. (unidentified due to mowing)	-	-
30FFFF	Perennial	WAS-4050	-	Silt, sand, gravel, cobble Width: 8 ft Depth: 2-24 in	Right: hedgerow Left: hedgerow
30G	PEM	WAS-0971	Narrow-Leaf Cat-Tail Virginia-Creeper (*Parthenocissus quinquefolia*)	-	-
30GG	Perennial	WAS-0901, WAS-0918	-	Silt, sand, cobble, gravel Width: 10 ft Depth: 2 ft	Right: mowed lawn Left: mowed Lawn
30GGGG	PEM	WAS-4050	Grass sp. (unidentifiable due to mowing, surrounded by hydrophytes)	-	-
30HH	Perennial	WAS-0903	-	Silt, sand, gravel, rip rap Width: 8 - 15 ft Depth: 2 ft	Right: unmowed grass Left: unmowed grass
30HHHH	Intermittent	WAS-4075	-	Sand, cobble, gravel Width: 3-5 ft Depth: 1-3 in	Right: forest Left: forest
30I	Intermittent	WAS-0972	-	Silt, sand, cobble, gravel Width: 2 - 3 ft Depth: 2 - 12 in	Right: mowed lawn Left: mowed Lawn
30III	Intermittent	WAS-0302	-	Silt, sand Width: 4 ft Depth: 6 in	Right: mowed lawn Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
30JJ	PSS	WAS-0905	Willow oak (*Quercus phellos*) Green ash (*Fraxinus pennsylvanica*) Black willow Broad-Leaf Cat-Tail Rice cutgrass Lamp rush	-	-
30JJJ	PEM	WAS-0302	Common Reed (*Phragmites australis*)	-	-
30JJJJ	Perennial	WAS-4334	-	Silt, sand, cobble, gravel Width: 15-20 ft Depth: 1-2 ft	Right: Forest Left: Hedgerow
30KK	Perennial	WAS-0911	-	Silt, sand, cobble, gravel Width: 2 - 10 ft Depth: 2 - 8 in	Right: grass/forest Left: grass/forest *Transitions to forest downstream
30KKK	Perennial	WAS-0304	-	Silt, sand, cobble, gravel, bedrock, concrete, riprap Width: 18-40 ft Depth: 6-24 in	Right: forest Left: forest
30LLL	PEM	WAS-0348	Creeping spike rush (*Eleocharis palustris*)	-	-
30NNN	Perennial	WAS-4347	-	Silt, sand, cobble, gravel, clay Width: 3-8 ft Depth: 3-18 in	Right: hedgerow Left: hedgerow
30P	PEM	PAX-0062	Broad-Leaf Cat-Tail Lamp Rush	-	-
30PPPP	Perennial	PAX-2542	-	Silt, sand Width: 6 ft Depth: 6 in	Right: hedgerow Left: hedgerow
30RR	Intermittent	WAS-0606	-	Silt, sand, muck, concrete Width: 0.5 - 4 ft Depth: 1 - 5 in	Right: hedgerow/mowed grass Left: hedgerow/mowed grass
30RRR	POW	WAS-4484	-	Silt, sand Width:>300 ft Depth: 1 ft (at shore)	Surrounded by hedgerow ~75% of perimeter
30S	Perennial	PAX-0016	-	Silt, sand, gravel Width: 18 - 35 ft Depth: 2 - 24 in	Right: forest Left: forest
30SS	Perennial	WAS-0606	-	Concrete Width: 2 - 4 ft Depth: 2 in	Right: forest/scrub-shrub Left: forest/scrub-shrub
30TT	PEM	PAX-0016	Chairmaker's Club-Rush (*Scirpus pungens*) Straw-Color Flat Sedge (*Cyperus strigosus*) Large Barnyard Grass (*Schoenoplectus americanus*)	-	-
30W	Intermittent	WAS-0302	-	Concrete Width: 3 ft Depth: 1 - 4 in	Right: mowed lawn Left: mowed Lawn

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
30WW	PEM	PAX-0017	Broad-Leaf Cat-Tail	-	-
30XX	PEM	WAS-2579, WAS-2580	Saltgrass *(Distichlys spicata)* Water dock *(Rumex hydrolopathum)*	-	-
SUB-SEGMENT 31					
31A	Intermittent	WAS-0084	-	Silt, sand, gravel, concrete Width: 6 ft Depth: 1-1.5 ft	Right: forest Left: forest
31AAAA	Intermittent	SSS_160023-Backup	-	Silt, sand Width: 3 ft Depth: 6 in	Right: bamboo Left: bamboo
31BBB	PEM	PAX-4007	Asiatic tearthumb (*Persicaria perfoliata)*	-	-
31BBBB	Intermittent	SSS_160023-Backup	-	Silt, clay Width: 1 ft Depth: 3 ft	Right: forest Left: herbaceous vegetation
31C	PEM	WAS-3306	Lamp Rush Tall False Rye Grass (*Schedonorus arundinaceus*)	-	-
31CCC	PEM	SSS_160065_160066	Grass sp. (unidentifiable due to mowing)	-	-
31CCCC	PFO	MPAO_0015	Cottonwood (*Populus deltoides*) Ash-Leaf Maple (*Acer negundo*) Amur honeysuckle (*Lonicera maackii*) Northern spicebush (*Lindera benzoin*)	-	-
31D	PEM	WAS-3306	Ash-Leaf Maple Creeping-Jenny (*Lysimachia nummularia*) Tall False Rye Grass	-	-
31DDD	PFO	SSS_160023-Backup	Red maple *(Acer rubrum*) Smooth alder (*Alnus serrulata*) Sensitive fern (*Onoclea sensibilis*) Japanese stilt grass (*Microstegium vimineum*)	-	-
31DDDD	Perennial	MPAO_0015	-	Silt, sand, cobble, gravel, bedrock, concrete Width: 30 ft Depth: 2.5 ft	Right: forest Left: forest
31EE	Intermittent	PAX-2019	-	Silt, sand, cobble, gravel, riprap Width: 3 ft Depth: 6 in	Right: forest Left: forest
31EEE	PEM	SSS_160023-Backup	Japanese stilt grass	-	-
31EEEE	Perennial	MPAO_0015	-	Silt, sand, cobble, gravel Width: 25-80 ft Depth: 2 ft	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
31FFF	Perennial	SSS_160023-Backup	-	Silt, sand, cobble, gravel Width: 10-12 ft Depth: 1-2 ft	Right: emergent vegetation/forest Left: emergent vegetation/forest
31FFFF	PEM	MPAO_0015	Eurasian-buttercup (*Ficaria verna*) Fall panic grass (*Panicum dichotomiflorum*)	-	-
31G	PFO	WAS-0084	Loblolly pine *(Pinus taeda)* White mulberry *(Morus alba)* Green ash *Vinca* sp. English ivy *(Hedera helix)*	-	-
31GGG	Intermittent	SSS_160023-Backup	-	Silt Width: 1-2 ft Depth: 6 in	Right: emergent vegetation Left: emergent vegetation
31GGGG	PSS	MPAO_0015	Ash-leaf maple American sycamore (*Platanus occidentalis*) Green ash American holly (*Ilex opaca*) Japanese stilt grass	-	-
31H	Perennial	WAS-0085	-	Silt, sand, gravel, cobble, concrete Width: 6-25 ft Depth: 1-4 ft	Right: forest Left: forest
31HHH	Intermittent	SSS_160023-Backup	-	Silt, sand, gravel Width: 1-5 ft Depth: 2 ft	Right: emergent vegetation Left: emergent vegetation
31HHHH	Intermittent	SSS_160065_160066	-	Silt, sand, cobble, gravel Width: 4 ft Depth: 6 in	Right: forest Left: forest
31I	Intermittent	WAS-0083	-	Cobble, gravel Width: 4 ft Depth: 6 in	Right: forest Left: forest
31III	PFO	WAS-0343	Red maple American sycamore Black tupelo (*Nyssa sylvatica*) Leafy bulrush (*Scirpus polyphyllus*) Horsebrier (*Smilax rotundifolia*)	-	-
31IIII	Perennial	SSS_160065_160066	-	Silt, sand, gravel Width: 2 ft Depth: 0.5-2 ft	Right: mowed lawn/understory forest Left: forest/maintained understory/mowed lawn
31J	Perennial	WAS-0083	-	Sand, cobble, gravel, concrete Width: 10 ft Depth: 0.5-3 ft	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
31JJ	Perennial	WAS-0340	-	Silt, riprap Width: 3 ft Depth: 0.5 in	Right: forest Left: forest
31JJJ	Intermittent	WAS-4100	-	Concrete Width: 1-3 ft Depth: 3 in	Right: mowed lawn Left: mowed lawn
31JJJJ	Perennial	SSS_160065_160066	-	Concrete Width: 3 ft Depth: 3 in	Right: forest Left: forest
31K	Perennial	PAX-0080	-	Concrete, silt Width: 3 ft Depth: 6 in	Right: emergent vegetation Left: emergent vegetation
31KK	Intermittent	WAS-0343	-	Silt, riprap Width: 1 ft Depth: 3 in	Right: forest Left: forest
31KKK	PSS	SSS_160023-Backup	Red maple Winterberry holly (*Ilex verticillata*) Japanese stilt grass	-	-
31KKKK	Intermittent	SSS_160065_160066	-	Silt Width: 4 ft Depth: 6 in	Right: forest/mowed lawn Left: forest
31LLL	Intermittent	SSS_160023-Backup	-	Silt, sand, cobble, gravel Width: 4 ft Depth: 2 ft	Right: forest Left: forest
31LLLL	Perennial	SSS_160065_160066	-	Sand, cobble, gravel Width: 5 ft Depth: 0.5-1.5 ft	Right: maintained lawn/recent plantings Left: maintained lawn/recent plantings
31MMM	Intermittent	SSS_160023-Backup	-	Silt, clay Width: 1.5 ft Depth: 1.5 ft	Right: forest Left: forest
31MMMM	PSS	SSS_160065_160066	White mulberry Green ash Pennsylvania blackberry (Rubus pennsylvanicus) Curly dock Japanese honeysuckle (Lonicera japonica) Eastern poison ivy (Toxicodendron radicans) Grape (Vitis sp.)	-	-
31NN	Perennial	PG_00079-Backup	-	Sand, silt, cobble, gravel, concrete Width: 7-30 ft Depth: 1-3 ft	Right: forest/residential Left: forest
31NNN	Perennial	SSS_160023-Backup	-	Sand, silt, gravel Width: 3 ft Depth: 1.5 ft	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
31NNNN	PFO	SSS_160065_160066	American hornbeam (*Carpinus caroliniana*) Sweet gum Japanese honeysuckle Sweet woodreed (*Cinna arundinacea*)	-	-
31OO	Intermittent	PG_00079-Backup	-	Concrete Width: 6 ft Depth: 6 in	Right: forest Left: forest
31OOO	Intermittent	WAS-4641	-	Silt, cobble, gravel Width: 3 ft Depth: 0.5-1 in	Right: forest/maintained lawn Left: forest/emergent vegetation
31PP	Intermittent	PG_00079-Backup	-	Silt, gravel Width: 3 ft Depth: 3 in	Right: forest Left: forest
31QQ	Intermittent	PG_00079-Backup	-	Silt, sand, cobble Width: 1.5 ft Depth: 6 in	Right: forest Left: forest
31QQQ	Intermittent	PAX-0076	-	Silt Width: 3 ft Depth: 3 in	Right: forest/roadway Left: forest
31QQQQ	Intermittent	SSS_160023-Backup	-	Silt, sand, gravel Width: 5 ft Depth: 1 ft	Right: emergent vegetation/forest Left: emergent vegetation
31RR	Perennial	PG_00079-Backup	-	Silt, sand, cobble, gravel Width: 2-7 ft Depth: 6-18 in	Right: forest Left: forest
31RRR	PEM	PAX-0310	Sweet gum Rambler rose (Rosa multiflora) Curly dock Goldenrod (Solidago sp.) Arrow-leaved tearthumb (Persicaria sagittata)	-	-
31SS	Intermittent	PG_00079-Backup	-	Silt, sand, cobble, gravel, riprap Width: 3 ft Depth: 6 in	Right: forest Left: forest
31SSS	PEM	WAS-2514	Black willow American sycamore Common reed Broad-Leaf Cat-Tail	-	-
31T	Intermittent	WAS-0076	-	Sand, cobble, gravel Width: 3 ft Depth: 6 in	Right: mowed lawn Left: mowed Lawn
31TT	Perennial	PG_00079-Backup	-	Sand, cobble, gravel, riprap Width: 4-25 ft Depth: 1 ft	Right: forest/residential Left: forest
31U	Intermittent	WAS-0076	-	Cobble, gravel Width: 1 ft Depth: 6 in	Right: mowed lawn Left: mowed Lawn

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
31UU	PFO	PG_00079-Backup	American elm (Ulmus americana) Sweetgum American hornbeam Ash-leaf maple Amur honeysuckle Eastern poison ivy Grape sp.	-	-
31VV	PFO	PG_00079-Backup	Sweetgum Ash-leaf maple Northern spicebush Eastern poison ivy	-	-
31VVV	Intermittent	SSS_160023-Backup	-	Silt, sand, riprap Width: 2 ft Depth: 6 in	Right: forest Left: forest
31WW	Intermittent	PG_00079-Backup	-	Silt, sand, gravel Width: 1 ft Depth: 6 in	Right: forest Left: forest
31XX	Intermittent	PG_00079-Backup	-	Silt, sand, gravel Width: 1 ft Depth: 6 in	Right: forest Left: forest
31XXX	Intermittent	SSS_160023-Backup	-	Silt, sand Width: 3 ft Depth: 2 ft	Right: forest/PEM Left: forest/PEM
31YY	PFO	PG_00079-Backup	Sweet woodreed	-	-
31YYY	PEM	SSS_160023-Backup	Japanese stilt grass	-	-
31Z	Perennial	WAS-4064	-	Silt, cobble, riprap Width: 6 ft Depth: 6 in	Right: forest Left: mowed lawn
31ZZ	Perennial	SSS_160023-Backup	-	Silt, sand, gravel Width: 3-5 ft Depth: 1 ft	Right: forest/emergent vegetation Left: forest/emergent vegetation
31ZZZ	PFO	SSS_160023-Backup	Red maple Japanese stilt grass	-	-
SUB-SEGMENT 32					
32A	PEM	PAX-3018	Reed Canary Grass	-	-
32AAA	PSS	WAS-2612	Red maple Buttonbush (*Cephalanthus occidentalis*) Silky dogwood (*Cornus amomum*) Reed canary grass Narrow-Leaf Cat-Tail Sensitive fern	-	-

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
32AAAA	PEM	WAS-0641	Reed canary grass Narrow-Leaf Cat-Tail Lamp rush	-	-
32BBB	Perennial	WAS-4429, WAS-4431, WAS-4432, WAS-4433	-	Cobble, gravel, bedrock, riprap Width: 4 ft Depth: 6 in	Right: Herbaceous vegetation/forest Left: Herbaceous vegetation/forest
32CCC	Perennial	WAS-4431	-	Sand, cobble, gravel Width: 2 ft Depth: 3 in	
32DDD	Intermittent	WAS-4432	-	Silt, sand, clay Width: 1.5 ft Depth: 1 in	Right: scrub-shrub Left: scrub-shrub
32DDDD	PEM	WAS-4415	Narrow-Leaf Cat-Tail Japanese stilt grass	-	-
32E	PEM	WAS-0638	Reed Canary Grass Narrow-Leaf Cat-Tail	-	-
32EEEE	Perennial	WAS-4610	-	Cobble, sand, gravel Width: 6 ft Depth: 2 in	Right: Agricultural field Left: Agricultural field
32H	Perennial	WAS-5306	-	Sand, cobble, gravel Width: 5 ft Depth: 1 ft	Right: forest Left: forest
32HHH	Perennial	WAS-4423, WAS-4424	-	Cobble, gravel, bedrock Width: 3 ft Depth: 6 in	Right: forest Left: forest
32HHHH	PEM	WAS-4415	Narrow-Leaf Cat-Tail Japanese stilt grass	-	-
32III	Intermittent	WAS-4425	-	Clay Width: 2 ft Depth: 3 in	Right: forest Left: forest
32IIII	Perennial	WAS-4391	-	Silt, sand Width: 5 ft Depth: 1 ft	Right: Agricultural field Left: Agricultural field
32JJJ	PFO	WAS-4424	Red maple American holly Rambler rose Deer-tongue rosette grass (Dichanthelium clandestinum) Japanese stilt grass	-	-
32JJJJ	PEM	WAS-4391	Japanese stilt grass Broom rosette grass	-	-

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
32KKK	Perennial	WAS-4427	-	Cobble, gravel, bedrock Width: 7 ft Depth: 3 in	Right: forest/road Left: forest
32KKKK	PEM	WAS-4412	Japanese stilt grass Broom rosette grass	-	-
32L	Perennial	WAS-3622	-	Sand, cobble, gravel, bedrock Width: 15 ft Depth: 2 ft	Right: forest Left: rock/riprap
32M	Perennial	WAS-3622	-	Silt, muck Width: 3 ft Depth: 4 in	Right: Herbaceous vegetation Left: scrub-shrub
32MMM	PEM	WAS-2010	Japanese stilt grass Grass sp.	-	-
32O	PEM	PAX-2559	Narrow-Leaf Cat-Tail Common reed	-	-
32OO	PEM	PAX-0313	Upright sedge (*Carex stricta*) Common reed	-	-
32OOO	PEM	WAS-0996	Narrow-Leaf Cat-Tail Reed Canary Grass Deer-tongue rosette grass (*Dichanthelium clandestinum*)	-	-
32OOOO	Perennial	WAS-2612	-	Concrete Width: 2 ft Depth: 3 in	Right: open field Left: wetland
32P	PEM	WAS-2554	Flat-top goldentop Japanese stilt grass Common reed	-	-
32PPPP	PEM	WAS-4386	Reed canary grass Flat-top goldentop Deer-tongue rosette grass	-	-
32Q	Intermittent	WAS-2554	-	Silt, sand, gravel Width: 1 ft Depth: 3 in	Right: herbaceous vegetation Left: herbaceous vegetation
32QQ	PEM	PAX-0315	Common reed Asiatic tearthumb *Carex* sp.	-	-
32RR	PFO	WAS-4203	Red maple Silver maple (*Acer saccharinum*) American holly Flat-top goldentop English ivy	-	-

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
32RRR	Perennial	WAS-0989	-	Unknown substrate Width: 30 ft Depth: 2 ft	Right: roadway Left: roadway
32SS	PFO	WAS-4202	Red maple Ash-leaf maple Twinsisters (*Lonicera tatarica)* Rice cutgrass	-	-
32SSS	Perennial	WAS-0651	-	Sand, cobble, gravel Width: 15 ft Depth: 1 ft	Right: forest Left: forest
32TTTT	Perennial	WAS-4370, WAS-4371	-	Sand, gravel Width: 7 ft Depth: 6-12 ft	Right: forest/scrub-shrub Left: forest/scrub-shrub
32UU	PFO	WAS-2034	Sweetgum Red maple Eurasian-buttercup Eastern poison ivy	-	-
32UUUU	Perennial	WAS-4371	-	Sand, gravel Width: 7 ft Depth: 6 in	Right: forest/scrub-shrub Left: forest/scrub-shrub
32VVVV	PFO	WAS-4382, WAS-4383	Red maple American elm Silky dogwood Northern spicebush Crow garlic (*Allium vineale*) Eastern poison ivy	-	-
32WWWW	Perennial	WAS-4382, WAS-4383	-	Silt, sand, gravel, cobble Width: 10 ft Depth: 1 ft	Right: Agricultural field/PSS Left: PFO/forest
32XX	PEM	WAS-4450, WAS-4456	Broad-Leaf Cat-Tail	-	-
32XXX	Perennial	WAS-1009	-	Silt, sand Width: 15 ft Depth: 2 ft	Right: forest Left: forest
32XXXX	PSS	WAS-4382, WAS-4383	Red maple Common persimmon (*Diospyros virginiana*) Northern spicebush Reed canary grass Asiatic tearthumb Sensitive fern Eastern poison ivy	-	-
32YY	Perennial	MO_00018	-	Silt, sand, cobble, gravel Width: 15-20 ft Depth: 0.5-1.5 ft	Right: forest Left: forest/wetlands

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
32YYYY	PEM	WAS-4154	Reed canary grass Deer-tongue rosette grass	-	-
32ZZZ	Perennial	WAS-0647	-	Riprap Width: 15-20 ft Depth: 2 ft	Right: forest Left: forest
SUB-SEGMENT 33					
33AA	Perennial	WAS-4335	-	Silt, sand, gravel Width: 1 ft Depth: 1-3 in	Right: forest Left: forest
33BB	PFO	WAS-4335	Red maple Tuliptree (*Liriodendron tulipifera*) Black elderberry (*Sambucus nigra*) Fowl bluegrass (*Poa palustris*) Grape sp.	-	-
33CC	PEM	WAS-4337, WAS-4338	Japanese stilt grass Small carpetgrass (*Arthraxon hispidus*)	-	-
33DD	Intermittent	WAS-4338	-	Silt, sand, gravel Width: 1-4 ft Depth: 2-3 in	Right: scrub-shrub Left: scrub-shrub
33EE	PEM	WAS-4337	Small carpetgrass	-	-
33G	Perennial	WAS-4352	-	Silt, sand, cobble, gravel, bedrock Width: 3-8 ft Depth: 4-12 in	Right: forest/roadway Left: forest
33H	PFO	WAS-4352	Slippery elm (*Ulmus rubra*) Red maple Horsebrier Japanese stilt grass	-	-
33K	PEM	WAS-4354	Small carpetgrass Rice cutgrass	-	-
33L	Perennial	WAS-4356	-	Silt, sand, gravel Width: 3-4 ft Depth: 1-4 in	Right: wetland/hedgerow Left: agricultural field
33M	PEM	WAS-4356	Rice cutgrass	-	-
33O	Intermittent	WAS-4364	-	Silt, sand, cobble, gravel, riprap Width: 1-3 ft Depth: 4-6 in	Right: agricultural field Left: road
33P	Perennial	WAS-4361, WAS-4362, WAS-4363	-	Silt, sand, cobble, gravel Width: 3-40 ft Depth: 0.5-2 ft	Right: hedgerow/agricultural field Left: hedgerow/agricultural field
33Q	PEM	WAS-4361	Garden yellowrocket (*Barbarea vulgaris*) Reed canary grass	-	-

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
33R	Intermittent	WAS-4349	-	Cobble, gravel, riprap Width: 1-4 ft Depth: 1-5 in	Right: agricultural field/roadside Left: pasture
33S	PEM	WAS-4349	Black willow Shallow sedge (*Carex lurida*)	-	-
33T	PEM	WAS-4349	Tall false rye grass	-	-
33U	Perennial	WAS-4345	-	Silt, sand, cobble, gravel, bedrock, concrete Width: 5-15 ft Depth: 4-24 in	Right: forest Left: forest
33V	Intermittent	WAS-4342	-	Silt, sand, cobble, gravel, riprap Width: 1-3 ft Depth: 1-6 in	Right: hedgerow Left: hedgerow
33Z	PEM	WAS-4331	Broad-Leaf Cat-Tail Horsebrier	-	-
SUB-SEGMENT 34					
34A	Perennial	MPOC-0009	-	Silt, sand, cobble, gravel Width: 8-20+ ft Depth: 3-36+ in	Right: forest/mowed lawn Left: forest/mowed lawn
34AA	PEM	MO_00047A	Reed canary grass	-	-
34B	PFO	MPOC-0009	Ash-leaf maple Sweet woodreed Creeping Jenny	-	-
34BB	PFO	MPOC-0009	No vegetation observed	-	-
34C	Intermittent	MPOC-0009	-	Silt, sand, cobble, muck Width: 2-5 ft Depth: 3-8 in	Right: scattered trees/mowed lawn Left: forest
34CC	PFO	MPOC-0009	No vegetation observed	-	-
34D	Intermittent	MPOC-0009	-	Silt, muck, leaves Width: 2-4 ft Depth: 3-6 in	Right: forest Left: forest
34DD	PFO	MPOC-0009	No vegetation observed	-	-
34E	Intermittent	MPOC-0009	-	Silt, sand, gravel, muck Width: 8-24" Depth: 2-6 in	Right: forest Left: forest
34F	PFO	MPOC-0009	Silver maple Pin oak Sedge sp. Grape sp.	-	-
34G	Intermittent	MPOC-0009	-	Silt, sand, cobble, gravel Width: 1-4 ft Depth: 3-6 in	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
34H	Perennial	MPOC-0009	-	Sand, cobble, gravel Width: 5-12 ft Depth: 6-18 in	Right: forest Left: forest/mowed lawn
34I	Intermittent	MPOC-0009	-	Silt, muck Width: 2-15 ft Depth: 2-16 in	Right: forest Left: forest
34J	Perennial	MO_00047A	-	Silt, sand, cobble, gravel Width: 12-30 ft Depth: 4-24+ in	Right: forest Left: forest
34K	PFO	MO_00047A	Spicebush Leafy bulrush Skunk cabbage *Overhanging forest canopy	-	-
34L	Intermittent	MO_00047A	-	Silt, gravel, muck Width: 2-3 ft Depth: 1-4 in	Right: forest Left: forest
34M	PFO	MO_00047A	Red maple Skunk cabbage Sweet woodreed	-	-
34N	Perennial	MO_00047A	-	Silt, sand, cobble, gravel Width: 4-10 ft Depth: 1-24 in	Right: forest Left: forest
34O	Intermittent	MO_00047A	-	Silt, muck, leaves Width: 1-10 ft Depth: 1-4 in	Right: forest Left: forest
34P	PEM	MO_00047A	Skunk cabbage Creeping Jenny	-	-
34Q	PFO	MO_00047A	Green ash Sweet woodreed Japanese stilt grass	-	-
34R	Perennial	MO_00047A	-	Sand, cobble, gravel, concrete Width: 4-12 ft Depth: 1-12 in	Right: hedgerow/residential Left: hedgerow/mowed fields/forest
34S	PFO	MO_00047A	Red maple Creeping Jenny Skunk cabbage	-	-
34T	Intermittent	MO_00047A	-	Silt, leaves Width: 2-5.5 ft Depth: 1-6 in	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
34U	PFO	MO_00047A	Northern spicebush Rambler rose Sweet woodreed *Overhanging forest canopy	-	-
34V	Intermittent	MO_00047A	-	Sand, cobble, gravel, concrete Width: 1-4 ft Depth: 1-3 in	Right: forest Left: forest/SWM pond
34W	PFO	MO_00047A	White oak (*Quercus alba*) Sweet cherry (*Prunus avium*) Ash-leaf maple Northern spicebush Skunk cabbage Horsebrier Green ash	-	-
34X	PEM	MO_00047A	Reed canary grass	-	-
34Y	Perennial	MO_00047A	-	Sand, silt, gravel Width: 1-4 ft Depth: 1-12 in	Right: field Left: field
34Z	PFO	MO_00047A	Pin oak Rambler rose Sweet woodreed Japanese stilt grass	-	-
SUB-SEGMENT 35					
35A	PEM	MO_00029	Eurasian-buttercup	-	-
35AA	Perennial	WAS-4442, WAS-4444	-	Sand, silt, cobble, gravel Width: 8 ft Depth: 4 in	Right: scrub/shrub Left: scrub/shrub
35AAA	PFO	SSS_150023	Northern spicebush Red maple Common panic grass (*Panicum capillare*)	-	-
35AAAA	PEM	MPAO_0022-Backup	Skunk cabbage Sweet wood reed	-	-
35B	PEM	MO_00029	Ash-leaf maple Twinsisters Fescue sp. Eurasian-buttercup	-	-
35BBB	Perennial	SSS_150023	-	Silt, sand, gravel Width: 3-5 ft Depth: 2-3 ft	Right: shrub/forest Left: shrub/forest
35BBBB	Intermittent	MPAO_0022-Backup	-	Silt, gravel Width: 1-2 ft Depth: 2 in	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
35CCC	PSS	SSS_150023	Tuliptree American elm Northern spicebush Eurasian-buttercup	-	-
35D	Perennial	MO_00029	-	Cobble, gravel Width: 40-50 ft Depth: 6-8 ft	Right: forest Left: forest
35DD	Perennial	PAX-2511	-	Sand, cobble, gravel, bedrock, concrete Width: 10 ft Depth: 1.5 ft	Right: herbaceous Left: rock
35DDD	Perennial	SSS_150023	-	Silt, sand, gravel Width: 15-20 ft Depth: 3-4 ft	Right: forest/shrub Left: forest/shrub
35E	Perennial	MO_00029	-	Silt, sand, gravel Width: 15-20 ft Depth: 5-8 ft	Right: park/maintained lawn Left: park/forest
35EE	Perennial	WAS-1004	-	Sand, cobble, gravel Width: 5 ft Depth: 6 in	Right: forest Left: forest
35EEE	Perennial	SSS_150023	-	Silt, sand, gravel Width: 30 ft Depth: 3-5 ft	Right: forest Left: forest
35F	Intermittent	MO_00029	-	Silt, gravel Width: 2-3 in Depth: 3-4 in	Right: shrub/maintained lawn Left: shrub/maintained lawn
35FF	Perennial	WAS-1004	-	Riprap Width: 5 ft Depth: 1 in	Right: forest Left: herbaceous vegetation
35FFF	PEM	SSS_150023	Red maple Asiatic tearthumb Eurasian-buttercup	-	-
35G	PFO	MO_00018	American hornbeam Black tupelo Eurasian-buttercup Carex sp. Horsebrier	-	-
35GG	Perennial	WAS-1004	-	Sand, cobble, gravel Width: 15 ft Depth: 1 ft	Right: forest Left: forest
35GGG	PFO	SSS_150023	Red maple American sycamore Northern spicebush American elm Eurasian-buttercup	-	-
35GGGG	Perennial	PAX-0616	-	Sand Width: 8 ft Depth: 3 in	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
35H	PEM	MO_00018	Sweet woodreed Aster sp.	-	-
35HH	Perennial	WAS-1011	-	Sand, gravel, muck Width: 10 ft Depth: 6 in	Right: forest Left: forest
35HHHH	PEM	PAX-0014, PAX-0019	Japanese stilt grass Lamp rush Narrow-leaf cat-tail Grass sp.	-	-
35I	Perennial	MO_00018	-	Silt, gravel, concrete Width: 2-3 ft Depth: 1-2 ft	Right: forest/maintained lawn Left: forest/trail
35II	PFO	WAS-2526	River birch Red maple Twinsisters Horsebrier Carex sp.	-	-
35III	Intermittent	SSS_150023	-	Silt, sand Width: 2 ft Depth: 2 ft	Right: forest Left: forest
35IIII	Perennial	WAS-0641	-	Sand, gravel, cobble Width: 10 ft Depth: 3 in	Right: forest Left: forest
35J	PEM	MO_00018	Sweet woodreed Carex sp.	-	-
35JJ	PEM	WAS-3994	Sweetgum Red maple Japanese stilt grass English ivy	-	-
35JJJ	PEM	SSS_150023	Red maple Eurasian-buttercup	-	-
35K	Perennial	MO_00018	-	Silt, gravel, cobble Width: 5 ft Depth: 2 ft	Right: forest/grass Left: residential
35KKK	Intermittent	MPAO_0022-Backup	-	Silt, gravel Width: 2-3 ft Depth: 1-2 ft	Right: forest/wetland Left: forest/wetland
35L	Intermittent	MO_00018	-	Silt, cobble, gravel Width: 3-4 ft Depth: 2-3 ft	Right: forest/grass Left: forest/grass
35LLL	Perennial	MPAO_0022-Backup	-	Silt, sand, gravel, concrete Width: 8-15 ft Depth: 3-4 ft	Right: maintained lawn/wetlands Left: maintained lawn/wetlands

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
35M	PEM	MO_00018	Ash-leaf maple Carex sp. Northern water-plantain (*Alisma triviale*)	-	-
35MM	Perennial	WAS-3999	-	Sand, gravel, cobble Width: 8 ft Depth: 6 in	Right: herbaceous Left: herbaceous
35MMM	PFO	MPAO_0022-Backup	Red maple Horsebrier Eurasian-buttercup Japanese stilt grass	-	-
35N	PFO	MO_00018	Red maple Ash-leaf maple Northern spicebush Asiatic tearthumb Sweet woodreed	-	-
35NN	Perennial	WAS-0644	-	Silt, sand Width: 6 ft Depth: 6 in	Right: herbaceous/forest Left: herbaceous/forest
35NNN	Intermittent	MPAO_0022-Backup	-	Sand, gravel Width: 2-3 ft Depth: 3 ft	Right: forest Left: turf/Sligo Creek
35O	Perennial	MO_00018	-	Silt, sand, cobble, gravel Width: 10-12 ft Depth: 4-6 ft	Right: wetland/forest Left: grass/forest
35OO	Perennial	PAX-0610	-	Sand, cobble, gravel Width: 7 ft Depth: 1 ft	Right: forest Left: forest
35OOO	Perennial	MPAO_0022-Backup	-	Silt, gravel Width: 4-5 ft Depth: 2 ft	Right: forest/wetland Left: forest
35P	PEM	MO_00018	Eurasian-buttercup Japanese silt grass	-	-
35PPP	PFO	MPAO_0022-Backup	Red maple American holly Japanese stilt grass Horsebrier	-	-
35PPPP	Intermittent	WAS-0647	-	Concrete Width: 3 ft Depth: 2 in	Right: forest Left: forest
35Q	PFO	MO_00018	Red maple American hornbeam Sweet woodreed	-	-

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
35QQ	PFO	WAS-0650	Red maple River birch American beech Sweetgum Horsebrier Carex sp.	-	-
35QQQ	PEM	MPAO_0022-Backup	Sweetgum Japanese stilt grass Horsebrier	-	-
35R	PFO	MO_00051	American elm Red maple River birch Ash-leaf maple Deer-tongue rosette grass	-	-
35RR	PFO	PAX-0062	Sweetgum Red maple Bradford pear Horsebrier Lamp rush Eastern poison ivy Japanese honeysuckle	-	-
35RRR	Intermittent	MPAO_0022-Backup	-	Silt Width: 1-2 ft Depth: 6-12 in	Right: forest Left: wetland/forest
35S	Perennial	MPOC_0006_0010_0011, MO_00051	-	Silt, sand, cobble, gravel, concrete Width: 20 ft Depth: 3-4 ft	Right: forest/residential Left: forest/wetland/trail
35SS	Perennial	WAS-1000, WAS-1001	-	Silt, sand, cobble, gravel, clay Width: 5 ft Depth: 3 in	Right: forest Left: forest
35T	Perennial	MPOC_0006_0010_0011	-	Silt, sand, cobble, gravel Width: 18-20 ft Depth: 3-5 ft	Right: forest/shrub Left: forest/shrub/trail
35TTT	Intermittent	MPAO_0022-Backup	-	Silt, sand, gravel Width: 3-5 ft Depth: 2 ft	Right: wetland/forest Left: trail
35UUU	PFO	MPAO_0022-Backup	Red maple Southern red oak (*Quercus falcata*) Horsebrier Japanese stilt grass	-	-
35UUUU	PFO	MPAO_0022-Backup	River birch Red maple Eurasian-buttercup Indian wood-oats (*Chasmanthium latifolium*)	-	-

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
35V	PSS	MPOC_0006_0010_0011	Northern spicebush Twinsisters Northern water-plantain	-	-
35VVV	PFO	MPAO_0022-Backup	Red maple Sweet woodreed Lamp rush	-	-
35VVVV	Perennial	MPAO_0022-Backup	-	Silt, gravel Width: 6-8 ft Depth: 3-4 ft	Right: maintained lawn/Sligo Creek Left: forested wetland
35W	Intermittent	MPOC_0006_0010_0011	-	Silt, sand, gravel Width: 6-8 ft Depth: 3-6 ft	Right: forest/shrub/trail/35VV Left: forest/residential
35WWWW	PFO	MPAO_0022-Backup	Ash-leaf maple Japanese barberry (*Berberis thunbergii*) Eurasian-buttercup	-	-
35X	Perennial	MPOC_0006_0010_0011	-	Silt, sand, gravel Width: 4 ft Depth: 1 ft	Right: forest/shrub Left: forest/shrub/roadway
35XXXX	Intermittent	MPAO_0022-Backup	-	Silt, gravel Width: 2-3 ft Depth: 4-5 in	Right: forest Left: forest
35Y	PEM	MPOC_0006_0010_0011	Fescue sp.	-	-
35YY	Perennial	WAS-0992	-	Sand, gravel, cobble, bedrock Width: 40 ft Depth: 3 ft	Right: scrub/shrub Left: scrub/shrub
35YYY	PEM	MPAO_0022-Backup	Japanese stilt grass Eurasian-buttercup Small-spike false-nettle (*Boehmeria cylindrica*)	-	-
35Z	PEM	SSS_150023	Eurasian-buttercup Skunk cabbage	-	-
35ZZ	Perennial	SSS_150023	-	Silt, sand, gravel Width: 15 ft Depth: 3-4 ft	Right: forest/Glenallan Rd Left: forest/Glenallan Rd
35ZZZ	Intermittent	MPAO_0022-Backup	-	Silt, gravel Width: 2-3 ft Depth: 6-8 ft	Right: forest Left: forest
SUB-SEGMENT 36					
36A	Perennial	MPAO_0014	-	Sand, cobble, gravel Width: 8-12 ft Depth: 2-24 in	Right: forest/commercial Left: forest/residential
36AA	Intermittent	MPAO_0014	-	Silt, leaves Width: 2-5.5 ft Depth: 1-6 in	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
36B	Perennial	MPAO_0014	-	Sand, cobble, gravel Width: 8-20 ft Depth: 6-24 in	Right: forest Left: forest
36BB	Perennial	MPAO_0014	-	Cobble, gravel Width: 4 ft Depth: 1 in	Right: forest Left: forest
36C	PSS	MPAO_0014	Rambler rose Japanese tearthumb Creeping Jenny	-	-
36CC	Intermittent	MPAO_0014	-	Cobble, gravel Width: 3 ft Depth: 1 ft	Right: scrub-shrub/forest Left: forest
36D	Perennial	MPOC_0008	-	Sand, cobble, gravel, muck Width: 8 ft Depth: 6-18 in	Right: forest Left: forest/residential
36DD	PEM	MPAO_0014	Rambler rose Leafy bulrush Sweet woodreed Indian-strawberry (*Potentilla indica*) Green ash	-	-
36E	PFO	MPOC_0008	Red maple Common pawpaw (*Asimina triloba*) Japanese stilt grass	-	-
36EE	Perennial	MPAO_0014	-	Silt, sand Width: 8 ft Depth: 6 in	Right: forest Left: forest
36F	Intermittent	MPOC_0008	-	Sand, gravel Width: 3 ft Depth: 3-6 in	Right: forest Left: forest
36FF	Intermittent	MPAO_0014	-	Silt, sand, cobble, gravel Width: 6 ft Depth: 6-12 in	Right: residential Left: forest
36G	PFO	MPOC_0008	Red maple American sycamore Rambler rose Japanese barberry Sweet woodreed Japanese stilt grass Grape sp.	-	-
36H	Intermittent	MPOC_0008	-	Sand, gravel Width: 1 ft Depth: 3-6 in	Right: forest Left: forest
36I	Intermittent	MPOC_0008	-	Silt, gravel Width: 2 ft Depth: 6 in	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
36J	PFO	MPAO_0014	Red maple Spicebush Southern arrowwood Japanese honeysuckle	-	-
36K	PFO	MPAO_0014	Northern spicebush Horsebrier Fowl mannagrass (*Glyceria striata*) Japanese honeysuckle	-	-
36L	Intermittent	MPOC_0008	-	Silt, sand, gravel Width: 2 ft Depth: 3-6 in	Right: forest Left: forest
36M	PFO	MPOC_0008	Red maple Common pawpaw Japanese barberry Sweet woodreed	-	-
36N	Perennial	MPOC_0008	-	Silt, sand, cobble, gravel Width: 20 ft Depth: 1 ft	Right: forest Left: forest
36O	PFO	MPOC_0008	Red maple Common pawpaw Japanese stilt grass	-	-
36P	PFO	MPOC_0008	Red maple Japanese barberry Japanese stilt grass	-	-
36Q	Intermittent	MPOC_0008	-	Silt Width: 1-6 ft Depth: 6 in	Right: forest Left: forest
36R	Intermittent	MPOC_0008	-	Silt, cobble, gravel Width: 1 ft Depth: 3-6 in	Right: forest Left: forest
36S	Intermittent	MPOC_0008	-	Silt, gravel Width: 1 ft Depth: 6 in	Right: forest/old field Left: forest
36T	PFO	MPOC_0008	Red maple Japanese barberry Japanese stilt grass Sweet woodreed	-	-
36U	Intermittent	MPOC_0008	-	Silt, gravel Width: 2 ft Depth: 6 in	Right: forest Left: forest
36V	Intermittent	MPOC_0008	-	Silt, cobble, gravel Width: 3 ft Depth: 3-6 in	Right: forest Left: forest

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
36W	PFO	MPOC_0008	Red maple Japanese barberry Poacea sp. Sweet woodreed	-	-
36X	Intermittent	MPOC_0008	-	Silt, gravel Width: 4 ft Depth: 6 in	Right: forest Left: forest
36Y	PFO	MPOC_0008	Red maple Pawpaw Japanese stilt grass Sweet woodreed	-	-
36Z	PFO	MPOC_0008	Red maple Japanese stilt grass Sweet woodreed	-	-
SUB-SEGMENT 37					
37A	Intermittent	MO_1540045	-	Silt, sand, gravel, cobble, bedrock Width: 2-4 ft Depth: <0.1 in	Right: forested floodplain Left: forested floodplain
37B	Intermittent	MO_1540045	-	Silt, sand, gravel, cobble, bedrock Width: 3-8 ft Depth: 1-4 in	Right: forest Left: forest
37C	PFO	MO_1540045	Sweet woodreed	-	-
37D	Intermittent	MO_1540045	-	Silt, sand, gravel, cobble Width: 4-6 ft Depth: 1-4 in	Right: forest Left: forest
37E	Intermittent	MO_1540045	-	Silt, muck Width: 1-4 ft Depth: 1-3 in	Right: forest Left: forest
37F	Perennial	MO_1540045	-	Silt, sand, gravel Width: 15 ft Depth: 3-12 in	Right: forested floodplain Left: forested floodplain
37G	PFO	MO_1540045	Red maple Northern spicebush Skunk cabbage Sweet woodreed	-	-
37H	Intermittent	MO_1540045	-	Silt, sand, gravel, muck, riprap Width: 6-10 ft Depth: 1-8 in	Right: forested floodplain Left: forested floodplain
37I	PEM	MO_1540045	Sweet woodreed Japanese stilt grass Japanese honeysuckle	-	-

FEATURE ID	CLASSIFICATION	ASSOCIATED SWM LOD	DOMINANT VEGETATION (WETLANDS)	CHANNEL - APPROXIMATE WIDTHS/DEPTHS	COVER TYPE ON LEFT AND RIGHT BANKS (WATERWAYS)
37J	Perennial	MO_1540045	-	Silt, sand, cobble, gravel, riprap Width: 1-6 ft Depth: 0.5-5 in	Right: forest/PEM Left: forest/PEM
37K	Intermittent	MO_1540045	-	Silt, gravel, riprap Width: 3-5 ft Depth: 1 in	Right: forest/mowed lawn Left: forest/mowed lawn
37L	PEM	MO_1540045	Sweet woodreed	-	-
37M	PEM	MO_1540045	Pinkweed	-	-
37N	PEM	MO_1540045	Sweet woodreed Quaker bittercress (*Cardamine pensylvanica*)	-	-
SUB-SEGMENT 38					
38L	PFO	MO_00029	Ash-leaf maple Slippery elm Twinsisters Red maple English ivy Ground ivy Eastern poison ivy Fox grape (Vitis labrusca)	-	-

ATTACHMENT B: WETLAND FUNCTIONS AND VALUES TABLE

Summary of Wetland Values and Functions by Wetland Feature

Feature ID	Classification	Area (ac)	Distance to Nearest Roadway/ Development (ft)	Function/Value													
				Groundwater Recharge/Discharge	Floodflow Alteration	Fish and Shellfish Habitat	Sediment/Toxicant Retention	Nutrient Removal	Production Export	Sediment/Shoreline Stabilization	Wildlife Habitat	Recreation	Education/Scientific Value	Uniqueness/Heritage	Visual Quality/Aesthetics	Endangered Species Habitat	Other
Subsegment 30																	
30BB	PEM	0.07	0				X										
30BBB	PEM	0.03	2				X										
30EE	PEM	0.04	7				X										
30G	PEM	0.02	20				X										
30GGGG	PEM	0.08	15	X			X										
30JJ	PSS	0.01	5				X										
30JJJ	PEM	0.10	1	X	X		X										
30LLL	PEM	0.01	20				X										
30P	PEM	0.02	12				X										
30TT	PEM	0.01	15	X			X										
30WW	PEM	0.03	15				X										
30XX	PEM	0.01	2	X			X										
Subsegment 31																	
31BBB	PEM	0.03	10		X		X	X									
31C	PEM	0.03	15		X		X	X									
31CCC	PEM	0.05	75	X													
31CCCC	PFO	0.50	30		X		X										
31D	PEM	0.005	60		X		X										
31DDD	PFO	4.92	60	X	X		X	X	X	X	X						
31EEE	PEM	2.16	50	X	X		X	X	X	X	X						
31FFFF	PEM	0.05	20				X										
31G	PFO	0.02	50		X		X										
31GGGG	PSS	0.02	10				X		X								
31III	PFO	0.02	30		X		X			X							
31KKK	PSS	0.89	150	X	X		X	X	X	X	X						
31MMMM	PSS	0.01	150		X		X										
31NNNN	PFO	0.10	100	X	X		X										
31RRR	PEM	0.01	40		X		X										
31SSS	PEM	0.06	50		X		X	X									
31UU	PFO	0.13	75	X			X	X			X						
31VV	PFO	.95	100	X	X		X	X			X						
31YY	PFO	0.32	10		X		X	X			X						
31YYY	PEM	1.77	200		X		X	X									

Feature ID	Classification	Area (ac)	Distance to Nearest Roadway/ Development (ft)	Function/Value													
				Groundwater Recharge/Discharge	Floodflow Alteration	Fish and Shellfish Habitat	Sediment/Toxicant Retention	Nutrient Removal	Production Export	Sediment/Shoreline Stabilization	Wildlife Habitat	Recreation	Education/Scientific Value	Uniqueness/Heritage	Visual Quality/Aesthetics	Endangered Species Habitat	Other
31ZZZ	PFO	0.02	200				X		X								
Subsegment 32																	
32A	PEM	0.01	50	X			X	X									
32AAA	PSS	0.50	50	X			X	X									
32AAAA	PEM	0.04	5				X	X									
32DDDD	PEM	0.20	5	X			X	X									
32E	PEM	0.02	20				X	X									
32HHHH	PEM	0.05	10	X			X	X									
32JJJ	PFO	0.10	30	X			X	X			X						
32JJJJ	PEM	0.20	10	X			X	X			X						
32KKKK	PEM	0.10	20	X			X	X									
32MMM	PEM	0.02	25														
32O	PEM	0.02	25	X			X	X									
32OO	PEM	0.05	50	X			X	X			X						
32OOO	PEM	0.02	5				X	X			X						
32P	PEM	0.09	15	X			X	X									
32PPPP	PEM	0.01	15				X	X									
32QQ	PEM	0.03	20	X			X	X									
32RR	PFO	0.20	20	X	X		X	X			X						
32SS	PFO	0.20	20	X	X		X	X			X						
32UU	PFO	0.08	40	X	X		X	X			X						
32VVVV	PFO	0.20	10	X	X		X	X			X						
32XX	PEM	0.21	63	X	X	X	X	X			X						
32XXXX	PSS	0.07	10	X	X		X	X			X						
32YYYY	PEM	0.01	10	X			X	X			X						
Subsegment 33																	
33BB	PFO	0.08	20	X				X	X		X						
33CC	PEM	0.17	10		X		X	X			X						
33EE	PEM	0.01	5		X		X	X									
33H	PFO	0.02	30	X													
33K	PEM	0.12	30	X	X			X									
33M	PEM	0.01	50		X		X	X									
33Q	PEM	0.06	50					X									
33S	PEM	0.04	20					X			X						
33T	PEM	0.01	30	X				X									

Feature ID	Classification	Area (ac)	Distance to Nearest Roadway/ Development (ft)	Function/Value													
				Groundwater Recharge/Discharge	Floodflow Alteration	Fish and Shellfish Habitat	Sediment/Toxicant Retention	Nutrient Removal	Production Export	Sediment/Shoreline Stabilization	Wildlife Habitat	Recreation	Education/Scientific Value	Uniqueness/Heritage	Visual Quality/Aesthetics	Endangered Species Habitat	Other
33Z	PEM	0.03	10				X	X			X						
Subsegment 34																	
34AA	PEM	0.27	275					X			X						
34B	PFO	0.01	300	X			X	X									
34BB	PFO	0.003	180	X							X						
34CC	PFO	0.002	200	X							X						
34DD	PFO	0.002	330	X							X						
34F	PFO	0.09	100	X			X	X			X						
34K	PFO	0.02	115	X	X		X	X									
34M	PFO	0.01	190	X													
34P	PEM	0.01	10	X			X										
34Q	PFO	0.20	100								X						
34S	PFO	0.04	65					X			X						
34U	PFO	0.04	190								X						
34W	PFO	0.03	100	X							X						
34X	PEM	0.04	200	X	X			X			X						
34Z	PFO	0.07	350					X	X		X						
Subsegment 35																	
35A	PEM	0.01	31	X	X		X	X			X						
35AAA	PFO	0.09	219	X	X		X	X			X						
35AAAA	PEM	0.01	245	X	X		X	X			X						
35B	PEM	0.18	35	X	X		X	X			X						
35CCC	PSS	0.04	50	X	X		X	X			X						
35FFF	PEM	0.08	45	X	X		X	X			X						
35G	PFO	0.31	100	X	X		X	X			X	X					
35GGG	PFO	0.16	45	X	X		X	X			X						
35H	PEM	0.02	643	X	X		X	X									
35HHHH	PEM	0.10	10				X	X									
35II	PFO	0.08	50	X	X		X	X			X						
35JJ	PEM	0.03	50	X	X		X	X			X						
35JJJ	PEM	0.09	0	X			X	X			X						
35M	PEM	0.04	220	X	X		X	X			X						
35MMM	PFO	7.44	95	X	X		X	X			X						
35N	PFO	0.81	220	X	X		X	X			X						
35P	PEM	0.01	440	X	X		X	X			X						

Feature ID	Classification	Area (ac)	Distance to Nearest Roadway/ Development (ft)	Function/Value													
				Groundwater Recharge/Discharge	Floodflow Alteration	Fish and Shellfish Habitat	Sediment/Toxicant Retention	Nutrient Removal	Production Export	Sediment/Shoreline Stabilization	Wildlife Habitat	Recreation	Education/Scientific Value	Uniqueness/Heritage	Visual Quality/Aesthetics	Endangered Species Habitat	Other
35PPP	PFO	1.88	315	X	X		X	X			X	X					
35Q	PFO	1.83	205	X	X		X	X			X						
35QQ	PFO	0.06	50	X			X	X			X						
35QQQ	PEM	0.02	330	X	X		X	X			X						
35R	PFO	0.69	86	X	X		X	X			X						
35RR	PFO	0.04	10	X			X	X			X						
35UUU	PFO	0.38	983	X	X		X	X			X						
35UUUU	PFO	0.07	245	X	X		X	X			X						
35V	PSS	0.02	240	X	X		X	X			X						
35VVV	PFO	0.12	675	X	X		X	X			X						
35WWWW	PFO	1.74	145	X	X		X	X			X						
35Y	PEM	0.04	106	X	X		X	X			X						
35YYY	PEM	1.63	340	X	X		X	X			X						
35Z	PEM	0.01	175	X	X		X	X			X						
Subsegment 36																	
36C	PSS	0.02	0	X			X	X			X						
36DD	PEM	0.01	60	X		X											
36E	PFO	0.08	250	X	X		X	X									
36G	PFO	0.10	325	X			X	X									
36J	PFO	0.01	50	X	X		X	X			X						
36K	PFO	0.05	100	X	X		X	X			X						
36M	PFO	0.06	250	X			X	X	X		X						
36O	PFO	0.02	140	X			X	X									
36P	PFO	0.10	100		X		X										
36T	PFO	0.08	100		X		X										
36W	PFO	0.07	140	X			X				X						
36Y	PFO	0.05	200	X	X		X										
36Z	PFO	0.16	70		X		X	X									
Subsegment 37																	
37C	PFO	0.005	100	X													
37G	PFO	0.18	130	X	X		X	X			X						
37I	PEM	0.01	160	X	X		X	X									
37L	PEM	0.07	200	X	X		X	X			X						
37M	PEM	0.01	150	X			X	X									
37N	PEM	0.01	200	X				X			X						

Feature ID	Classification	Area (ac)	Distance to Nearest Roadway/ Development (ft)	Function/Value													
				Groundwater Recharge/Discharge	Floodflow Alteration	Fish and Shellfish Habitat	Sediment/Toxicant Retention	Nutrient Removal	Production Export	Sediment/Shoreline Stabilization	Wildlife Habitat	Recreation	Education/Scientific Value	Uniqueness/Heritage	Visual Quality/Aesthetics	Endangered Species Habitat	Other
Subsegment 38																	
38L	PFO	0.03	20	X			X	X			X						

ATTACHMENT C: FIELD DATASHEETS

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30AAAA	**Use Class:** I-P
Date: 2/10/21	**State:** MD	**Photos:** 6138-39	
Crew: ET / ASN	**County:** MO	**Last Flag Number:** 30AAAA-3B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Baseflow observed - aerial photography shows defined channel US of culvert

Hydrologic Connectivity –	Upstream: Outside SA (culvert)	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
N/A ✓	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 6'	Silts	✓ Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 4"	✓ Cobbles	✓ Gravel	✓ Other:	LB: Forest
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
Other:	Moderate erosion				
		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Channel armored with riprap

Weather/Precipitation Conditions:

Rain						Monthly Drought Condition NCDC Regional PDSI												
During visit		Last 48hrs		Last week		http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021												
✓	No rain		0-0.1	X	0-0.5								X					
	Light rain	X	0.1-0.5		0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
	Heavy Rain		> 0.5		>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank		Sediment deposition	✓	Water staining		Abrupt change in plant community
	Changes in the character of soil	✓	Presence of wrack line		Shelving	✓	Destruction of terrestrial veg.
✓	Presence of flood litter/debris	✓	Leaf litter disturbed		Sediment sorting	✓	Observed/predicted flow events
✓	Vegetation matted down, bent, or absent	✓	Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory Swm City/County: Prince George's Sampling Date: 11/5/20

Applicant/Owner: SHA State: MD Sampling Point: 30BB

Investigator(s): ET, STF Section, Township, Range: _____

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 148 Lat: 38.7108915 Long: -76.9903013 Datum: NAD83

Soil Map Unit Name: BaB Beltsville silt loam 2-5% slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
photos 5492-5493
isolated toe of slope wetland perched above clay fill material and gravel refusal layer

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [x] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [x] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [x] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 1
Water Table Present?	Yes X	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 30BB

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: 3' x 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	3	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3 = Total Cover		
50% of total cover: 1.5	20% of total cover: 0.6		

Herb Stratum (Plot size: 3' x 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Typha latifolia	60	Y	OBL
2. Foxtail sp. Setaria pumila	10	N	FAC
3. Persicaria pensylvanica	5	N	FACW
4. Cyperus sp.	20	N	FACW
5. Carex lurida	10	N	OBL
6. Juncus effusus	10	N	OBL
7.			
8.			
9.			
10.			
11.			
12.			
	115 = Total Cover		
50% of total cover: 57.5	20% of total cover: 23		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 30BB-

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/2	97	2.5YR3/6	3	C	PL	sandy loam	
5-11	10YR5/3	80					clay (Fill)	
	10YR5/8	20					" "	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: gravel

Depth (inches): 11

Hydric Soil Present? Yes ✓ No ____

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02AC Human made? yes Is wetland part of a wildlife corridor? no or a "habitat island"? no

Adjacent land use highway Distance to nearest roadway or other development 0'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present no

Is the wetland a separate hydraulic system? yes If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30BB

Latitude 38.710895 Longitude -76.990303

Prepared by: ET, SJF Date 11/5/20

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 1/13/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 2A BBB
Investigator(s): GT + ASN Section, Township, Range: Laurel
Landform (hillslope, terrace, etc.): Toe of slope ditch Local relief (concave, convex, none): concave Slope (%): 0-2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.099392 Long: -76.8941031 Datum: NAD 83
Soil Map Unit Name: UdaF Udorthents highway, 0-65% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

Photos 5763-84

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 6"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 30 BBB

Tree Stratum (Plot size: 3'x20')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling Stratum (Plot size: 3' x 20')			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 3' x 20')			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 3' x 20')			
1. Typha latifolia	75	Y	OBL
2. Dichanthelium scoparium	25	Y	FACW
3. Aster sp.	10	N	—
4. Juncus effusus	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
50% of total cover: 60	20% of total cover: 24		

Woody Vine Stratum (Plot size: 3 x 20')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 30BBB

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					loam	
3-8	2.5Y 5/2	90	7.5YR 4/6	10	C	M/PL	Sandy Clay	
8-12	2.5Y 5/6	100					Sand	fill material.
								gravel refusal @ 12"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: gravel refusal

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.03 AC Human made? Yes Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway Distance to nearest roadway or other development 2ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30 BB B

Latitude 39.099392 Longitude -76.994031

Prepared by: ET Date 1/13/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other		X			

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS SWM Compensatory		**Feature ID:** 30C	**Use Class:** 1
Date: 10/17/20	**State:** MD	**Photos:** 2008-2009	
Crew: ET/SJF	**County:** AA	**Last Flag Number:** 30C-2B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: Outside Study Area	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
X Natural Channel Shape	Width: 25'	X Silts	X Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 6"	X Cobbles	Gravel	Other:	LB: Forest
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	X Concrete		*Notes:*
Other:	Moderate erosion				
		Side slope: [X] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Originates at culvert outfall

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Sept. Year: 2020												
X No rain	X 0-0.1	0-0.5									✓				
Light rain	0.1-0.5	X 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	X Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	X Presence of wrack line	Shelving	X Destruction of terrestrial veg.
X Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	X Observed/predicted flow events
X Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30CCC	**Use Class:** I-P
Date: 1/14/21	**State:** MD	**Photos:** 5806 - 5807	
Crew: ET / ASN	**County:** MO	**Last Flag Number:** 30CCC-3B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	X Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Baseflow observed at severe headcut. Likely intercepts groundwater

Hydrologic Connectivity –	Upstream: None	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	X Yes / No	Yes / X No	Yes / X No	Yes / X No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	X Yes / No	Yes / X No	X Yes / No	Yes / X No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 3-8 ft	X Silts	X Sands	Muck	RB: Forest
X Artificial (man-made)	Depth: 2"	Cobbles	X Gravel	X Other:	LB: Emergent embankment
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
Other:	Highly eroded				
		Side slope: X ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Appears to be highly incised constructed roadside ditch

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI												
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec. Year: 2020												
X No rain	X 0-0.1	X 0-0.5									X				
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	X Presence of wrack line	Shelving	X Destruction of terrestrial veg.
X Presence of flood litter/debris	X Leaf litter disturbed	Sediment sorting	X Observed/predicted flow events
X Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory sum		**Feature ID:** 30E	**Use Class:** I
Date: 10/19/20	**State:** MD	**Photos:** 7027-7030	
Crew: FT, SJF	**County:** PG	**Last Flag Number:** unflagged - could not access from ROW (surveyed from road)	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[ ] Tributary	[ ] Tributary	[ ] Impoundment
	[X] Tributary	[ ] Ditch	[ ] Ditch	[ ] POW

Describe rationale for hydrologic class, including flow: Flowing during field visit

Hydrologic Connectivity –	Upstream: outside SA	Downstream: outside SA	Adjacent/Abutting: none

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[ ] Natural Channel Shape	Width: 5'	[X] Silts	[X] Sands	[ ] Muck	RB: Forest/mowed lawn
[ ] Artificial (man-made)	Depth: 6"	[ ] Cobbles	[X] Gravel	[ ] Other:	LB: Forest
[X] Manipulated (man-altered)	Bank Erosion/stability:	[ ] Bedrock	[ ] Concrete		*Notes:*
[ ] Other:	unstable				
		Side slope: [X] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Sept. Year: 2020												
[X] No rain	[X] 0-0.1	[ ] 0-0.5													
[ ] Light rain	[ ] 0.1-0.5	[X] 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
[ ] Heavy Rain	[ ] > 0.5	[ ] >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[ ] Sediment deposition	[ ] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[X] Presence of wrack line	[ ] Shelving	[ ] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris	[ ] Leaf litter disturbed	[ ] Sediment sorting	[X] Observed/predicted flow events
[X] Vegetation matted down, bent, or absent	[ ] Scour	[ ] Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory Swm City/County: Prince George's Sampling Date: 3/22/21
Applicant/Owner: SHA State: MD Sampling Point: 30EE
Investigator(s): SLY, SJF Section, Township, Range: _____
Landform (hillslope, terrace, etc.): roadside ditch Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): MLRA 148 Lat: 38.67499629 Long: -77.00677261 Datum: NAD 83
Soil Map Unit Name: UdaF Udorthents, highway, 0-65% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation X, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
photos 3665-3666
roadside ditch wetland at toe of slope, originates from culvert under Indian Head Highway, likely connects to upstream wetland west of site via culvert

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☒ Surface Soil Cracks (B6)
- ☒ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): Surface-0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
surface water present outside of plot area

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 30EC

Tree Stratum (Plot size: 30'x20')	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Sapling/Shrub Stratum (Plot size: 3'x20')			
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 3' x 20')			
1. Rumex crispus	10	Y	FAC
2. grass sp.	15	Y	
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	= Total Cover	
50% of total cover: 12.5		20% of total cover: 5	

Woody Vine Stratum (Plot size: 3'x10')			
1. none			
2.			
3.			
4.			
5.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☒ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

sparsely vegetated

Dominant grass sp. unidentifyable due to mowing.

SOIL

Sampling Point: 30EE

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR3/2	100					clay loam	fine roots
2-13	10YR3/1	70	5YR5/8	30	C	M,PL	clay	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? yes Is wetland part of a wildlife corridor? no or a "habitat island"? no

Adjacent land use highway Distance to nearest roadway or other development 7'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present no

Is the wetland a separate hydraulic system? yes If not, where does the wetland lie in the drainage basin? —

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30EE

Latitude 38.674962 Longitude -77.007261

Prepared by: SLY, SJF Date 3/22/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensatory SWM		**Feature ID:** 30FFFF	**Use Class:** 1-P
Date: 2/17/21	**State:** MD	**Photos:** 6176-77	
Crew: ET/ALN	**County:** MO	**Last Flag Number:** 30FFFF-RB	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✗ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow - blue line stream

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: 30GBBB

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✗	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
✗ Natural Channel Shape	Width: 8'	✗ Silts	✗ Sands / Muck	RB: Hedgerow
Artificial (man-made)	Depth: 2-24"	✗ Cobbles	✗ Gravel / Other:	LB: Hedgerow
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	*Notes:*
Other:	Highly eroded			
		Side slope: ✗ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021											
✗ No rain	0-0.1	0-0.5								✗				
Light rain	✗ 0.1-0.5	✗ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank		Sediment deposition	✗	Water staining		Abrupt change in plant community
	Changes in the character of soil	✗	Presence of wrack line	✗	Shelving	✗	Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting	✗	Observed/predicted flow events
	Vegetation matted down, bent, or absent	✗	Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 10/22/2020

Applicant/Owner: SHA State: MD Sampling Point: 306-W

Investigator(s): ET & ASN Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 148 Lat: 38.720947 Long: -76.843733 Datum: NAD 83

Soil Map Unit Name: UdaF Udorthents, highway, 0 to 65 % slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Located in ditch in the median of US 301. Ditch dries out on both ends and contains more dominant upland vegetation.
Photo 5249

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturated to surface, but no water table. Perched above gravel refusal layer @ 14"

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 30 G

Tree Stratum (Plot size: 5'x5')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: 5'x5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5'x5')			
1. Typha angustifolia	80	Y	OBL
2. Juncus effusus	5	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		

50% of total cover: 42.5 20% of total cover: 17

Woody Vine Stratum (Plot size: 5'x5')			
1. Parthenocissus quinquefolia	5	Y	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		

50% of total cover: 2.5 20% of total cover: 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species		x 2 =	
FAC species		x 3 =	
FACU species	5	x 4 =	20
UPL species		x 5 =	
Column Totals:	90 (A)		105 (B)

Prevalence Index = B/A = 1.16

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 306

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					loam	lots of organic
4-10	10YR 4/1	90	5YR 4/6	10	C	M/PL	Sandy loam	
10-14	10YR 5/2	65	5YR 5/8	35	C	M/PL	Sandy Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Gravel refusal @ 14"

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 AC Human made? Y Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Median Distance to nearest roadway or other development 20'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30 G

Latitude 38.720947 Longitude -76.843733

Prepared by: ET/ASH Date 10/22/20

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other		X			

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MC9 Compensatory SWM		**Feature ID:** 30 GB	**Use Class:** I
Date: 11/9/20	**State:** MD	**Photos:** 5558-5559	
Crew: ET/ASN	**County:** PG	**Last Flag Number:** 30 GG-23	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[ ] Tributary	[ ] Tributary	[ ] Impoundment
	[X] Tributary	[ ] Ditch	[ ] Ditch	[ ] POW

Describe rationale for hydrologic class, including flow: Ample baseflow and fish observed

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[ ] Natural Channel Shape	Width: 10'	[X] Silts	[X] Sands	[ ] Muck	RB: Mowed grass
[ ] Artificial (man-made)	Depth: 2'	[X] Cobbles	[X] Gravel	[ ] Other:	LB: Mowed grass
[X] Manipulated (man-altered)	Bank Erosion/stability:	[ ] Bedrock	[ ] Concrete		*Notes:*
[ ] Other:	Mostly stable	[ ]	[ ]		
		Side slope: [ ] ≥1:1 [X] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI												
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Oct Year: 2020												
[X] No rain	[X] 0-0.1	[X] 0-0.5											X		
[ ] Light rain	[ ] 0.1-0.5	[ ] 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
[ ] Heavy Rain	[ ] > 0.5	[ ] >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[ ] Sediment deposition	[X] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[ ] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris	[ ] Leaf litter disturbed	[ ] Sediment sorting	[X] Observed/predicted flow events
[ ] Vegetation matted down, bent, or absent	[ ] Scour	[ ] Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: ML 8 Compensatory SWM City/County: MO Sampling Date: 2/12/21
Applicant/Owner: SHA State: MD Sampling Point: 30-6666
Investigator(s): ET / ASN Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.143768 Long: -77.223427 Datum: NAD83
Soil Map Unit Name: Baile silt loam 0-3% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation ✗, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ____	No ____	
Wetland Hydrology Present?	Yes ✗	No ____	

Remarks:
Photos 6138-9

Non-invasive property access does not permit subsurface investigation

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✗ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✗ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✗ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✗ No ____ Depth (inches): 1-3
Water Table Present? N/A Yes ____ No ____ Depth (inches): ____
Saturation Present? (includes capillary fringe) N/A Yes ____ No ____ Depth (inches): ____

Wetland Hydrology Present? Yes ✗ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Conveys surface hydrology to adjacent 30FFFF (perennial)

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 30GGGG

Tree Stratum (Plot size: 30' R)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30' R)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30' R)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30' R)			
1. Grass sp.	50	Y	
2. Rumex crispus	15	N	FAC
3. Senecio aureus	5	N	FACW
4. Phalaris arundinacea	10	N	FACW
5. Carex sp.	5	N	
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		

50% of total cover: 42.5 20% of total cover: 17

Woody Vine Stratum (Plot size: 30' R)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Grass sp. likely hydrophytic as it is not present in surrounding uplands and it is surrounded by hydrophytes

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Regularly mowed – most herbs unidentifiable

SOIL

Sampling Point: 30-6666

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

N/A - Could not dig pit

Wetland Function-Value Evaluation Form

Total area of wetland 0.06 AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Highway Distance to nearest roadway or other development 15'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30 GBBG

Latitude 39.14376 Longitude -77.2234

Prepared by: ET/AJN Date 2/17/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30 HH	**Use Class:** 1
Date: 11/9/20	**State:** MD	**Photos:** 452-453	
Crew: ET/ASN	**County:** PG	**Last Flag Number:** 30HH-3B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 8-15'	X Silts	X Sands	Muck	RB: Unmowed grass
Artificial (man-made)	Depth: 2'	Cobbles	X Gravel	X Other:	LB: Unmowed grass
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
Other:	Mostly stable				
		Side slope: ☐ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Banks armored w/ riprap near highway

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI												
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Oct Year: 2020												
X No rain	X 0-0.1	X 0-0.5									X				
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
X Clear, natural line impressed on the bank	Sediment deposition	X Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	X Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	X Observed/predicted flow events
Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30HHHH	**Use Class:** 1-P
Date: 2/17/21	**State:** MD	**Photos:** 6196-97	
Crew: ET / ASN	**County:** Montgomery	**Last Flag Number:** 30HHHH-4A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	X Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Base flow observed. Deeply incised storm drain outfall

Hydrologic Connectivity –	Upstream: None	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15'-5'	Silts	X Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 1-3"	X Cobbles	X Gravel	Other:	LB: Forest
X Manipulated (man-altered)	Bank Erosion/stability: Severly eroded	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☒ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: originates as riprap lined storm water outfall

Weather/Precipitation Conditions:

Rain: During visit	Last 48hrs	Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021											
X No rain	0-0.1	0-0.5								X				
Light rain	X 0.1-0.5	X 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
X	Clear, natural line impressed on the bank		Sediment deposition	X	Water staining		Abrupt change in plant community
	Changes in the character of soil	X	Presence of wrack line		Shelving		Destruction of terrestrial veg.
	Presence of flood litter/debris	X	Leaf litter disturbed		Sediment sorting	X	Observed/predicted flow events
	Vegetation matted down, bent, or absent	X	Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30I	**Use Class:** I
Date: 10/22/20	**State:** MD	**Photos:** 5260 - 5261	
Crew: ET / ASN	**County:** PG	**Last Flag Number:** 30I-3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[ ] Tributary	[ ] Tributary	[ ] Impoundment
	[ ] Tributary	[X] Ditch	[ ] Ditch	[ ] POW

Describe rationale for hydrologic class, including flow: Begins at eroded driveway pipe. Baseflow observed. No flow upstream of pipe.

Hydrologic Connectivity – Upstream: None Downstream: Outside Study Area Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [ ]	[X] Yes [ ] No	[ ] Yes [X] No	[ ] Yes [X] No	[ ] Yes [X] No	[ ] Yes [X] No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	[X] Yes [ ] No	[X] Yes [ ] No	[ ] Yes [X] No	[ ] Yes [X] No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[ ] Natural Channel Shape	Width: 2-3'	[X] Silts	[X] Sands	[ ] Muck	RB: Mowed Grass
[X] Artificial (man-made)	Depth: 2-12"	[X] Cobbles	[X] Gravel	[ ] Other:	LB: Mowed Grass
[ ] Manipulated (man-altered)	Bank Erosion/stability:	[ ] Bedrock	[ ] Concrete		*Notes:*
[ ] Other:	Highly eroded	[ ]	[ ]		
		Side slope: [ ] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Likely intercepts groundwater

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Sept Year: 2020												
[X] No rain	[X] 0-0.1	[X] 0-0.5									✓				
[ ] Light rain	[ ] 0.1-0.5	[ ] 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
[ ] Heavy Rain	[ ] > 0.5	[ ] >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[ ] Sediment deposition	[X] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[X] Destruction of terrestrial veg.
[X] Presence of flood litter/debris	[ ] Leaf litter disturbed	[ ] Sediment sorting	[X] Observed/predicted flow events
[X] Vegetation matted down, bent, or absent	[X] Scour	[ ] Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory		**Feature ID:** 30 III	**Use Class:**
Date: 1/21/2021	**State:** MD	**Photos:** 5963-64	
Crew: ET + ASW	**County:** PG	**Last Flag Number:** Not flagged	

Feature Hydrologic Class (check one): Note: Delineated from SHA ROW. No property access

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Base flow observed - some stormwater contribution

Hydrologic Connectivity –	Upstream: None	Downstream: 30W	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	✓ Yes / No	Yes / ✓ No	Yes / ✓ No	Yes / ✓ No	Yes / ✓ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	✓ Yes / No	Yes / ✓ No	✓ Yes / No	Yes / ✓ No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 4'	✓ Silts	✓ Sands	Muck	RB: Mowed grass
✓ Artificial (man-made)	Depth: 6"	Cobbles	Gravel	Other:	LB: Forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Moderate erosion				
		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec. Year: 2020												
✓ No rain	✓ 0-0.1	✓ 0-0.5										✓			
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank		Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil	✓	Presence of wrack line		Shelving		Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting	✓	Observed/predicted flow events
	Vegetation matted down, bent, or absent	✓	Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MC4 Compensatory SWM City/County: PG Sampling Date: 11/09/2020

Applicant/Owner: SHA State: MD Sampling Point: 305J

Investigator(s): ET/AJN Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1-3

Subregion (LRR or MLRA): MLRA 148 Lat: 38.7289885 Long: -76.9908355 Datum: NAD83

Soil Map Unit Name: LxD Liverpool-Piscataway complex 5 to 10% slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Closed depression.

Photos 460 – 462

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 3055

Tree Stratum (Plot size: 10'R)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 10'R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Willow oak (Quercus phellos)	30	Y	FACW
2. Green Ash (Fraxinus pennsylvanica)	20	Y	FACW
3. Black Willow (Salix nigra)	25	Y	OBL
4. Pin oak (Quercus palustris)	10	N	FACW
5.			
6.			
7.			
8.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		

Herb Stratum (Plot size: 10'R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Typha latifolia	25	Y	OBL
2. Fire cut grass (Leersia oryzoides)	30	Y	OBL
3. Scirpus atrovirens	30	Y	OBL
4. Carex sp.	10	N	–
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		

Woody Vine Stratum (Plot size: 10'R)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 30JJ

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 5/2	85	10YR 4/6	15	C	M	loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC Human made? NO Is wetland part of a wildlife corridor? NO or a "habitat island"? NO

Adjacent land use Highway Distance to nearest roadway or other development 51

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? ✓ If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 3055

Latitude 38.7289 Longitude -76.99083

Prepared by: ET/ASN Date 11/09/2020

Wetland Impact:
Type PSS Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other		X			

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Mt 3 Compensatory SWM City/County: PG Sampling Date: 1/21/21
Applicant/Owner: SHA State: MD Sampling Point: 30111
Investigator(s): ET / AJN Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Toe of Slope Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): MLRA 148 Lat: 38.886254 Long: -76.901136 Datum: NAD83
Soil Map Unit Name: CoB Collington-Wist-Urban land complex 0-5% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
will need to refine delineation when full access is granted
Photos 5965-66

Potential PFO fringe will need to be investigated

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 2
Water Table Present? N/A Yes _____ No _____ Depth (inches): _____
Saturation Present? (includes capillary fringe) N/A Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Property access did not permit digging. Will need to investigate subsurface hydrology at a later time.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 30555

Tree Stratum (Plot size: 30' x 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: 30' x 30')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30' x 30')			
1. Phragmites australis	85	Y	FACW
2. Rumex britannica	3	N	OBL
3. Ludwigia palustris	5	N	OBL
4. Carex sp.	5	N	
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	98 = Total Cover		

50% of total cover: 49 20% of total cover: 19.6

Woody Vine Stratum (Plot size: 30' x 30')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

Carex is mowed at road edge

SOIL

Sampling Point: 30555

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Prickly Areas did not allow soil investigation.

Wetland Function-Value Evaluation Form

Total area of wetland 0.1 Ac Human made?_____ Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Highway Distance to nearest roadway or other development 1'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Low

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30 JJJ

Latitude 38.886254 Longitude -76.901136

Prepared by: ETAIN Date 1/21/21

Wetland Impact:
Type PEM Area_____

Evaluation based on:
Office_____ Field X

Corps manual wetland delineation completed? Y X N_____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	X				
Floodflow Alteration	X				
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other		X			

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30JJJJ	**Use Class:** I-P
Date: 2/17/21	**State:** MD	**Photos:** 6232-3	
Crew: ET/AJN	**County:** MO	**Last Flag Number:** 30JJJJ-3B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
X Natural Channel Shape	Width: 15-20'	X Silts	X Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 1-2'	X Cobbles	X Gravel	Other:	LB: Hedgerow
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Moderate erosion				
		Side slope: X ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI — http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021											
X No rain	0-0.1	0-0.5							X					
Light rain	X 0.1-0.5	X 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet	

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	X Water staining	Abrupt change in plant community
Changes in the character of soil	X Presence of wrack line	Shelving	X Destruction of terrestrial veg.
X Presence of flood litter/debris	X Leaf litter disturbed	Sediment sorting	X Observed/predicted flow events
X Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30KK	**Use Class:** I
Date: 11/9/20	**State:** MD	**Photos:** 469-470	
Crew: ET/AJN	**County:** PG	**Last Flag Number:** 30KK-3D	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[ ] Tributary	[ ] Tributary	[ ] Impoundment
	[X] Tributary	[ ] Ditch	[ ] Ditch	[ ] POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[X] Natural Channel Shape	Width: 2-10'	[X] Silts	[X] Sands	[ ] Muck	RB: Grass/Forest
[ ] Artificial (man-made)	Depth: 2-8"	[X] Cobbles	[X] Gravel	[ ] Other:	LB: Grass/Forest
[X] Manipulated (man-altered)	Bank Erosion/stability: Mostly stable at outfall	[ ] Bedrock	[ ] Concrete		*Notes:* Transitions to forest downstream
[ ] Other:					
		Side slope: [X] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Channel more incised with eroded banks downstream

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
[X] No rain	[X] 0-0.1	[X] 0-0.5
[ ] Light rain	[ ] 0.1-0.5	[ ] 0.5-1
[ ] Heavy Rain	[ ] > 0.5	[ ] >1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Oct. **Year:** 2020

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
									X			
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[ ] Sediment deposition	[X] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[X] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris	[ ] Leaf litter disturbed	[ ] Sediment sorting	[X] ~~Observed~~/predicted flow events
[X] Vegetation matted down, bent, or absent	[X] Scour	[ ] Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: Mt S compensatory SWM		**Feature ID:** 30 KKK	**Use Class:**
Date: 1/21/21	**State:** MD	**Photos:** 5977	
Crew: ET / AJH	**County:** PG	**Last Flag Number:** Not Flagged	

Feature Hydrologic Class (check one): Note: Stream inaccessible through adjacent properties

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed -

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A X	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
X Natural Channel Shape	Width: 18-40'	X Silts	X Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 6-24"	X Cobbles	X Gravel	X Other:	LB: Forest
X Manipulated (man-altered)	Bank Erosion/stability:	X Bedrock	X Concrete	riprap	*Notes:*
Other:	Moderate erosion				
		Side slope: ☐ ≥1:1	X 2:1	X 3:1	☐ ≤4:1

General Notes:

Evidence of bank stabilization with class II rip rap and concrete rubble

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
X No rain	X 0-0.1	X 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Dec **Year:** 2020

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
								X				
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
X Clear, natural line impressed on the bank	X Sediment deposition	X Water staining	Abrupt change in plant community
Changes in the character of soil	X Presence of wrack line	X Shelving	X Destruction of terrestrial veg.
X Presence of flood litter/debris	X Leaf litter disturbed	X Sediment sorting	X ~~Observed~~ predicted flow events
X Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 1/21/2021

Applicant/Owner: GHA State: MD Sampling Point: 30LLL

Investigator(s): ET & ATN Section, Township, Range: _____

Landform (hillslope, terrace, etc.): closed depression Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR or MLRA): MLRA 148 Lat: 38.83485 Long: -76.911307 Datum: NAD83

Soil Map Unit Name: UdaF Udorthents, highway, 0-6% Slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ____	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

Photo 5993

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 6"
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Ind due closed depression @ time of visit. Ice prevented comprehensive vegetation identification

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 30 LLL

Tree Stratum (Plot size: 10' x 20')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: 10' x 20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 6' x 20')			
1. eleocharis geniculata	60	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		

50% of total cover: 30 20% of total cover: 12

Woody Vine Stratum (Plot size: 10' x 20')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

Algae growth. Grass/herbaceous is marked

SOIL

Sampling Point: 30 LLL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	95	5YR 4/6	5	C	PL	Clay Loam	
1-3	10YR 5/2	95	5YR 4/6	5	C	M	Clay loam	
3-12	5Y 6/1	70	5YR 4/6	20	C	PL	Clay	fill material (partial)
	2.5Y 5/3	10						
12-13	5Y 6/1	75					Sandy loam	fill material
	10YR 5/6	25						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: gravel refusal

Depth (inches): 13

Hydric Soil Present? Yes _____ No _____

Remarks:

Gravel refusal @ 13. Hydric soils perched above fill material + gravel

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Forested / roadway Distance to nearest roadway or other development 20 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? _____

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30LLL

Latitude 38.83485 Longitude -76.941307

Prepared by: ET Date 01/21/2021

Wetland Impact:
Type PEM Area _____

Evaluation based on:
Office _____ Field ✓

Corps manual wetland delineation completed? Y ✓ N _____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30NNN	**Use Class:** I-P
Date: 1/22/21	**State:** MD	**Photos:** 6013-6014	
Crew: ET/AJN	**County:** MO	**Last Flag Number:** 30NNN-7B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: None*

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3-8'	✓ Silts / ✓ Sands / Muck		RB: Hedgerow
Artificial (man-made)	Depth: 3-18"	✓ Cobbles / ✓ Gravel / ✓ Other:		LB: Hedgerow
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock / Concrete / clay		*Notes:*
Other:	Minor erosion			
		Side slope: [ ] >1:1 [✓] 2:1 [ ] 3:1 [ ] <4:1		

General Notes:

*Maintenance subsurface hydrology from wetland 30MMM (see data form). Flows through culvert

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	X 0-0.1	X 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 11/3/20

Applicant/Owner: MDOT SHA State: MD Sampling Point: 30P

Investigator(s): ET / AGA Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 148 Lat: 38.9031231 Long: -76.74827006 Datum: NAD 83

Soil Map Unit Name: UdaF Udorthents, high way, 0-65% Slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Photos 5375 – 5376
Roadside ditch, originates at a storm drain outfall

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [✓] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1-6"
Water Table Present?	Yes ✓	No _____	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 6"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Receives stormwater hydrology from inlet in median

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 301

Tree Stratum (Plot size: 10x10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 10x10)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 10x10')			
1. Typha latifolia	75	Y	OBL
2. Juncus effusus	20	Y	OBL
3. Ludwigia alternifolia	5	N	OBL
4. Lonicera japonica	2	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	102 = Total Cover		
50% of total cover: 51	20% of total cover: 20.4		

Woody Vine Stratum (Plot size: 10x10')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 30P-

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Clay Loam	
3-7	10YR 5/2	90	7.5YR 5/8	10	C	M+PL	Sandy Loam	
7-13	10YR 6/2	70	7.5YR 4/6	30	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ____

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02AC Human made? Y Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Highway Distance to nearest roadway or other development 12'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30P

Latitude 38.9031231 Longitude -76.74827706

Prepared by: ET/AG Date 11/3/20

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30PPPP	**Use Class:**
Date: 2/24/21	**State:** MD	**Photos:** 6254-5 ; 6252	
Crew: ET / AJN	**County:** PG	**Last Flag Number:** 30 PPPP-4B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Baseflow observed, blue line stream

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)			Substrate			Vegetation Cover Type (MBSS)
	Natural Channel Shape	Width: 6'	X Silts	X Sands	Muck	RB: Hedgerow
X	Artificial (man-made)	Depth: 6"	Cobbles	Gravel	X Other:	LB: Hedgerow
	Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
	Other:	Mostly stable (riprap)				
			Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Heavily channelized into roadside ditch

Weather/Precipitation Conditions:

Rain						Monthly Drought Condition NCDC Regional PDSI												
During visit		Last 48hrs		Last week		http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan **Year:** 2021												
X	No rain		0-0.1		0-0.5								X					
	Light rain	X	0.1-0.5	X	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
	Heavy Rain		> 0.5		>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank		Sediment deposition	X	Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.
X	Presence of flood litter/debris	X	Leaf litter disturbed		Sediment sorting	X	Observed/predicted flow events
	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30 RR	**Use Class:**
Date: 11/18/20	**State:** MD	**Photos:** 5597-5598	
Crew: ET/SJF	**County:** PG	**Last Flag Number:** 30RR-8	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	X Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Baseflow observed on multiple days. Hydrology may originate at overflowing sewer inrd.

Hydrologic Connectivity –	Upstream: None	Downstream: 30 SS	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	X Yes / No	Yes / X No	Yes / X No	Yes / X No	Yes / X No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	X Yes / No	X Yes / No	X Yes / No	Yes / X No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 0.5-4'	X Silts	X Sands	X Muck	RB: Hedgerow, Mowed grass
X Artificial (man-made)	Depth: 1-5"	Cobbles	Gravel	Other:	LB: Hedgerow, Mowed grass
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	X Concrete		*Notes:*
Other:	Mostly stable				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Channel originates as erosional headcut. Banks are more stable DS. Transitions to concrete

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Oct Year: 2020												
X No rain	X 0-0.1	0-0.5									X				
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	X >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	X Destruction of terrestrial veg.
Presence of flood litter/debris	X Leaf litter disturbed	Sediment sorting	X Observed/predicted flow events
X Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30RRR	**Use Class:** I-P
Date: 2/9/21	**State:** MD	**Photos:** 6068-6069	
Crew: ET / ASN	**County:** MO	**Last Flag Number:** 30RRR-3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[ ] Tributary	[ ] Tributary	[ ] Impoundment
	[ ] Tributary	[ ] Ditch	[ ] Ditch	[X] POW

Describe rationale for hydrologic class, including flow: Manmade pond collecting stormwater. No waterways identified

Hydrologic Connectivity –	Upstream: None	Downstream: None	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[ ] Natural Channel Shape	Width: > 300'	[X] Silts	[X] Sands	[ ] Muck	RB: N/A
[X] Artificial (man-made)	Depth: 1' (at shore)	[ ] Cobbles	[ ] Gravel	[ ] Other:	LB: N/A
[ ] Manipulated (man-altered)	Bank Erosion/stability:	[ ] Bedrock	[ ] Concrete		*Notes:* Surrounded by hedgerow ~>5% of perimeter
[X] Other: Manmade pond	Stable				
		Side slope: [X] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

No RBP data collected.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
[X] No rain	[ ] 0-0.1	[X] 0-0.5
[ ] Light rain	[X] 0.1-0.5	[ ] 0.5-1
[ ] Heavy Rain	[ ] > 0.5	[ ] >1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[ ] Sediment deposition	[X] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[ ] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris	[ ] Leaf litter disturbed	[ ] Sediment sorting	[ ] Observed/predicted flow events
[ ] Vegetation matted down, bent, or absent	[ ] Scour	[X] Other: Pond	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 30S	**Use Class:** 1
Date: 11/3/20	**State:** MD	**Photos:** 5392 - 5393, 5607 - 5608	
Crew: ET / AGA	**County:** PG	**Last Flag Number:** 30S - 4B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed

Hydrologic Connectivity –	Upstream: Out of Study Area	Downstream: Outside Study Area	Adjacent/Abutting: 30R

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 18 - 35'	X Silts	X Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 2 - 24"	Cobbles	X Gravel	Other:	LB: Forest
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Highly Eroded				
		Side slope: [X] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Originates in study area at bridge crossing. Receives surface hydrology from wetland 30R

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI												
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Oct Year: 2020												
X No rain	X 0-0.1	0-0.5									X				
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	X >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	X Presence of wrack line	Shelving	X Destruction of terrestrial veg.
X Presence of flood litter/debris	X Leaf litter disturbed	Sediment sorting	X Observed/predicted flow events
X Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 3088	**Use Class:** 1
Date: 11/18/20	**State:** MD	**Photos:** 5599 - 5600	
Crew: ET/SLF	**County:** PG	**Last Flag Number:** 3088-3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Ample baseflow observed, concrete eroding

Hydrologic Connectivity – Upstream: Outside SA Downstream: Outside SA Adjacent/Abutting: 30RR

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 2-4'	Silts	Sands	Muck	RB: Forest, Scrub Shrub
Artificial (man-made)	Depth: 2"	Cobbles	Gravel	Other:	LB: Hedgerow, Scrub Shrub
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	X Concrete		*Notes:* Runs through utility crossing
Other:	Stable				
		Side slope: [ ] ≥1:1 [X] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Flagged at culvert outfall, flows outside SA to Henson Creek

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Oct. Year: 2020												
X No rain	X 0-0.1	0-0.5										X			
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	X >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	X Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	X Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory swm City/County: Prince George's Sampling Date: 11/18/20

Applicant/Owner: SHA State: MD Sampling Point: 30TT-

Investigator(s): ET, STF Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): MLRA 148 Lat: 38.89271 Long: -76.844504 Datum: NAD83

Soil Map Unit Name: UdaF Udorthents, highway, 0-65% slopes NWI classification: PFM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

photos 5603 - 5604

conveys surface hydrology to water 30UU, originates at stormwater outfall

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [x] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [x] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 1
Water Table Present?	Yes X	No _____	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 30TT-

Tree Stratum (Plot size: 5' x 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Sapling/Shrub Stratum (Plot size: 5' x 5')			
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5' x 5')			
1. Schoenoplectus americanus	20	Y	OBL
2. Cyperus striatus	40	Y	FACW
3. Echinochloa crus-galli	20	Y	FACW
4. Typha latifolia	5	N	OBL
5. Juncus effusus	5	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	
50% of total cover: 45		20% of total cover: 18	

Woody Vine Stratum (Plot size: 5' x 5')			
1. none			
2.			
3.			
4.			
5.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 30TT

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y4/1	90	7.5YR5/6	10	C	PL	clay loam	
8-12	2.5Y4/2	60	5YR 4/6	40	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC Human made? yes Is wetland part of a wildlife corridor? no or a "habitat island"? no

Adjacent land use highway Distance to nearest roadway or other development 15'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present no

Is the wetland a separate hydraulic system? no If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30 TT

Latitude 38.89271 Longitude -76.844504

Prepared by: ET, SSF Date 11/18/20

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	X				
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other		X			

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLK Compensatory SWM		**Feature ID:** 30W	**Use Class:**
Date: 11/4/2020	**State:** MD	**Photos:** 5452-5453	
Crew: ET/AJN	**County:** PG	**Last Flag Number:** 30W-3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[ ] Tributary	[ ] Tributary	[ ] Impoundment
	[ ] Tributary	[X] Ditch	[ ] Ditch	[ ] POW

Describe rationale for hydrologic class, including flow: Baseflow observed

Hydrologic Connectivity –	Upstream: wetland outside SA	Downstream: Culvert under road	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [ ]	Yes [ ] No [X]	Yes [ ] No [X]	Yes [X] No [ ]	Yes [ ] No [X]	Yes [ ] No [✓]
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes [ ] No [X]	Yes [X] No [ ]	Yes [ ] No [X]	Yes [ ] No [X]	Wetlands observed outside SA

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[ ] Natural Channel Shape	Width: 3 ft	[ ] Silts	[ ] Sands	[ ] Muck	RB: mowed grass
[X] Artificial (man-made)	Depth: 1-4 inches	[ ] Cobbles	[ ] Gravel	[ ] Other:	LB: mowed grass
[ ] Manipulated (man-altered)	Bank Erosion/stability:	[ ] Bedrock	[X] Concrete		*Notes:* w/in SHA ROW - median
[ ] Other:	Stable				
		Side slope: [ ] ≥1:1 [ ] 2:1 [X] 3:1 [ ] ≤4:1			

General Notes: Concrete lined ditch, Draining a wetland outside SA across Roadway
Photos 5452-53

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
[X] No rain	[X] 0-0.1	[ ] 0-0.5
[ ] Light rain	[ ] 0.1-0.5	[ ] 0.5-1
[ ] Heavy Rain	[ ] > 0.5	[X] >1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Oct **Year:** 2020

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
									X			
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[X] Sediment deposition	[ ] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[ ] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris	[ ] Leaf litter disturbed	[ ] Sediment sorting	[X] Observed/predicted flow events
[X] Vegetation matted down, bent, or absent	[ ] Scour	[ ] Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: , PG Sampling Date: 3/22/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 30WW
Investigator(s): SLY/SJF Section, Township, Range: _____
Landform (hillslope, terrace, etc.): roadside ditch Local relief (concave, convex, none): concave Slope (%): 3
Subregion (LRR or MLRA): MLRA 148 Lat: 38.8939594 Long: -76.8420635 Datum: NAD83
Soil Map Unit Name: UrdB Urban land-Collington-Wist complex 0-5% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Photos 3660-61. Did not have veg at far western end.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0-1
Water Table Present?	Yes ✓	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Roadside ditch near 495. Surface water present in some areas of the wetland, absent in others.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 30 WW-WET

Tree Stratum (Plot size: 5'x20')	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
5.			
6.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 5'x20')			
1. none			
2.			
3.			
4.			
5.			
6.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 5'x20')			
1. none			
2.			
3.			
4.			
5.			
6.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5'x20')			
1. Typha latifolia	90	Y	OBL
2. Persicaria punctata	5	N	OBL
3. Echinochloa crus-galli	2	N	FAC
4. Cyperus strigosus	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	102	= Total Cover	

50% of total cover: 51 20% of total cover: 20.4

Woody Vine Stratum (Plot size: 5'x20')			
1. none			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 30uw-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR3/2	100					clay	
2-9	10YR4/1	80	7.5YR4/6	20	C	M	clay	
9-12	10YR4/1	60	7.5YR5/6	40	C	M	clay	gravel mixed in

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: gravel

Depth (inches): 12

Hydric Soil Present? Yes X No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.03AC Human made? yes Is wetland part of a wildlife corridor? no or a "habitat island"? no

Adjacent land use highway Distance to nearest roadway or other development 15'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present no

Is the wetland a separate hydraulic system? yes If not, where does the wetland lie in the drainage basin? —

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30WW

Latitude 38.8939594 Longitude -76.8420635

Prepared by: SLY, STF Date 3/22/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X			
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MG Comp. SWM City/County: PG Sampling Date: 1/13/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 30XX
Investigator(s): ET + AJN Section, Township, Range: Beltsville
Landform (hillslope, terrace, etc.): Closed depression Local relief (concave, convex, none): Concave Slope (%): 0-2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.04936675 Long: -76.89906148 Datum: NAD83
Soil Map Unit Name: BuB. Beltsville-Urban land Complex 0-5% Slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
photos 5763-64

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1-4"
Water Table Present?	Yes ✓	No ____	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Closed depression. Ponded @ time of site visit

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 30 XY

Tree Stratum (Plot size: 15' x 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15' x 30')			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15' x 30')			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 15' x 30')			
1. Distichlis spicata	55	Y	FACW
2. Rumex hydrolapathum/britannica	20	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75 = Total Cover		

50% of total cover: 37.5 20% of total cover: 15

Woody Vine Stratum (Plot size: 15' x 30')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Area 3 mowed

SOIL

Sampling Point: 30 XX

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Clay loam	
3-7	2.5Y 4/1	85	10YR 5/8	15	C	M	Clay	
7-12	10YR 4/2	80	10YR 4/6	20	C	M	Clay	Gravel refusal @ 12"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: gravel refusal

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Highway Distance to nearest roadway or other development 2'

Dominant wetland systems present Emergent Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 30XX

Latitude 39.04936 Longitude -76.899041

Prepared by: ET/AJN Date 1/13/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	X				
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X				
Nutrient Removal		X			
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other		X			

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31A	**Stream Order:** 1
Date: 1/6/21	**State:** MD	**Photos:** 21 US 22 DS	
Crew: EB SP	**County:** PG	**Last Flag Number:** 31A-6	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Bed + banks, mostly standing water, minimal flow @ US extent			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31G	Adjacent/Abutting: 31G

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 6'	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 1-1.5'	☐ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	✓ Concrete		LB: Forest
☐ Other:	Moderate throughout	Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Culverted US, lacking veg along banks allowing for moderate erosion

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31AAAA	**Stream Order:** 1st
Date: 25 Feb 2021	**State:** MD	**Photos:** 2 US	
Crew: DRS EB	**County:** Montgomery	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	☒ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Describe rational for hydrologic class: Hydric soil, connects between 2 wetl areas			
Hydrologic Connectivity –	Upstream: 31YYY	Downstream: 31YYY	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 3'	☒ Silts	☒ Sands	☐ Muck	RB: Bamboo
☐ Artificial (man-made)	Depth: 0.5'	☐ Cobbles	☐ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Bamboo
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☒ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
● No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☒ Presence of flood litter/debris	☐ Observed/predicted flow events
	☒ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/10/21

Applicant/Owner: SHA State: MD Sampling Point: 31BBB-WET

Investigator(s): AC, LN Section, Township, Range: ~

Landform (hillslope, terrace, etc.): Ditch / Swale Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.858732 Long: -76.903688 Datum: NAD83

Soil Map Unit Name: Beltsville-Urban land complex, 0-5% slopes (BuB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

PEMIC

Photo 40 looking N, vegetated ditch becomes stream outside LOD

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1/2 - 3*
Water Table Present?	Yes ✓	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

*90% of plot

Possible burried culvert at southern end of wetland.

F-106

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31BBB-WET

Tree Stratum (Plot size: Irregular)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: Irregular)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: Irregular)			
1. Persicaria perfoliata	60	✓	FAC
2. Solidago gigantea	15		FACW
3. Rubus sp.	3		N/A
4. Carex sp.	7		N/A
5. Juncus effusus	5		OBL
6. Sambucus nigra	3		FACW
7.			
8.			
9.			
10.			
11.			
12.			
	93 = Total Cover		
50% of total cover: 46.5	20% of total cover: 18.6		

Woody Vine Stratum (Plot size: Irregular)			
1. Lonicera japonica	5	✓	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	18	x 2 =	36
FAC species	60	x 3 =	180
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	88 (A)		241 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

Plot is 10' wide by 20' long.

F-107

SOIL

Sampling Point: 31BBB-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					SiL	w/organics & mucky
4-8	2.5Y 3/1	95	7.5YR 5/8	5	C	M,PL	SCL	
8-12+	10YR 5/4	40					SCL	gravel fill
	7.5YR 5/6	60						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-108

Wetland Function-Value Evaluation Form

Wetland I.D. 31BBB

Total area of wetland 0.03 ac Human made? Y Is wetland part of a wildlife corridor? N or a "habitat island"? N

Latitude 39.858132 Longitude -76.903688

Adjacent land use Institution, open space Roadway Distance to nearest roadway or other development ~10'

Prepared by: AC Date 2/10/21

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Wetland Impact:
Type — Area —

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? High

Evaluation based on:
Office ✓ Field ✓

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				Drains to stream outside LOD.
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31BBRB	**Stream Order:** 1st
Date: 2 Mar 2021	**State:** MD	**Photos:** 1 DS, 2 US	
Crew: DRS, EB	**County:** PG	**Last Flag Number:** 3	

F-110

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	⊗ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Hydric Soils; drains wetland			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 31YYY	Downstream: 31FFF	Adjacent/Abutting: 31YYY / 31DDD

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 1'	☒ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 3'	☐ Cobbles	☐ Gravel	☒ Other: Clay	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor	☐ Bedrock	☐ Concrete		LB: Herbaceous
☐ Other:		Side slope: ☒ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊖ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☒ Scour
	☐ Shelving	☐ Presence of flood litter/debris	☐ Observed/predicted flow events
	☒ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 11/5/2020

Applicant/Owner: SHA State: MD Sampling Point: 31C-WET

Investigator(s): MN, AC Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): ~2%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.118189 Long: -76.975077 Datum: NAD 83

Soil Map Unit Name: Glenville Silt loam, 3 to 8 percent Slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

Photo #3 looking east

Riprap present in portions of swale, runs along toe-of-slope

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): ~1/2" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

* ~1/2" of standing water in small pockets, approx. 10% of plot

F-111

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3C-WET

Tree Stratum (Plot size: ~40' x 8')	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Sapling/Shrub Stratum (Plot size: ~40' x 8')			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: ~40' x 8')			
1. Juncus effusus	20	✓	FACW
2. Schedonorus arundinaceus	30	✓	FACU
3. Carex frankii	10		OBL
4. Persicaria punctata	5		OBL
5. Salix nigra	5		OBL
6. Acer rubrum	5		FAC
7. Cyperus strigosus	3		FACW
8. Typha latifolia	3		OBL
9. Rumex crispus	2		FAC
10. Setaria sp.	5		N/A
11.			
	88	= Total Cover	
50% of total cover: 44		20% of total cover: 17.6	

Woody Vine Stratum (Plot size: ~40' x 8')			
1. None			
2.			
3.			
4.			
5.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	23	x 1 =	23
FACW species	23	x 2 =	46
FAC species	7	x 3 =	21
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	83 (A)		210 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

F-112

SOIL

Sampling Point: 31C-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR4/2	60	7.5YR5/6	10	C	M	SCL	w/ large gravel
	10YR4/4	30						
8-12	10YR4/2	60	7.5YR4/6	15	C	M	SCL	w/ gravel, compact
	10YR4/4	25						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-113

Wetland Function-Value Evaluation Form

Total area of wetland 0.03 ac Human made? Yes Is wetland part of a wildlife corridor? Yes or a "habitat island"? NO

Adjacent land use open field, Roadway Distance to nearest roadway or other development ~15'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? high

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31C

Latitude 39.118189 Longitude -76.975077

Prepared by: MN, AC Date 11/5/20

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N ___

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 3/17/21

Applicant/Owner: SHA State: MD Sampling Point: 31CCC-WET

Investigator(s): EP SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope seep/swale Local relief (concave, convex, none): linear Slope (%): 2-8%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9568294 Long: -76.92570087 Datum: NAD83

Soil Map Unit Name: Issue-Urban land Complex, occasionally flooded NWI classification: PEM1B/C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Abuts 31NNNN

Ph 2-W

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 11"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-2; 10"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water covers approx. 30% of wetland

F-115

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3\CCC-WET

Tree Stratum (Plot size: 15x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 15x30)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 15x30)			
1. Poaceae sp.	50	✓	N/A
2. Lonicera japonica	2		FACU
3. Hedera helix	2		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	54 = Total Cover		
50% of total cover: 27	20% of total cover: 10.8		

Woody Vine Stratum (Plot size: 15x30)			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

Vegetation is mowed, unable to identify Poaceae sp. However, given presence of hydric soils & hydrology, we assume the Poaceae sp. is FAC or wetter in which case the dominance test would be met.

F-116

SOIL

Sampling Point: 31 CCC-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 4/1	97	7.5YR 3/4	3	C	M	fine SCL	Organics
3-10	2.5Y 5/2	75	7.5YR 4/6	25	C	M, PL	SL	Gravel
10-12+	10YR 6/1	80	5YR 5/8	20	C	M, PL	Fine SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-117

Wetland Function-Value Evaluation Form

Total area of wetland 0.05 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential, parkland Distance to nearest roadway or other development 75'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present 75'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31CCC

Latitude 38.9568294 Longitude -76.9257087

Prepared by: EB SP Date 3/17/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 3/2/21

Applicant/Owner: SHA State: MD Sampling Point: 31CCCC-WET

Investigator(s): DRS EB Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): MLRA 148A Lat: 39.0719561 Long: -77.1104423 Datum: NAD83

Soil Map Unit Name: Blocktown channery silt loam, 25-45% slopes, very rocky NWI classification: PFO1A/B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Portions of wetland contain fill material, small area under powerline recently planted.
Abuts 31DDDD Ph3E

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5-6"*
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-4"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
*Surface water in approx. 25% of plot
Perched hydrology over confining layer of fine sandy clay at 14".

F-119

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3\CCCC-WET

Tree Stratum (Plot size 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	60	✓	FAC
2. Ach. negundo	30	✓	FAC
3. Fraxinus pennsylvanica	2		FACW
4.			
5.			
6.			
7.			
	92 = Total Cover		
50% of total cover: 46	20% of total cover: 18.4		

Sapling/Shrub Stratum (Plot size: 30')			
1. Lonicera maackii	25	✓	FACU
2. Lindera benzoin	10	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		

Herb Stratum (Plot size: 15')			
1. Ficaria verna	95	✓	FAC
2. Lonicera maackii	3		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	98 = Total Cover		
50% of total cover: 49	20% of total cover: 19.6		

Woody Vine Stratum (Plot size: 30')			
1. Vitis sp.	5	✓	N/A
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Unable to ID vitis sp due to time of year. However, even if it was FACW or UPL, the dominance test would still be met (4/6 or 67% FAC or wetter)

F-120

SOIL

Sampling Point: 31CCCC-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/2	100					Fine SCL	
4-6	10YR4/3	100					LS	
6-15	7.5YR4/2	93	7.5YR4/4	7	C	M	Fine SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-121

Wetland Function-Value Evaluation Form

Total area of wetland 0.50ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, Roadway Distance to nearest roadway or other development 30'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present ~30'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31CCCC

Latitude 39.0719541 Longitude -77.1104423

Prepared by: DRS EB Date 3/2/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓	2,4,5,7		
Floodflow Alteration	✓		1,3,4,5,6,7,8,9,10,11,13	✓	Partially inundated, receives runoff from roads and parking lots, w/in floodplain of abutting watercourse
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓		1,2,3,4,5,7,9,10,12,13		Wetlands retains surface water runoff potentially containing sediments + toxicants from surrounding uplands
Nutrient Removal		✓	3,4,5,7		
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 11/5/2020

Applicant/Owner: SHA State: MD Sampling Point: 31D-WET

Investigator(s): MN, AC Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): <1%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.1183983 Long: -76.9750844 Datum: NAD 83

Soil Map Unit Name: Glenville Silt loam, 3 to 8 percent slopes NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Photo # 5 SE

Narrow swale/depression that continues NW outside study area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-123

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3D-WET

Tree Stratum (Plot size: *Irregular)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		
50% of total cover: ____	20% of total cover: ____		

Sapling/Shrub Stratum (Plot size: *Irregular)			
1. Acer negundo	5	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Herb Stratum (Plot size: *Irregular)			
1. Lysimachia nummularia	40	✓	FACW
2. Rumex crispus	2		FAC
3. Acer rubrum	2		FAC
4. Carex frankii	5		OBL
5. Rosa multiflora	7		FACU
6. Schedonorus arundinaceus	25	✓	FACU
7.			
8.			
9.			
10.			
11.			
	81 = Total Cover		
50% of total cover: 40.5	20% of total cover: 16.2		

Woody Vine Stratum (Plot size: *Irregular)			
1. None			
2.			
3.			
4.			
5.			
	____ = Total Cover		
50% of total cover: ____	20% of total cover: ____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

*Vegetation cover taken within entire wetland within LeD - 10' x 20'

F-124

SOIL

Sampling Point: 3/D-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	90	7.5YR 4/6	10	C	M,PL	SCL	w/ gravel
4-6	10YR 4/4	90	10YR 3/8	10	C	M	SCL	w/ gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock/ gravel

Depth (inches): 6"

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-125

Wetland Function-Value Evaluation Form

Wetland I.D. 31D

Total area of wetland 0.005 ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Latitude 39.118 3983 Longitude -76.9750844

Adjacent land use Open field, roadway Distance to nearest roadway or other development ~60'

Prepared by: AC Date 11/5/20

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Wetland Impact: Type PEM Area —

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? —

Evaluation based on: Office ✓ Field ✓

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/12/21

Applicant/Owner: SHA State: MD Sampling Point: 31DDD-WET

Investigator(s): MN, KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): floodplain depression Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9440412 Long: -76.8403810 Datum: NAD83

Soil Map Unit Name: Zekiah + Issue soils, frequently flooded NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	Is the Sampled Area within a Wetland? Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Photo 3 (NW)
PFO floodplain wetland abutting 31EEE (PEM) + Waters 31YY PFO1C

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1/2-2"
Water Table Present?	Yes ✓	No _____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-127

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31 DDD-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	50	✓	FAC
2. Salix nigra	10		OBL
3. Quercus palustris	5		FACW
4.			
5.			
6.			
7.			
8.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		

Sapling/Shrub Stratum (Plot size: 30')			
1. Alnus serrulata	10	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Herb Stratum (Plot size: 30')			
1. Microstegium vimineum	50	✓	FAC
2. Brehmenia cylindrica	15		FACW
3. Onoclea sensibilis	25	✓	FACW
4. Leersia oryzoides	5		OBL
5. Cinna arundinacea	10		FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105 = Total Cover		
50% of total cover: 52.5	20% of total cover: 21		

Woody Vine Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

F-128

SOIL

Sampling Point: 31DDD-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR4/2	60					sicl	
	10YR4/6	40						
3-6	10YR4/2	85	7.5YR 3/4	15	C	M/PL	cl	
6-12	10YR4/1	85	7.5YR 4/6	10	C	M/PL	C	
			7.5YR 5/8	5	C	M/PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-129

Wetland Function-Value Evaluation Form

Total area of wetland 4.92ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest, Residential, highway Distance to nearest roadway or other development 60'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 2 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31DDD

Latitude 38.9440374 Longitude -76.8403787

Prepared by: KS/DRS Date 2/16/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓		2,6,7,9,13,15		Large wetland associated with a perennial stream and seepages present along toe of slope indicate discharge. Clay soils limit recharge
Floodflow Alteration	✓		1,3,4,5,6,7,9,10,11,13,14,18	✓	Evidence of significant flooding observed at time of assessment
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓		1,2,3,5,7,9,10,14,15,16	✓	wetland contained multiple layers of sediment and buried organic matter
Nutrient Removal	✓		1,3,5,6,7,8,9,10,11	✓	wetland capable of trapping excess nutrients, although sources of excess nutrients are few.
Production Export	✓		1,2,4,5,7,8,10,11	✓	Large wetland with wildlife food sources present and drains to perennial stream.
Sediment/Shoreline Stabilization	✓		1,3,4,6,7,8,15		Large wetland bordering perennial streams, but streams are downcut with significant erosion present.
Wildlife Habitat	✓		3,6,7,8,11,13,14,15,16,17,19,20 21	✓	Large wetland contiguous with PEM and PSS wetlands. Evidence of deer, fox, and numerous bird species.
Recreation		✓	1,5		wetland not easily accessible and not capable of supporting rec. activities.
Educational/Scientific Value		✓	5		Wetland not easily accessible
Uniqueness/Heritage		✓	4,5,6,7,11,22		Lacks features for uniqueness/heritage.
Visual Quality/Aesthetics		✓	1,6,8,12		Trash scattered throughout wetland.
ES Endangered Species Habitat		✓			
Other					

* Refer to backup list of numbered considerations.

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31DDDD	**Stream Order:** 3rd
Date: 3 Mar 2021	**State:** MD	**Photos:** 1US, 2DS, 5DS@culvert, 6@culvert	
Crew: DRS, EB	**County:** MO	**Last Flag Number:** LIDAR Generated	

F-131

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	☒ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Large, 3rd order stream, UNT to Rock Creek			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31EEEE (Rock Creek)	Adjacent/Abutting: 31CCCC

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 30'	☒ Silts	☒ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 2.5'	☒ Cobbles	☒ Gravel	☐ Other:	
☒ Manipulated (man-altered)	Bank Erosion/stability:	☒ Bedrock	☒ Concrete		LB: Forest
☐ Other:	Moderate	Side slope: ☐ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: At downstream end, old concrete culvert blown out. Erosion seems in that at ca. upstream end fairly small. At culvert, stream constricted to 15' wide

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	⊗	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☒ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☒ Scour
	☒ Shelving	☒ Presence of flood litter/debris	☐ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☒ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☒ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 3EE	**Stream Order:** 1
Date: 1/15/2021	**State:** MD	**Photos:** 13 US 14 DS	
Crew: EB SP	**County:** P6	**Last Flag Number:** 8	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Bed + banks, observed flow			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: None	Downstream: Outside SA	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3'	☐ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5'	✓ Cobbles	✓ Gravel	✓ Other: Riprap	
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
✓ No rain	✓ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/12/21

Applicant/Owner: SHA State: MD Sampling Point: 31EEE-WET

Investigator(s): MN, KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): floodplain depression Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9437728 Long: -76.8396551 Datum: NAD83

Soil Map Unit Name: Zekiah + Issue soils, frequently flooded NWI classification: PEM1A/B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____
Hydric Soil Present?	Yes ✓	No _____
Wetland Hydrology Present?	Yes ✓	No _____

Is the Sampled Area within a Wetland? Yes ✓ No _____

Remarks: PEM1A/B floodplain wetland, abuts PFO wetland 31DDD + waters 31YY + 31GG

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1/2"
Water Table Present?	Yes ✓	No _____	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-133

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31 EEE-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30')			
1. Microstegium vimineum	60	✓	FAC
2. Boehmeria cylindrica	15		FACW
3. Juncus effusus	3		OBL
4. Scirpus polyphyllus	15		OBL
5. Carex sp.	10		N/A
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	103 = Total Cover		
50% of total cover: 51.5	20% of total cover: 20.6		

Woody Vine Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: (If observed, list morphological adaptations below).

F-134

SOIL

Sampling Point: 31EEE-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	60	7.5YR 4/4	10	C	M, PL	CL	
	10YR 4/3	30						
3-12	10YR 4/3	65	7.5YR 4/6	15	C	M, PL	C	
	10YR 4/2	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-135

Wetland Function-Value Evaluation Form

Total area of wetland 2.16ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest, Residential, highway Distance to nearest roadway or other development 50'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31EEE

Latitude 38.94376501 Longitude -76.83966529

Prepared by: KS/DRS Date 2/16/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓		2,6,7,9,15		Large wetland associated with perenial stream. Clay soils limit ground water recharge
Floodflow Alteration	✓		1,3,4,5,6,7,9,10,11,13,14,18	✓	Evidence of significant flooding observed at time of assessment
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓		1,2,3,5,7,9,10,14,15,16,	✓	wetland contained multiple layers of sediment and buried organic matter
Nutrient Removal	✓		1,3,5,6,7,8,9,10,11	✓	wetland capable of trapping excess nutrients, although sources of excess nutrients are few.
Production Export	✓		1,2,4,5,7,8,10,11,12	✓	Large wetland with wildlife food sources present and drains to perennial stream
Sediment/Shoreline Stabilization	✓		1,3,4,6,7,8,15		Large wetland bordering perennial stream, but stream is dominant with significant erosion present
Wildlife Habitat	✓		3,6,7,8,13,14,16,17,19,20 21	✓	Large wetland contiguous with PFO and PSS in floodplain. Evidence of deer, fox, Canada geese and other bird species.
Recreation		✓	1,5		wetland not easily accessible and not capable of supporting rec. activities
Educational/Scientific Value		✓	5		wetland not easily accessible
Uniqueness/Heritage		✓	4,6,7,11,22		Lacks features for uniqueness/heritage.
Visual Quality/Aesthetics		✓	1,6,8,12		Trash scattered throughout wetland.
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31EEEE	**Stream Order:** 4th
Date: 3 Mar 2021	**State:** MD	**Photos:** 7US, 8DS	
Crew: DRS, EB	**County:** MD	**Last Flag Number:** LIDAR	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	☒ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Named stream - Rock Creek			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: 31DDDD	Downstream: Outside Study Area	Adjacent/Abutting: 31FFFF, 31GGGG

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 85-90'	☒ Silts	☒ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 2'	☒ Cobbles	☒ Gravel	☐ Other:	
☒ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:	Minor; some scour on LB	Side slope: ☐ ≥1:1 ☐ 2:1 ☒ 3:1 ☐ ≤4:1			
Notes: Flows under bridge w/ pipe in channel					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	⊗	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☒ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☒ Scour
	☒ Shelving	☒ Presence of flood litter/debris	☐ Observed/predicted flow events
	☒ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☒ Leaf litter disturbed	☒ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31FFF	**Stream Order:** 2nd
Date: 2/12/21	**State:** MD	**Photos:** 6US, 7DS	
Crew: MN, KS	**County:** PG	**Last Flag Number:** LIDAR	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	☑ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Medium sized channel that receives hydrology from several tributaries and wetlands			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting: 31ZZ, 31GGG, 31HHH

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 10-12'	☑ Silts	☑ Sands	☐ Muck	RB: Emergent, Forest Veg
☐ Artificial (man-made)	Depth: 1-2'	☑ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Moderate to high	☐ Bedrock	☐ Concrete		LB: Emergent Veg, Forest
☐ Other:		Side slope: ☑ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes: Exposed/raw banks, healed over in areas					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: JAN Year: 2021												
☑ No rain	○ 0-0.5	○	○	○	○	○	☑	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	☑ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☑ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☐ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☑ Destruction of terrestrial veg.	☑ Abrupt change in plant community
	☑ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 3/3/21

Applicant/Owner: SHA State: MD Sampling Point: 31FFFF-WET

Investigator(s): DRS EB Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain bench Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): MLRA 148A Lat: 39.0711498 Long: -77.1091914 Datum: NAD83

Soil Map Unit Name: Hatboro silt loam, 0-3% slopes, frequently flooded NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Abuts 31EEEE
Ph9 · NE

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 12"
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-139

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3\FFFF-WET

Tree Stratum (Plot size: *)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Sapling/Shrub Stratum (Plot size: *)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: *)			
1. Ficaria verna	40	✓	FAC
2. Dichanthelium clandestinum	8		FAC
3. Boehmeria cylindrica	2		FACW
4. Acer negundo	10		FAC
5. Panicum dichotomiflorum	20	✓	FACW
6. Microstegium vimineum	10		FAC
7. Perilla frutescens	2		FACU
8. Cinna arundinacea	3		FACW
9.			
10.			
11.			
	95	= Total Cover	
50% of total cover: 47.5		20% of total cover: 19	

Woody Vine Stratum (Plot size: *)			
1. None			
2.			
3.			
4.			
5.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

* Plot size = lower half of wetland

F-140

SOIL

Sampling Point: 31FFFWET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR2/2	100					Fine SL	Many organics
2-6	10YR4/3	50					LS	
	10YR3/2	50					Fine SL	
6-12	10YR4/2	95	10YR4/4	5	C	M	SL	Undecomposed organics
12-16	10YR4/1	88	7.5YR3/3	12	C	M,PL	SCL	
16-18+	2.5Y4/2	100					Coarse S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

F-141

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

From 2-6" a loamy sand lens is mixed w/ the fine sandy loam

Wetland Function-Value Evaluation Form

Total area of wetland 0.05ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, roadway Distance to nearest roadway or other development 20'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present ~20'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? LOW

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31FFFF

Latitude 39.0711498 Longitude -77.1091916

Prepared by: DRS EB Date 3/3/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ___ Field ✓

Corps manual wetland delineation completed? Y ✓ N ___

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 1/6/21

Applicant/Owner: SHA State: MD Sampling Point: 316-WET

Investigator(s): EB SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9310957 Long: -76.8983056 Datum: NAD83

Soil Map Unit Name: Northents highway, 0 to 65 percent slopes NWI classification: PFO1A/B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	Is the Sampled Area within a Wetland? Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Receives hydrology from waters 31A. Large deposits of gravel from historic construction, covers approx. 25% of wetland.
Ph 20 -E

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No ___	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Appears to flood on regular basis

F-143

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 316-WET

Tree Stratum (Plot size: *)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	35	✓	FAC
2. Morus alba	25	✓	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		

Sapling/Shrub Stratum (Plot size: *)			
1. Fraxinus pennsylvanica	45	✓	FACW
2. Ligustrum sp.	5		N/A
3. Liquidambar styraciflua	15		FAC
4. Lonicera maackii	5		UPL
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Herb Stratum (Plot size: *)			
1. Vinca sp.	5	✓	N/A
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Woody Vine Stratum (Plot size: *)			
1. Hedera helix	10	✓	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	60	x 3 =	180
FACU species	35	x 4 =	140
UPL species	5	x 5 =	25
Column Totals:	145 (A)		435 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

* Plot = entire wetland
Large amounts of sediment deposits from flood events likely destroy herbaceous vegetation and prevent FAC or wetter seedlings from establishing, many dead sapling LIST observed.

F-144

SOIL

Sampling Point: 316-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1	100	—	—	—	—	SL	
1-8	10YR 2/2	95	7.5YR 4/6	5	C	M	SL	
8-12+	10YR 5/4	80	7.5YR 6/6	20	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-145

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? Yes

Adjacent land use forest, roadway Distance to nearest roadway or other development 50'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 316

Latitude 38.9310957 Longitude -76.0983056

Prepared by: BB SP Date 1/6/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31GGG	**Stream Order:** 1st
Date: 2/12/21	**State:** MD	**Photos:** 4 US, 5 DS	
Crew: MN, KS	**County:** PG	**Last Flag Number:** 31GGG-7	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	☑ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Narrow channel draining wetland, flowing at time of visit, but likely doesn't flow year round.

Hydrologic Connectivity –	Upstream: 31EEE	Downstream: 31FFF	Adjacent/Abutting: 31EEE

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 1-2'	☑ Silts	☐ Sands	☐ Muck	RB: >100' Emergent
☐ Artificial (man-made)	Depth: 1/2'	☐ Cobbles	☐ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Moderate	☐ Bedrock	☐ Concrete		LB: >100' Emergent
☐ Other:		Side slope: ☑ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: JAN Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	⊗	○	○	⊗	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☐ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☑ Destruction of terrestrial veg.	☑ Abrupt change in plant community
	☑ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 3/3/21

Applicant/Owner: SHA State: MD Sampling Point: 316666-WET

Investigator(s): DRS EB Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope seep Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR or MLRA): MLRA 148A Lat: 39.0713061 Long: -77.1089159 Datum: NAD83

Soil Map Unit Name: Hatboro silt loam, 0-3% slopes, frequently flooded NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Adjacent to 316666 → no surface water connection to Rock Creek, however, evidence of overland flow observed, wetland separated from stream by a natural berm. Ph10-NE

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5*
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-9

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water seeping out of hillslope/trail embankment, covers approx. 5% of plot.

Perched hydrology over sandy clay starting at 9".

F-148

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 316666-WET

Tree Stratum (Plot size: 10×50)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	5	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Sapling/Shrub Stratum (Plot size: 10×50)			
1. Platanus occidentalis	10	✓	FACW
2. Ilex opaca	5	✓	FAC
3. Fraxinus pennsylvanica	5	✓	FACW
4. Acer negundo	2		FAC
5. Quercus palustris	3		FACW
6.			
7.			
8.			
9.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		

Herb Stratum (Plot size: 10×30)			
1. Microstegium vimineum	95	✓	FAC
2. Acer negundo	3		FAC
3. Vernonia novaboracensis	3		FACW
4. Cinna arundinacea	2		FACW
5. Panicum dichotomiflorum	3		FACW
6. Setaria faberi	5		UPL
7. Carex sp.	10		N/A
8. Ficaria verna	3		FAC
9.			
10.			
11.			
	124 = Total Cover		
50% of total cover: 62	20% of total cover: 24.8		

Woody Vine Stratum (Plot size: 10×50)			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

F-149

SOIL

Sampling Point: 516666-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR2/2	100					SCL	
2-9	10YR4/2	78	7.5YR4/4	7	C	M,PL	SCL	
	10YR3/1	15						
9-13	10YR4/3	85	7.5YR4/4	15	C	M	SC	Coarse fragments

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 13

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-150

Wetland Function-Value Evaluation Form

Total area of wetland 0.02ac Human made? NO Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Roadway, Forest Distance to nearest roadway or other development 10'

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present ~10'

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? —

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 316GG

Latitude 39.0713061 Longitude -77.1089159

Prepared by: DRS BB Date 3/3/21

Wetland Impact:
Type ____ Area ____

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export	✓				
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31H	**Stream Order:** 1
Date: 1/6/21	**State:** MD	**Photos:** 28DS 29US	
Crew: EB SP	**County:** PG	**Last Flag Number:** 5A/5B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Bed + Banks, severely incised, observed flow			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: None	Downstream: Outside SA	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 6' - 25'	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 1' - 4'	✓ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Severe	☐ Bedrock	✓ Concrete		LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes: Culverted US, severely incised w/ raw/sloughing banks					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php													Month: Dec Year: 2020
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○	
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet			

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31HHH	**Stream Order:** 1st
Date: 2/12/2021	**State:** MD	**Photos:** 8US, 9DS	
Crew: MO, KS	**County:** PG	**Last Flag Number:** 31 HHH-6 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	⊗ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Channel draining wetland. Flowing during visit but likely doesn't flow year-round.			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: 31EEE	Downstream: 31FFF	Adjacent/Abutting: N/A

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 1-5'	☑ Silts	☑ Sands	☐ Muck	RB: >100' emergent
☐ Artificial (man-made)	Depth: 2'	☐ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Moderate	☐ Bedrock	☐ Concrete		LB: >100' emergent
☐ Other:		Side slope: ☑ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: JAN Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	⊗	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☐ Clear, natural line impressed on the bank	☑ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☑ Destruction of terrestrial veg.	☑ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31HHHH	**Stream Order:** 1
Date: 3/16/21	**State:** MD	**Photos:** 3 US 4 DS	
Crew: EB KS	**County:** PG	**Last Flag Number:** 31HHHH-4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, hydric soils, bed + banks. Most likely dries up during summer			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 31III	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4 ft	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5 ft	✓ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Feb Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31I	**Stream Order:**
Date: 1/8/2021	**State:** MD	**Photos:** 1 US 2 DS	
Crew: EB LN	**County:** PG	**Last Flag Number:** 3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Bed + banks, flow observed during visit			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31J	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 4'	☐ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5'	✓ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
✓ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark			
✓ Yes	☐ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting	
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour	
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events	
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community	
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:	

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/17/21

Applicant/Owner: SHA State: MD Sampling Point: 31II-WET

Investigator(s): EB JS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain benches Local relief (concave, convex, none): Concave Slope (%): 5-8%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.81038666 Long: -76.9657821 Datum: NAD83

Soil Map Unit Name: Sassafras-Urban land complex, 5-15% slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Series of floodplain benches along braided stream system
Abuts 31JJ
PhgW

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3III-WET

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	15	✓	FAC
2. Platanus occidentalis	5	✓	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Sapling/Shrub Stratum (Plot size: 15')			
1. Acer rubrum	5	✓	FAC
2. Nyssa sylvatica	2	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	7 = Total Cover		
50% of total cover: 3.5	20% of total cover: 1.4		

Herb Stratum (Plot size: 15')			
1. Scirpus polyphyllus	50	✓	OBL
2. Carex sp.	2		N/A
3. Hedera helix	5		FACU
4. Lonicera japonica	2		FACU
5. Cinna arundinacea	10		FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	69 = Total Cover		
50% of total cover: 34.5	20% of total cover: 13.8		

Woody Vine Stratum (Plot size: 15')			
1. Smilax rotundifolia	20	✓	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

F-157

SOIL

Sampling Point: 3) III-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	90	7.5YR 3/2	10	C	M, PL	SL	Rootlets

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6"

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-158

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway, Forest, Openfield Distance to nearest roadway or other development 30'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present ~30'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31 III

Latitude 38.8103866 Longitude -76.9657821

Prepared by: FBJS Date 2/17/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization	✓				
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 3 | III	**Stream Order:** 2
Date: 3/10/21	**State:** MD	**Photos:** 9US 10DS (DS end) 14US 15DS (US end)	
Crew: BB KS	**County:** PG	**Last Flag Number:** LiDAR	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, w/ riffle/pool/rip structure UNT North Branch Anacostia River, has several tributaries.			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 3/NNNN	Adjacent/Abutting: N/A

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 2-12'	☐ Silts	✓ Sands	☐ Muck	RB: Maintained lawn and understory/forest
☐ Artificial (man-made)	Depth: 0.5-2'	☐ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Minor	☐ Bedrock	☐ Concrete		LB: Forest/Maintained understory/lawn
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Culvert at US end. Portion of DS end has been recently restored.

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Feb Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31J	**Stream Order:** 2
Date: 1/8/2021	**State:** MD	**Photos:** 3US 4DS	
Crew: EB LN	**County:** PG	**Last Flag Number:** 6A, 4B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	☑ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Large stream w/ tributaries, observed flow			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 31I	Downstream: Outside SA	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 10'	☐ Silts	☑ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6"-3'	☑ Cobbles	☑ Gravel	☐ Other:	
☑ Manipulated (man-altered)	Bank Erosion/stability: Severe @ end of concrete otherwise concrete lined	☐ Bedrock	☑ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
☑ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	☑ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☐ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☑ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☑ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31JJ	**Stream Order:** 2
Date: 1/22/21	**State:** MD	**Photos:** 10 US	
Crew: EB KS	**County:** PG	**Last Flag Number:** 2	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Defined bed + banks, flowing w/ tributary			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 31KK	Downstream: Outside	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3'	✓ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5'	☐ Cobbles	☐ Gravel	✓ Other: Riprap	
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31JJJ	**Stream Order:**
Date: 2/15/21	**State:** MD	**Photos:** 22US 23DS	
Crew: EB SP	**County:** PG	**Last Flag Number:** 3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Concrete lined channel, observed, changes to natural channel downstream of culvert			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: Outside Study Area	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate				Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 1'-3'	☐ Silts	☐ Sands	☐ Muck		RB: Maintained Lawn
☐ Artificial (man-made)	Depth: 3"	☐ Cobbles	☐ Gravel	☐ Other:		
✓ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	✓ Concrete			
☐ Other:	Minor	Side slope: ☐ ≥1:1	✓ 2:1	☐ 3:1	☐ ≤4:1	LB: Maintained Lawn

Notes: Concrete lined eph. ditch flows to feature, some soil built up over concrete creating more "natural" banks in areas, which have minor erosion

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	☐ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	✓ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31JJJJ	**Stream Order:** /
Date: 3/16/21	**State:** MD	**Photos:** 5US 6DS	
Crew: EB-KS	**County:** PG	**Last Flag Number:** 31JJJJ-2	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, significant cut into concrete lining assumes it flows year round			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 31IIII	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3 ft	☐ Silts	☐ Sands	☐ Muck	RB: Forest
✓ Artificial (man-made)	Depth: 3"	☐ Cobbles	☐ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	✓ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ✓ ≤4:1			
Notes: Entirely concrete lined, wingwalls prevent connection to riparian area					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Feb Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	✓ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31K	**Stream Order:** 1
Date: 1/8/21	**State:** MD	**Photos:** 31 (US), 32 (DS)	
Crew: AG, SP	**County:** PG	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	☑ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Flowing at time of delineation, contributing hydrology from SWM pond and grass swale			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: N/A

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3'	☑ Silts	☐ Sands	☐ Muck	RB: Emergent veg.
☑ Artificial (man-made)	Depth: 6"	☐ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: stable	☐ Bedrock	☑ Concrete		LB: Emergent veg.
☐ Other:		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes: Concrete-lined, culverted on US, DS ends					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
☑ No rain	☑ 0-0.5	○	○	○	○	○	☑	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☐ Sediment sorting
☐ No	☑ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☑ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☑ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31KK	**Stream Order:** 1
Date: 1/22/21	**State:** MD	**Photos:** 9DS 11US	
Crew: EB KS	**County:** PG	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Hydric soils in US portion, weakly defined bed + banks Flowing during visit			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside	Downstream: 31JJ	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 1'	☐ ✓ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.25'	☐ Cobbles	☐ Gravel	☐ ✓ Other: Riprap	
☐ ✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ ✓ 3:1 ☐ ≤4:1			

Notes: Checked bench along stream for soils but unable to find hydric soil indicators

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2021												
○ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☐ ✓ Yes	☐ ✓ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ ✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ ✓ Shelving	☐ Presence of flood litter/debris	☐ ✓ Observed/predicted flow events
	☐ ✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ ✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 16 Feb 2021
Applicant/Owner: SHA State: MD Sampling Point: 31KKK-WET-1
Investigator(s): D. Smith Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): MLRA 149A Lat: 38.945690 Long: -76.839930 Datum: NAD83
Soil Map Unit Name: Zekiah and Issue soils, frequently flooded NWI classification: ~~PFO1F~~ PSS - SLY 5/25/21
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	Is the Sampled Area within a Wetland? Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:
PSS1A Photo 3
Abuts 31FFF, 31DDD, 31EEE

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Mad Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
>1" Rain w/in 24 hrs. Snow melt w/in 24 hrs. Debris piles and drainage patterns obvious w/in wetland.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31KAS-Dot-1

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Sapling/Shrub Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ilex verticillata	60	Y	FACW
2. Alnus serrulata	5		OBL
3. Viburnum dentatum	10		FAC
4.			
5.			
6.			
7.			
8.			
	75 = Total Cover		
50% of total cover: 37.5	20% of total cover: 15		

Herb Stratum (Plot size: 15' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Microstegium vimineum	75	Y	FAC
2. Boehmeria cylindrica	5		FACW
3. Perilla frutescens	1		FACU
4. Carex sp.	2		?
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	83 = Total Cover		
50% of total cover: 41.5	20% of total cover: 16.6		

Woody Vine Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis labrusca	17	Y	FAC
2. Lonicera japonica	5		FACU
3.			
4.			
5.			
	22 = Total Cover		
50% of total cover: 11	20% of total cover: 4.4		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 31KKK-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR3/2	100					Sicl	H/organics
2-4	7.5YR3/3	100					Sicl	
4-10	7.5YR4/2.5	78	7.5YR4/6	22	C	M, PL	SiC	Concretions of mn
10-16	7.5YR4/2	75	7.5YR4/6	25	C	M, PL	SiC	Concretions of mn

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ✓ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-169

Wetland Function-Value Evaluation Form

Total area of wetland 0.89 ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest, Residential, highway Distance to nearest roadway or other development 150'

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31KKK

Latitude 38.945690 Longitude -76.839930

Prepared by: KS/DRS Date 2/16/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N ___

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓		2,6,7,9,15		Clay soils limit groundwater recharge. No evidence of discharge.
Floodflow Alteration	✓		1,3,4,5,6,7,9,10,11,13,14,18	✓	Evidence of significant flooding observed at time of assessment.
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓		1,2,3,7,9,10,14,16	✓	Wetland contained multiple layers of sediment and buried organic matter
Nutrient Removal	✓		1,3,6,7,9,10,11	✓	Wetland capable of trapping excess nutrients, although sources of excess nutrients are few.
Production Export	✓		1,2,4,5,7,8,10,11	✓	Wildlife food sources present and drains to perennial stream.
Sediment/Shoreline Stabilization	✓		1,3,4,6,7,8,15		Wetland borders perennial stream but stream is downcut with significant erosion present.
Wildlife Habitat	✓		3,6,7,8,13,14,15,16,17,19 21	✓	Wetland contiguous with PEM and PFO in flood plain. Evidence of deer and numerous birds.
Recreation		✓	1,5		Wetland not easily accessible and not capable of supporting rec. activities.
Educational/Scientific Value		✓	5		Wetland not easily accessible
Uniqueness/Heritage		✓	4,7,19,20		Lacks features for uniqueness/heritage
Visual Quality/Aesthetics		✓	1,6,8,12		Trash scattered throughout wetland.
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31KKKK	**Stream Order:**
Date: 3/16/21	**State:** MD	**Photos:** 7US 8DS	
Crew: EB KS	**County:** PG	**Last Flag Number:** 31KKKK-3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, most likely dries up during summer hydric soils			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 31IIII	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4ft	✓ Silts	☐ Sands	☐ Muck	RB: Forest, mowed lawn
☐ Artificial (man-made)	Depth: 0.5ft	☐ Cobbles	☐ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Feb Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31 LLL	**Stream Order:** 1st
Date: 16 Feb 2021	**State:** MD	**Photos:** 4DS, 5DS	
Crew: DRS, RS	**County:** MD	**Last Flag Number:** 31 LLL-6	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	☒ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Hydric soils present; some shallow flow

Hydrologic Connectivity –	Upstream: 31MMM	Downstream: 31FFF	Adjacent/Abutting: 31DDD, 31KKK

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 4'	☒ Silts	☒ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 2'	☒ Cobbles	☒ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Stream actually flows both ways from a high point in middle; flows SE to 31MMM & NW to 31FFF

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
☒ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	☒ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☒ Presence of flood litter/debris	☐ Observed/predicted flow events
	☒ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☒ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 3|LLLL	**Stream Order:**
Date: 3|16|21	**State:** MD	**Photos:** 11 US 12 DS	
Crew: BB KS	**County:** PG	**Last Flag Number:** 3|LLLL-9	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	☑ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Significant flow, bed + banks,			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 3|IIII	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 5 ft	☐ Silts	☑ Sands	☐ Muck	RB: Maintained lawn + recent plantings
☐ Artificial (man-made)	Depth: 0.5 – 1.5'	☑ Cobbles	☑ Gravel	☐ Other:	
☑ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Maintained lawn + recent plantings
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☑ 3:1 ☐ ≤4:1			

Notes: Recently restored, tree + shrub plantings in riparian area. Banks stabilized w/ matting

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Feb Year: 2021												
☑ No rain	☑ 0-0.5	○	○	○	○	○	☑	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☑ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☑ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31 MMM	**Stream Order:** 1st
Date: 16 Feb 2021	**State:** MD	**Photos:** 6US, 7DS	
Crew: DRS, KS	**County:** MD	**Last Flag Number:** 31 MMM-6	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	⊗ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Hydric Soils; discharges from PFO			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: 31 DDD	Downstream: 31 NNN, 31 LLL	Adjacent/Abutting: 31 DDD, 31 KKK

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 1.5	☒ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 1.5	☐ Cobbles	☐ Gravel	☒ Other: Clay	
☐ Manipulated (man-altered)	Bank Erosion/stability: Mod	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☒ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☒ Scour
	☐ Shelving	☒ Presence of flood litter/debris	☐ Observed/predicted flow events
	☒ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☒ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 3/16/21

Applicant/Owner: SHA State: MD Sampling Point: 31MMM-WET

Investigator(s): EB KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9550182 Long: -76.9261588 Datum: NAD83

Soil Map Unit Name: Issue-Urban Complex, occasionally flooded NWI classification: PSS1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Small swale draining to 31MMM

Ph 13-W

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5" *	
Water Table Present?	Yes ✓	No ____	Depth (inches): 0"	
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"	Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water in ~60% of plot

F-175

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31MMMM-WET

Tree Stratum (Plot size: *)	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	5	✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Sapling/Shrub Stratum (Plot size: *)			
1. Fraxinus pennsylvanica	15	✓	FACW
2. Rubus pensilvanicus	5	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Herb Stratum (Plot size: *)			
1. Carex sp.	2		N/A
2. Rumex crispus	4	✓	FAC
3. Lonicera japonica	5	✓	FACU
4. Symphyotrichum sp.	2		N/A
5. Toxicodendron radicans	4	✓	FAC
6. Smilax rotundifolia	2		FAC
7.			
8.			
9.			
10.			
11.			
12.			
	19 = Total Cover		
50% of total cover: 9.5	20% of total cover: 3.8		

Woody Vine Stratum (Plot size: *)			
1. Vitis sp.	12	✓	N/A
2.			
3.			
4.			
5.			
	12 = Total Cover		
50% of total cover: 6	20% of total cover: 2.4		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

* Plot = entire wetland

Unable to identify Vitis sp. due to time of year, however, even if it is FACU or UPL, the dominance test would still be met

F-176

SOIL

Sampling Point: 31MMMM-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100	—	—	—	—	SCL	w/ organics
4-12	10YR 4/2	85	7.5YR 5/4	10	C	M/PL	SiC	
			5YR 4/6	5				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-177

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Parkland Distance to nearest roadway or other development 150'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present 150

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31MMMM

Latitude 38.9550182 Longitude -76.9261588

Prepared by: EB KS Date 3/16/21

Wetland Impact:
Type_____ Area_____

Evaluation based on:
Office_____ Field ✓

Corps manual wetland delineation completed? Y ✓ N_____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31NN	**Stream Order:** 2
Date: 2/9/21	**State:** MD	**Photos:** 3 US @ Concrete Portion 12 DS 13 US	
Crew: EB SP	**County:** PG	**Last Flag Number:** 31A, 30B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Named stream (Cabin Branch) w/ many tributaries			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 31OO, 31PP, 31QQ, 31RR, 31SS, 31TT, 31WW, 31XX	Downstream: Outside Study Area	Adjacent/Abutting: 31UU, 31VV, 31YY

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 12-30'	✓ Silts	✓ Sands	☐ Muck	RB: Forest, Residential
☐ Artificial (man-made)	Depth: 1'-3'	✓ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Severe throughout	☐ Bedrock	✓ Concrete		LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Deeply incised w/ raw, sloughing banks throughout. Minimal armoring @ US end, and concrete lined @ DS end

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31NNN	**Stream Order:** 1ST
Date: 16 Feb 2021	**State:** MD	**Photos:** 8US, 9US	
Crew: DBS, KS	**County:** MD	**Last Flag Number:** 31NNN-19A & 19B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	⊗ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Flows from large SWM pond N. of US 50			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: 31MMM, offsite SWM Pond	Downstream: 31FFF	Adjacent/Abutting: 31DDD, 31KKK

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 3'	☒ Silts	☒ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 1.5'	☐ Cobbles	☒ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes: At extreme US end, channel broadens to 8-12' wide, but less than 50' of length					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
○ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☒ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☒ Presence of flood litter/debris	☐ Observed/predicted flow events
	☒ Vegetation matted down, bent, or absent	☒ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☒ Leaf litter disturbed	☒ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 3/17/21

Applicant/Owner: SHA State: MD Sampling Point: 31NWNW-WET

Investigator(s): EB SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.956808 Long: -76.925914 Datum: NAD83

Soil Map Unit Name: Issue-Urban land Complex, occasionally flooded NWI classification: PFO1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	Is the Sampled Area within a Wetland? Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Inundated swale, sparse vegetation along edges, very little actually growing in the wetland.
Abuts 31CCC + 31III Ph 3 - N

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1-10"*	
Water Table Present?	Yes ✓	No _____	Depth (inches): 0"	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"	Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

*Surface water present in 95% of plot.

F-181

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3 INNNN-WET

Tree Stratum (Plot size: 10x50)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carpinus caroliniana	10	✓	FAC
2. Liquidambar styraciflua	20	✓	FAC
3. Prunus serotina	8		FACU
4. Robinia pseudoacacia	8		UPL
5.			
6.			
7.			
8.			
	46 = Total Cover		
50% of total cover: 23	20% of total cover: 9.2		

Sapling/Shrub Stratum (Plot size: 10x50)			
1. Liquidambar styraciflua	8	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	8 = Total Cover		
50% of total cover: 4	20% of total cover: 1.6		

Herb Stratum (Plot size: 10x25)			
1. Lonicera japonica	8	✓	FACU
2. Cinna arundinacea	5	✓	FACW
3. Boehmeria cylindrica	3		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	16 = Total Cover		
50% of total cover: 8	20% of total cover: 3.2		

Woody Vine Stratum (Plot size: 10x50)			
1. Smilax rotundifolia	15	✓	FAC
2. Toxicodendron radicans	8	✓	FAC
3.			
4.			
5.			
	23 = Total Cover		
50% of total cover: 11.5	20% of total cover: 4.6		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

F-182

SOIL

Sampling Point: 3INNNN-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100					Fine SL	Organics
4-8	2.5Y 5/1	75	7.5YR 5/6	20	C	M	Fine SCL	
	10YR 4/1	5						
8-12+	10YR 6/1	72	7.5YR 5/6	25	C	M	Fine SCL	Gravel fragments
	10YR 4/1	3						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-183

Wetland Function-Value Evaluation Form

Total area of wetland 0.1 ac Human made? NO Is wetland part of a wildlife corridor? NO or a "habitat island"? NO

Adjacent land use Parkland Distance to nearest roadway or other development 100'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 100'

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31NNNN

Latitude 38.956808 Longitude -76.925914

Prepared by: EBSP Date 3/17/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 3100	**Stream Order:** 1
Date: 2/4/21	**State:** MD	**Photos:** 1US 2DS	
Crew: EB, LE	**County:** PG	**Last Flag Number:** 2A, 2B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Concrete lined channel, flowing during visit, may dry out during dry season			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31NN	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 6'	☐ Silts	☐ Sands	☐ Muck	RB: Forest
✓ Artificial (man-made)	Depth: 0.5'	☐ Cobbles	☐ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable, concrete lined	☐ Bedrock	✓ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1	✓ 2:1	☐ 3:1 ☐ ≤4:1	

Notes: Checked historic topo, was originally a mapped stream that is now piped under residential area

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 3F000	**Stream Order:**
Date: 2/17/21	**State:** MD	**Photos:** 3US 4DS	
Crew: EB JS	**County:** Montgomery	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: hydric soils, bed+banks, observed flow			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: None	Downstream: Outside SA	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate				Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3'	✓ Silts	☐ Sands	☐ Muck		RB: Forest | maintained lawn
☐ Artificial (man-made)	Depth: 0.5 - 1'	✓ Cobbles	✓ Gravel	☐ Other:		
☐ Manipulated (man-altered)	Bank Erosion/stability: Moderate	☐ Bedrock	☐ Concrete			LB: Forest | emergent
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1				

Notes: Incised, begins @ headcut, exposed banks but mostly healed over

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31PP	**Stream Order:** 1
Date: 2/4/21	**State:** MD	**Photos:** 4US 5DS	
Crew: EB, LE	**County:** PG	**Last Flag Number:** 5	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Channelizes flow from wetland to 31NN, begins at small headcut			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 31YY	Downstream: 31NN	Adjacent/Abutting: 31YY

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3'	✓ Silts	Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 3"	Cobbles	✓ Gravel	Other:	
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		
Other:	Moderate in DS half, None in US half	Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ✓ ≤4:1			LB: Forest
Notes:		Lower half incised, upper banks laid back			

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	☐ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31QQ	**Stream Order:** 1
Date: 2/4/21	**State:** MD	**Photos:** 6DS 7US	
Crew: EB LE	**County:** PG	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Hydric soils, concentrates flow from WL to 31NN, bed + banks, observed flow

Hydrologic Connectivity –	Upstream: 31YY	Downstream: 31NN	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1.5'	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5'	✓ Cobbles	☐ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor to Moderate	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Incised channel begins @ headcut

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php												Month: Jan Year: 2021
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 3000	**Stream Order:** \
Date: 2/17/21	**State:** MD	**Photos:** 13 US 14 DS	
Crew: EB JS	**County:** P.G.	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, hydric soils, bed + banks, goes subterranean @ DS end			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: Outside SA	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3'	✓ Silts	☐ Sands	☐ Muck	RB: Forest / roadway
☐ Artificial (man-made)	Depth: 3"	☐ Cobbles	☐ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Stream has been channelized parallels MD 214

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31QQQQ	**Stream Order:** 2
Date: 2/12/21	**State:** MD	**Photos:** 1 (US)	
Crew: DRS, KS	**County:** PG	**Last Flag Number:** LIDAR	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	(X) RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Flowing during Jan wet del, only pockets of water and no flow in channel during stream assessment in May- oxbox flows seasonally			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 31FFF	Downstream: 31FFF	Adjacent/Abutting: 31EEE

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[X] Natural Channel Shape	Width: 5'	[X] Silts	[X] Sands	[ ] Muck	RB: Emergent Veg, Forest
[ ] Artificial (man-made)	Depth: 1'	[ ] Cobbles	[X] Gravel	[ ] Other:	
[ ] Manipulated (man-altered)	Bank Erosion/stability: minor, some moderate DS	[ ] Bedrock	[ ] Concrete		LB: Emergent Veg
[ ] Other:		Side slope: [X] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
(X) No rain	○ 0-0.5	○	○	○	○	○	(X)	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	(X) >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: (***check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
[X] Yes	[X] Clear, natural line impressed on the bank	[X] Sediment deposition	[ ] Sediment sorting
[ ] No	[ ] Changes in the character of soil	[ ] Water staining	[ ] Scour
	[ ] Shelving	[ ] Presence of flood litter/debris	[X] Observed/predicted flow events
	[X] Vegetation matted down, bent, or absent	[X] Destruction of terrestrial veg.	[X] Abrupt change in plant community
	[X] Leaf litter disturbed	[ ] Presence of wrack line	[ ] Other:

Tidal tributary has: (***check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31RR	**Stream Order:** 1
Date: 2/4/21	**State:** MD	**Photos:** 8US 9DS	
Crew: EB LE	**County:** PG	**Last Flag Number:** 10	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Significant flow, established bed + banks			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31NN	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2 – 7'	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6" – 18"	✓ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: DS stable US deeply incised w/ raw banks	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Lower 1/3 of stream reach has been stabilized w/ riprap + banks replanted w/ emergent vegetation.

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 3/16/21

Applicant/Owner: SHA State: MD Sampling Point: 3 RRR-WET

Investigator(s): EB KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.865733 Long: -76.722692 Datum: NAD83

Soil Map Unit Name: Marr-Dodon Complex, 2 to 5 percent Slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	Is the Sampled Area within a Wetland? Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:
Toe of slope swale along US 301, drains from partially buried culvert; unknown hydrologic connectivity.
Ph1-5

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-192

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31RPR-WET

Tree Stratum (Plot size: 5 x 50)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 5x50)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	5	✓	FAC
2. Rosa multiflora	2	✓	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	7 = Total Cover		
50% of total cover: 3.5	20% of total cover: 1.4		

Herb Stratum (Plot size: 5x25)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juncus effusus	3		OBL
2. Cyperus strigosus	3		FACW
3. Rumex crispus	10	✓	FAC
4. Solidago sp.	10	✓	N/A
5. Persicaria sagittata	10	✓	OBL
6. Smilax rotundifolia	2		FAC
7.			
8.			
9.			
10.			
11.			
12.			
	38 = Total Cover		
50% of total cover: 19	20% of total cover: 7.6		

Woody Vine Stratum (Plot size: 5x50)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Unable to identify Solidago sp. due to time of year, however even if its FACU or UPL, the dominance test would still be met

F-193

SOIL

Sampling Point: 31RR R-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	80	7.5YR 4/6	5	C	M/PL	SL	
	10YR 5/1	15						
4-15	10YR 3/2	95	7.5YR 4/4	5	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 18"

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-194

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 ac Human made? Yes Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway, Old field Distance to nearest roadway or other development 40'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present 20'

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31RRR

Latitude 38.865733 Longitude -76.722692

Prepared by: BBKS Date 3/16/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31SS	**Stream Order:** 1
Date: 2/4/21	**State:** MD	**Photos:** 10 US 11DS	
Crew: EB LE	**County:** P6	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Bed + banks, flows from culvert, most likely dries out during dry season. Hydric soils present			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31NN	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3'	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5'	✓ Cobbles	✓ Gravel	✓ Other: Riprap	
✓ Manipulated (man-altered)	Bank Erosion/stability: Moderate throughout	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 2/17/21

Applicant/Owner: SHA State: MD Sampling Point: 3\SSS-WET

Investigator(s): EB, JS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): MLRA 148A Lat: 39.0749104 Long: -76.9060925 Datum: NAD83

Soil Map Unit Name: Udorthents, reclaimed gravel pits, 0-5% slopes NWI classification: PEM1B/C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Mowed along edges of WL
PHU-SW

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1-8"
Water Table Present?	Yes ✓	No ____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-197

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3|SSS-WET

Tree Stratum (Plot size: 50'x10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	5	✓	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Sapling/Shrub Stratum (Plot size: 50'x10')			
1. Platanus occidentalis	5	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Herb Stratum (Plot size: 50'x10')			
1. Phragmites australis	30	✓	OBL
2. Typha latifolia	20	✓	OBL
3. Juncus effusus	15		FACW
4. Carex sp.	3		N/A
5. Leersia oryzoides	8		OBL
6. Microstegium vimineum	12		FAC
7.			
8.			
9.			
10.			
11.			
	88 = Total Cover		
50% of total cover: 44	20% of total cover: 17.6		

Woody Vine Stratum (Plot size: 50'x10')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

F-198

SOIL

Sampling Point: 31SSS-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	80	7.5YR 5/8	20	C	M/PL	SCL	gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-199

Wetland Function-Value Evaluation Form

Total area of wetland 0.06 ac Human made? Yes Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway Distance to nearest roadway or other development 50'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present 50'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31SSS

Latitude 39.0749106 Longitude -76.9060925

Prepared by: FBJS Date 2/17/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31T	**Stream Order:** 2
Date: 1/8/2021	**State:** MD	**Photos:** 24DS 25US	
Crew: EB LN	**County:** PG	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Hydric soils, bed + banks, observed flow. Most likely dries up during dry season			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: 31N	Downstream: Outside Study Area	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3'	☐ Silts	✓ Sands	☐ Muck	RB: Mowed lawn
☐ Artificial (man-made)	Depth: 0.5'	✓ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Mowed lawn
☐ Other:	Stable	Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
✓ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31TT	**Stream Order:** 1
Date: 2/4/21	**State:** MD	**Photos:** 14US 15DS	
Crew: EB LE	**County:** PG	**Last Flag Number:** 4A, 2B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Significant flow, defined bed + banks			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31NN	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 4-25'	☐ Silts	✓ Sands	☐ Muck	RB: Forest | Residential
☐ Artificial (man-made)	Depth: 1'	✓ Cobbles	✓ Gravel	✓ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Minor w/ small areas of moderate	☐ Bedrock	☐ Concrete	Riprap	LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Retaining wall adjacent to RB, some large riprap placed w/in stream + along banks

Weather/Precipitation Conditions: Flows from culvert

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31W	**Stream Order:**
Date: 1/8/2021	**State:** MD	**Photos:** 26 US 27 DS	
Crew: EB LN	**County:** PG	**Last Flag Number:** 2	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Drains SWM pond to 31T, bed + banks for short period then goes subterranean

Hydrologic Connectivity –	Upstream: SWM Pond	Downstream: 31T	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 1'	☐ Silts	☐ Sands	☐ Muck	RB: Mowed lawn
✓ Artificial (man-made)	Depth: 0.5'	✓ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Mowed lawn
☐ Other:		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
✓ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	☐ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/9/21

Applicant/Owner: SHA State: MD Sampling Point: 31UU-WET

Investigator(s): EB SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope seep Local relief (concave, convex, none): concave Slope (%): 5-25%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.891439 Long: -76.894458 Datum: NAD83

Soil Map Unit Name: Zekiah + Issue soils, frequently flooded NWI classification: PFO1B/C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Receives hydrology from several hillslope seeps, wetland goes subterranean before connecting to 31NN.
Ph 1-N

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water in ~60% of plot

F-204

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31UU-WET

Tree Stratum (Plot size: 25 x 40')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	5		FAC
2. Acer negundo	5		FAC
3. Ulmus americana	8	✓	FAC
4. Liquidambar styraciflua	10	✓	FAC
5. Carpinus caroliniana	10	✓	FAC
6.			
7.			
8.			
	38 = Total Cover		
50% of total cover: 19	20% of total cover: 7.6		

Sapling/Shrub Stratum (Plot size: 25 x 40')			
1. Acer negundo	15	✓	FAC
2. Fraxinus pennsylvanica	2		FACW
3. Lindera benzoin	8		FAC
4. Lonicera maackii	12	✓	UPL
5. Liquidambar styraciflua	3		FAC
6. Nyssa sylvatica	3		FAC
7.			
8.			
	43 = Total Cover		
50% of total cover: 21.5	20% of total cover: 8.6		

Herb Stratum (Plot size: 25 x 40')			
1. Liquidambar styraciflua	5	✓	FAC
2. Smilax rotundifolia	2		FAC
3. Carex sp.	2		N/A
4. Rosa multiflora	2		FACU
5. Toxicodendron radicans	5	✓	FAC
6. Acer negundo	10	✓	FAC
7. Symphyotrichum sp.	2		N/A
8. Lonicera japonica	2		FACU
9. Ligustrum sp.	2		N/A
10.			
11.			
12.			
	32 = Total Cover		
50% of total cover: 16	20% of total cover: 6.4		

Woody Vine Stratum (Plot size: 25 x 40')			
1. Vitis sp.	5	✓	N/A
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Unable to ID vitis sp. (dominant species) due to time of year. However, even if the species was FACU or UPL, the dominance test would still be met with 78% of dominant species FAC or wetter.

F-205

SOIL

Sampling Point: 3UU-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR4/1	85	7.5YR5/4	10	C	M,PL	SCL	
			5YR5/4	5	C	M,PL		
6-8	2.5Y4/1	95	10YR3/6	5	C	M	SCL	
8-12+	5Y3/2	100					SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-206

Wetland Function-Value Evaluation Form

Total area of wetland 0.13 ac Human made? N Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, residential Distance to nearest roadway or other development 75'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 75'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 3WW

Latitude 38.891439 Longitude -76.894458

Prepared by: EB SP Date 2/9/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/9/21

Applicant/Owner: SHA State: MD Sampling Point: 31VV-WET

Investigator(s): EB SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 2%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.8926678 Long: -76.895346 Datum: NAD83

Soil Map Unit Name: Zekiah + Issue Soils, frequently flooded NWI classification: PFO1B/C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Ph 6 - SW
Abuts 31WW, 31XX, 31NN

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water in ~75% of plot

F-208

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31VV-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	40	✓	FAC
2. Acer negundo	15	✓	FAC
3. Acer rubrum	5		FAC
4. Betula nigra	3		FACW
5. Platanus occidentalis	5		FACW
6.			
7.			
8.			
	68 = Total Cover		
50% of total cover: 34	20% of total cover: 13.6		

Sapling/Shrub Stratum (Plot size: 30')			
1. Acer negundo	20	✓	FAC
2. Lindera benzoin	30	✓	FAC
3. Viburnum prunifolium	10		FACU
4.			
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Herb Stratum (Plot size: 15')			
1. Cinna arundinacea	5		FACW
2. Carex sp.	3		N/A
3. Lindera benzoin	8	✓	FAC
4. Acer negundo	10	✓	FAC
5. Liquidambar styraciflua	8	✓	FAC
6. Toxicodendron radicans	2		FAC
7.			
8.			
9.			
10.			
11.			
12.			
	36 = Total Cover		
50% of total cover: 18	20% of total cover: 7.2		

Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	5	✓	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

F-209

SOIL

Sampling Point: 3WV-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5Y4/1	100					SiCL	Organics
1-6	10YR4/2	80	7.5YR5/6	20	C	M,PL	SiCL	
6-12+	10YR4/2	60	7.5YR5/4	40	C	M	SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-210

Wetland Function-Value Evaluation Form

Total area of wetland 0.95 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use forest Distance to nearest roadway or other development >100'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present >100'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31VV

Latitude 38.892678 Longitude -76.895346

Prepared by: EBSP Date 2/9/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓		2,5,7,9,13,15		Hillslope seep
Floodflow Alteration	✓		1,3,4,5,6,7,8,9,11,13,15,18	✓	Receives runoff from subdivision upslope
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓		1,2,3,4,7,9,10,11,12,14.	✓	Sed/Tox potentially upslope from subdivision
Nutrient Removal	✓		3,4,7,11,12,13,14	✓	Excess nutrients from subdivision upslope
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓		3,5,6,7,8,17,18,19,20,	✓	Observed mammal + avian use during field visit
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31VVV	**Stream Order:** 1
Date: 3/17/21	**State:** MD	**Photos:** US/DS-LH phone	
Crew: SS, LN	**County:** Prince George	**Last Flag Number:** 31VVV-7	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	☑ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Begins at culvert, defined channel flowing through wetland 31EEE, dissipates into 31EEE

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 31EEE	Adjacent/Abutting: 31EEE

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 2'	☑ Silts	☑ Sands	☐ Muck	RB: Young forest
☑ Artificial (man-made)	Depth: 0.5'	☐ Cobbles	☐ Gravel	☑ Other: rip-rap	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable – very little erosion	☐ Bedrock	☐ Concrete		LB: Young forest
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☑ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: JAN Year: 2021												
☑ No rain	○ 0-0.5	○	○	○	○	○	☑	○	○	○	○	○	○	○
○ Light rain	☑ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	☑ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☑ Presence of flood litter/debris	☐ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☑ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31WW	**Stream Order:** 1
Date: 2/9/21	**State:** MD	**Photos:** 2 US 3 DS	
Crew: EB SP	**County:** PG	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	☑ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Bed & banks, concentrates flow from 31VV and discharges to 31NN, has hydric soils			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 31VV	Downstream: 31NN	Adjacent/Abutting: None

Feature Description: ***(check all that apply).***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 1'	☑ Silts	☑ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5'	☐ Cobbles	☑ Gravel	☐ Other:	
☑ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:	Minor on LB	Side slope: ☑ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Confluence w/ 31NN located under concrete lined bank of 31NN. However, 31WW is not concrete lined

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
☑ No rain	○ 0-0.5	○	○	○	○	○	☑	○	○	○	○	○	○	○
○ Light rain	☑ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☑ Sediment sorting
☐ No	☑ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☑ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☑ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31XX	**Stream Order:** 1
Date: 2/9/21	**State:** MD	**Photos:** 4US 5DS	
Crew: EB SP	**County:** P6	**Last Flag Number:** 3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Begins @ headcut, bed + banks, concentrates flow from 31VV to 31NN, has hydric soils			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: 31VV	Downstream: 31NN	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1'	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 0.5'	☐ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ >1:1 ✓ 2:1 ☐ 3:1 ☐ <4:1			

Notes: Confluence w/ 31NN under concrete lined bank of 31NN. However, 31XX is not concrete lined

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31XXX	**Stream Order:** 1st
Date: 16 Feb. 2020	**State:** MD	**Photos:** 1US, 2DS	
Crew: DAS, KS	**County:** Montgomery	**Last Flag Number:** 6	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	⊗ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: High in watershed, dontcut

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 31FFF	Adjacent/Abutting: 31DDD, 31EEE

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 3'	☒ Silts	☒ Sands	☐ Muck	RB: Forest over 85% of reach; PEM over remainder.
☐ Artificial (man-made)	Depth: 2'	☐ Cobbles	☐ Gravel	☐ Other:	
☒ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Forest over 85% of reach; PEM over remainder.
☐ Other:	Moderate at culvert/low at outflow	Side slope: ☐ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☒ Clear, natural line impressed on the bank	☒ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☒ Scour
	☐ Shelving	☒ Presence of flood litter/debris	☐ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☒ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/10/21

Applicant/Owner: SHA State: MD Sampling Point: 31YY-WET

Investigator(s): MN EB Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 5%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.89322 Long: -76.89484 Datum: NAD83

Soil Map Unit Name: Zekiah + Issue soils, frequently flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	Is the Sampled Area within a Wetland?	Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____		
Wetland Hydrology Present?	Yes ✓ No _____		

Remarks:
Ph1-S
Abuts 3100 + 31PP

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No _____	Depth (inches): 4"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
*Surface water in ~15% of plot

F-216

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31YY-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	50	✓	FAC
2. Liquidambar styraciflua	20	✓	FAC
3. Carpinus caroliniana	10		FAC
4. Ulmus americana	5		FAC
5.			
6.			
7.			
8.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		

Sapling/Shrub Stratum (Plot size: 30')			
1. Carpinus caroliniana	10	✓	FAC
2. Fraxinus pennsylvanica	8	✓	FACW
3. Lindera benzoin	5		FAC
4. Acer rubrum	3		FAC
5. Nyssa sylvatica	4		FAC
6.			
7.			
8.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Herb Stratum (Plot size: 15')			
1. Cinna arundinacea	25	✓	FACW
2. Juncus effusus	5		OBL
3. Fraxinus pennsylvanica	8		FACW
4. Liquidambar styraciflua	8		FAC
5. Lonicera japonica	3		FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	49 = Total Cover		
50% of total cover: 24.5	20% of total cover: 9.8		

Woody Vine Stratum (Plot size: 30')			
1. Smilax rotundifolia	15	✓	FAC
2.			
3.			
4.			
5.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

F-217

SOIL

Sampling Point: 31YY-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR4/2	70	7.5YR4/4	5	C	M,PL	SiCL	
	10YR4/1	25						
4-7	2.5Y4/2	85	7.5YR4/6	15	C	M,PL	Fine SCL	
7-12+	2.5Y4/2	50	7.5YR4/6	20	C	M,PL	Fine SCL	
	2.5Y4/3	30						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-218

Wetland Function-Value Evaluation Form

Total area of wetland 0.32ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, residential Distance to nearest roadway or other development 10'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 10'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 314

Latitude 38.89322 Longitude -76.89484

Prepared by: MNEB Date 2/10/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 02/17/21

Applicant/Owner: SHA State: MD Sampling Point: 31YYY-WET

Investigator(s): SS, LN Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): convex Slope (%): 1-2

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9440912 Long: -76.8393117 Datum: NAD83

Soil Map Unit Name: Zekiah & Issue soils, frequently flooded NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil Y, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Abuts 31FFF, 31AAAA
Ph 3-E

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): None
Water Table Present?	Yes ✓	No ✓	Depth (inches): 12"
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): None

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-220

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31YY-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30')			
1. Microstegium vimineum	70	Y	FAC
2. Hibiscus moscheutos	10		OBL
3. Phalaris arundinacea	20		OBL
4. Boehmeria cylindrica	5		FACW
5. Symphyotrichum sp	5		N/A
6. Cinna arundinacea	5		FACW
7. Juncus effusus	5		OBL
8.			
9.			
10.			
11.			
12.			
	120 = Total Cover		

50% of total cover: 60 20% of total cover: 24

Woody Vine Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

F-221

SOIL

Sampling Point: 31YYY-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR4/3	—	—	—	—	—	SiCL	
8-12	7.5YR4/3	90	7.5YR5/8	10	C	M	CL	
12-20	7.5YR5/6	80	5YR 5/8	20	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ✓ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-222

Wetland Function-Value Evaluation Form

Total area of wetland 1.77ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Emergent, forest Distance to nearest roadway or other development ~200'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present ~200'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31YYY

Latitude 39.9440912 Longitude -76.8393117

Prepared by: FB Date 3/4/21

Wetland Impact:
Type ___ Area ___

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N ___

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓	2,5,7,9,10		
Floodflow Alteration	✓		1,3,4,5,6,7,8,9,10,13	✓	
Fish and Shellfish Habitat		✓	1		
Sediment/Toxicant Retention	✓		1,2,3,4,5,7,9,10,12,13,16	✓	
Nutrient Removal	✓		1,3,4,5,7,9,10,13,14	✓	
Production Export		✓	4		
Sediment/Shoreline Stabilization		✓	1,3,4,7,9		
Wildlife Habitat		✓	3,6,7,8,17,19,21		
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 317	**Stream Order:** 1
Date: 11/3/21	**State:** MD	**Photos:** 71 US 72 DS	
Crew: EB LN	**County:** Montgomery	**Last Flag Number:**	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, bed + banks.			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: Outside Study Area	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 6'	✓ Silts	☐ Sands	☐ Muck	RB: ~~Forest~~
☐ Artificial (man-made)	Depth: 0.5'	✓ Cobbles	☐ Gravel	✓ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete	Riprap	LB: Mowed lawn
☐ Other:	Stable	Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Dec Year: 2020												
✓ No rain	✓ 0-0.5	○	○	○	○	○	✓	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Seour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31 ZZ	**Stream Order:** 1st
Date: 2/12/21	**State:** MD	**Photos:** 1 US, 2 DS	
Crew: MN, KS	**County:** PG	**Last Flag Number:** 31ZZ-4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	⊗ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Downcut stream channel fed by ground water and draining adjacent wetlands.			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 31 FFF	Adjacent/Abutting: 31DDD, 31EEE

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 3-5'	☑ Silts	☑ Sands	☐ Muck	RB: Forest/Emergent >100'
☐ Artificial (man-made)	Depth: 1'	☐ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: moderate to severe	☐ Bedrock	☐ Concrete		LB: Forest/Emergent >100'
☐ Other:		Side slope: ☑ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes: Exposed/raw banks, healed over in some areas					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: JAN Year: 2021												
⊗ No rain	○ 0-0.5	○	○	○	○	○	⊗	○	○	⊗	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	⊗ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☐ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☑ Destruction of terrestrial veg.	☑ Abrupt change in plant community
	☑ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: PG Sampling Date: 2/25/21

Applicant/Owner: SHA State: MD Sampling Point: 3/222-WET

Investigator(s): DRS, EB Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9445814 Long: -76.8399516 Datum: NAD83

Soil Map Unit Name: Zekiah + Issue soils, frequently flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ✓, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Abuts 31FFF Ph1-N

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

F-226

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 31222-WET

Tree Stratum (Plot size: *)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	90	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		

Sapling/Shrub Stratum (Plot size: *)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: *)			
1. Microstegium vimineum	75	✓	FAC
2. Carex sp.	5		N/A
3. Cuscuta gronovii	7		FACW
4. Boehmeria cylindrica	10		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	97 = Total Cover		
50% of total cover: 48.5	20% of total cover: 19.4		

Woody Vine Stratum (Plot size: *)			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

* Plot size is entire WL
Unable to ID Carex sp. due to time of year, however most Carex sp. found in floodplains where hydrology + hydric soils are present are FAC or wetter

F-227

SOIL

Sampling Point: 3/277-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-0.5"	7.5YR3/2	100					SiCL	Organics
0.5-4	5YR4/3.5	88	5YR4/6	12	C	M,PL	SiC	
4-18	5YR4/4	75	5YR4/2	5	D	M,PL	SiC	
			5YR4/6	20	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ✓ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

F-228

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, emergent Distance to nearest roadway or other development 200'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 200'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 31ZZZ

Latitude 38.9445814 Longitude -76.8399516

Prepared by: EBWS Date 2/25/21

Wetland Impact:
Type _____ Area _____

Evaluation based on:
Office _____ Field ✓

Corps manual wetland delineation completed? Y ✓ N _____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export	✓				
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Woodbine/Howard Sampling Date: 12/1/2020

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32A-WET

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 148 Lat: 39.3380 Long: -77.0728 Datum: WGS 84

Soil Map Unit Name: Glenelg loam 3-8% slopes (GgB) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Small depressional bowl.
Photos: PAX-3018_Photo 5_32A.jpg; PAX-3018_Photo 6_32A.jpg

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [x] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): surface

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 32A-WET

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: _____)			
1. Phalaris arundinacea	80	Yes	FACW
2. Perilla frutesens	10	No	FACU
3. Rubus allegheniensis	5	No	FACU
4. Glechoma hederacea	5	No	FACU
5. Cirsium vulgare	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		
50% of total cover: 52.5	20% of total cover: 21		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area dominated by Phalaris arundinacea.

SOIL

Sampling Point: 32A-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5 YR 4/2	100					Silt Loam	
3-18	7.5 YR 5/2	50	7.5 YR 5/6	30	C	M	Silty Clay Loam	
			7.5 YR 4/6	20	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway, Open Field Distance to nearest roadway or other development ≈ 50 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32A-WET

Latitude 39.3380 Longitude -77.0728

Prepared by: ES, MM Date 12/1/2020

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Beltsville/ Prince George's Sampling Date: 1/11/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32AAA-WET

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 39.04821 Long: -76.9327 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0-65% slopes (UdaF) NWI classification: PSS1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** **Yes ✔ No _____**
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Depression located on edge of LOD. Hydrology is is provided by a high water table and a concrete lined channel (outside of LOD). At the time of the survey, the channel had flow.
Photos: WAS-2612_Photo 4_32AAA

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ✔ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✔ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✔ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✔	No _____	Depth (inches): 4
Water Table Present?	Yes ✔	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32AAA-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	yes	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1. *Acer rubrum*	30	yes	FAC
2. *Cephalanthus occidentalis*	20	yes	OBL
3. *Cornus amomum*	15	yes	FACW
4.			
5.			
6.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		

Herb Stratum (Plot size: 30 ft)			
1. *Phalaris arundinacea*	20	yes	OBL
2. *Typha angustifolia*	20	yes	OBL
3. *Onoclea sensibilis*	15	yes	FACW
4. *Carex sp.*	10	no	NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32AAA-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10 YR 3/1	100					Silt loam	mucky
2-20	10 YR 6/2	70	7.5 YR 6/6	20	C	M	clay Loam	mucky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland <0.5 Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Roadway Distance to nearest roadway or other development ≈ 50

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 1 (out of LOD + Buffer) Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32 AAA

Latitude 39.0482 Longitude -76.5327

Prepared by: ES MM Date 1/11/21

Wetland Impact:
Type PSS Area

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes: Extends out of LOD. Only the edge of Wetland is within the LOD Buffer.

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Fort Washington Prince Geo Sampling Date: 1/28/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32AAAA

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 38.7598 Long: -76.9931 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0-65% slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Swale wetland within median.
Photos: WAS-0641_Photo 2_32AAAA

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 3
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32AAAA

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Phalaris arundinacea*	40	yes	OBL
2. *Typha angustifolia*	30	yes	OBL
3. *Juncus effusus*	10	no	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32AAAA

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/2	80	10YR 5/6	20	C	M	Loam	muck

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock/fill

Depth (inches): 5

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04 Human made? Y Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Roadway Distance to nearest roadway or other development 5 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 3ZAAAA

Latitude 38.7598 Longitude -76.9931

Prepared by: ES, MM Date 1/28/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 32 BBB	**Use Class:** Perennial (IP)
Date: 1/13/2021	**State:** MD	**Photos:** See Notes	
Crew: ES MM	**County:** Montgomery	**Last Flag Number:** 32 BBB 1A/B to 7 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: 32BBB flows South to North under Darnstown Rd. Photos: WAS-4429_Photo 3_32 BBB; WAS-4432_Photo 2_32 BBB; WAS-4432_Photo 3_32 BBB

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4 ft	Silts	Sands	Muck	RB: Herb / Forested
✓ Artificial (man-made)	Depth: 6 in	✓ Cobbles	✓ Gravel	✓ Other:	LB: Herb / Forested
Manipulated (man-altered)	Bank Erosion/stability:	✓ Bedrock	Concrete	Rip Rap	*Notes:* confined under Darnstown Rd through a pipe.
Other:	Incised in areas				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: 32BBB flows South to North under Darnstown Rd. 32 BBB is within 4 SWM LOOs: WAS-4429, WAS-4431, WAS-4432, and WAS-4433

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** DEC **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	✓ Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	✓ Shelving	✓ Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory SWM		**Feature ID:** 32 CCC	**Use Class:** Perennial (IP)
Date: 1/13/21	**State:** MD	**Photos:** WAS-4431_Photo 5_32CCC	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** 32CCC 1A/B – 7A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Drains hydrology from 32GGG (WET) to 32BBB. 32CCC runs in and out of LOD/LOD Buffer.

Hydrologic Connectivity –	Upstream: 32 GGG	Downstream: 32 BBB	Adjacent/Abutting: 32 GGG

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2	Silts	✓ Sands	Muck	RB: Forest/Herbaceous
Artificial (man-made)	Depth: 3 in	✓ Cobbles	✓ Gravel	Other:	LB: Forest/Herbaceous
Manipulated (man-altered)	Bank Erosion/stability: Some areas are incised.	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: 32GGG (Wet) abts 32CCC just outside of the LOD. Only the northern edge of 32GGG is within the LOD buffer.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** DEC **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS compensatory SWM		**Feature ID:** 32 DDD	**Use Class:**
Date: 1/13/21	**State:** MD	**Photos:** WAS_4432_Photo 4_32 DDD	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** 32 DDD 1 A/B to 3 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: collects groundwater and over land flow and drains to 32 BBB

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:
	none (groundwater)	32 BBB	None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1.5 ft	✓ Silts	✓ Sands	Muck	RB: Scrub-shrub
Artificial (man-made)	Depth: 1 inch	Cobbles	Gravel	✓ Other:	LB: Scrub-shrub
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	clay	*Notes:*
Other:	Poor				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** DEC **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown/ Montgomery Sampling Date: 2/9/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32DDDD
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1286 Long: -77.3432 Datum: WGS 84
Soil Map Unit Name: Brentsville sandy loam, 3-8% slopes (20B) NWI classification: PEM1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** Yes ✓ No ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
32DDDD is a PEM swale leading to a large PEM wetland complex located northeast of the LOD and Buffer.
Photograph: WAS-4415_Photo 2_32DDDD

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 3
Water Table Present?	Yes ✓	No ☐	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology provided by high water table and overland flow from adjacent agriculture fields and roadway.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32DDDD

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30 ft)			
1. *Typha angustifolia*	80	Yes	OBL
2. *Microstegium vimineum*	30	Yes	FAC
3. *Juncus effusus*	20	No	FACW
4. *Polygonum perfoliatum*	15	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	145 = Total Cover		

50% of total cover: 72.5 20% of total cover: 29

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32DDDD

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/2	70	7.5YR 4/6	30	C	M	Loam	
6-18	7.5YR 5/2	70	7.5YR 4/6	30	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.2 Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Ag/Roadway/Wetland Distance to nearest roadway or other development 5 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32 DPPO

Latitude 39.1286 Longitude -77.3432

Prepared by: ES, MM Date 2/9/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Temple Hills/ Prince George's Sampling Date: 12/9/2020

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32E-WET

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): flat Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 38.7969 Long: -76.9008 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0-65% slopes (UdaF) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Small PEM swale. Clogged outlet pipe under MD Rt. 5 contributes to standing water.
Photos: WAS-0638_Photo 2_32E.jpg

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 2-3
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32E-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Herb Stratum (Plot size: 30 ft)			
1. *Phalaris arundinacea*	50	yes	OBL
2. *Typha angustifolia*	20	yes	OBL
3. *Juncus effusus*	15	no	OBL
4. *Euthamia graminifolia*	10	no	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32E-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/1	100					Silt Loam	mucky
2-4	10YR 5/2	80	7.5YR 5/6	20	C	M	Silty Clay Loam	
4-10	10YR 6/2	60	7.5YR 5/6	40	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
✓ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway Distance to nearest roadway or other development 20 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32E-WET

Latitude 36.7971 Longitude -76.9000

Prepared by: ES, MM Date 12/9/2020

Wetland Impact:
Type PEM Area –

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		Feature ID: 32EEEE	Use Class: Intermittent (I-P)
Date: 2/9/21	State: MD	Photos: WAS_4610_Photo 2_32EEEE	
Crew: ES, MM	County: Montgomery	Last Flag Number: 32EEEE 1A/B to 3A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to UNT to Great Seneca Creek

Hydrologic Connectivity –	Upstream: Out of LOD	Downstream: Out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 6 ft	Silts	✓ Sands / Muck	RB: Ag Field
Artificial (man-made)	Depth: 2 in	✓ Cobbles	✓ Gravel / Other:	LB: Ag Field
✓ Manipulated (man-altered)	Bank Erosion/stability: Poor	Bedrock	Concrete	*Notes:*
Other:				
		Side slope: ☐ >1:1 ☐ 2:1 ☐ 3:1 ☐ <4:1		

General Notes: Piped from under Road into LOD. Ag Road/trail (dirt) crossing w/in LOD. Banks are eroded and incised downstream.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WAS-5306 32H

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 32H	**Use Class:** Perennial
Date: 12/15/2020	**State:** MD	**Photos:** WAS5306_Photo 2_32H, WAS5306, Photo 3_32H	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** WJS32J 1A/1B – 5A/5B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity –	Upstream: out of LOD (Pipe)	Downstream: out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 5 ft	Silts	✓ Sands / Muck	RB: Forest
Artificial (man-made)	Depth: 1 ft	✓ Cobbles	✓ Gravel / Other:	LB: Forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	*Notes:*
Other:				
		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	✓ 0-0.5
Light rain	✓ 0.1-0.5	✓ 0.5-1
Heavy Rain	✓ > 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Nov **Year:** 2020

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
✓ Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

F-254

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 32 HHH	**Use Class:** Perennial (IP)
Date: 1/14/21	**State:** MD	**Photos:** WAS-4424_Photo 3_32HHH, WAS-4424 Photo 4, 32 HHH +	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** 32HHH 1 A/B to 16 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: WAS-4423_Photo 3_32 HHH

Hydrologic Connectivity –	Upstream: 32 JJJ - WET	Downstream: out of LOD	Adjacent/Abutting: 32JJJ

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3 ft	Silts	Sands	Muck	RB: Forested
✓ Artificial (man-made)	Depth: 6 in	✓ Cobbles	✓ Gravel	Other:	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability:	✓ Bedrock	Concrete		*Notes:*
Other: Pipe + Riprap @ Road	Moderate				
		Side slope: ≥1:1	2:1	✓ 3:1	≤4:1

General Notes: 32HHH is a perennial stream within 3 SWM LODs + Buffers; WAS-4423, WAS-4424 and WAS-4425

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 2021												
✓ No rain	✓ 0-0.1	✓ 0-0.5													
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	(3)	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown/ Montgomery Sampling Date: 2/9/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32HHHH
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1289 Long: -77.3443 Datum: WGS 84
Soil Map Unit Name: Brentsville sandy loam, 3-8% slopes (20B) NWI classification: PEM1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** Yes ✓ No ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
Concave depression at edge of agriculture field.
Photograph: WAS-4415_Photo 3_32HHHH

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 4
Water Table Present?	Yes ✓	No ☐	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology provided by high water table and overland flow from adjacent agriculture fields and roadway.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32HHHH

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30 ft)			
1. *Typha angustifolia*	80	Yes	OBL
2. *Microstegium vimineum*	40	Yes	FAC
3. *Juncus effusus*	20	No	FACW
4. *Polygonum perfoliatum*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	150 = Total Cover		

50% of total cover: 75 20% of total cover: 30

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ☑ **No** ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32HHHH

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	2.5YR 5/2	60	2.5YR 4/6	40	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.054 Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Ag/ Roadway Distance to nearest roadway or other development 10 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32HHHH

Latitude 39.128 Longitude -77.3443

Prepared by: ES, MM Date 2/9/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		Feature ID: 32 III	Use Class: Intermittent
Date: 1/14/21	State: MD	Photos: WAS-4425_ Photo 2 - 32III	
Crew: ES, MM	County: Montgomery	Last Flag Number: 32 III 1 A/B to 3 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity –	Upstream: None	Downstream: 32 HHH	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2 ft	Silts	Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 3 in	Cobbles	Gravel	✓ Other: clay	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Poor				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
✓ Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		Feature ID: 32 ~~III~~	Use Class: Perennial (I-P)
Date: 2/9/21	State: MD	Photos: WAS-4391_Photo 3_32 ~~III~~	
Crew: ES MM	County: Montgomery	Last Flag Number: 32 ~~III~~ 1 A/B to 3 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to Seneca Creek

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:
	OS of LOD	OS of LOD	N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 5 ft	✓ Silts	✓ Sands	Muck	RB: Ag Field
Artificial (man-made)	Depth: 1 ft	Cobbles	Gravel	Other:	LB: Ag Field
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ >[illegible] ☐ [illegible] ✓ [illegible] ☐ <[illegible]			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Darnestown/ Montgomery Sampling Date: 1/14/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32JJJ-WET
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1245 Long: -77.3261 Datum: WGS 84
Soil Map Unit Name: Glenelg silt loam, 3-8% slopes (2B) NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:
32JJJ is PFO wetland at the base of a slight slope. A high water table and several seeps were observed outside of the LOD.
Photograph: WAS-4425_Photo 2_32III

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ✓ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): surface

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32JJJ-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Sapling Stratum (Plot size: 30 ft)			
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Shrub Stratum (Plot size: 30 ft)			
1. *Ilex opaca*	5	Yes	FACU
2. *Rosa multiflora*	5	Yes	FACU
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot size: 30 ft)			
1. *Dichanthelium clandestinum*	25	Yes	FAC
2. *Microstegium vimineum*	20	Yes	FAC
3. *Lonicera japonica*	5	No	FACU
4. *Carex sp.*	5	No	NI
5. *Lysimachia nummularia*	5	No	FACW
6. *Smilax rotundifolia*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
	65 = Total Cover		

50% of total cover: 32.5 20% of total cover: 13

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ☑ **No** ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32JJJ-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5 YR 3/1	100					Silt loam	
2-10	7.5 YR 4/2	60	7.5 YR 5/6	40	C	M	Clay loam	Saturated
10-20	7.5 YR 6/1	50	7.5 YR 5/6	30	C	M	Clay	Saturated
			7.5 YR 3/6	20	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland ~0.1ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Field/Forest Distance to nearest roadway or other development 30 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? 32HHH

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32JJJ

Latitude 39.1245 Longitude -77.3261

Prepared by: ES MM Date 1/14/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓	✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown/ Montgomery Sampling Date: 2/9/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32JJJJ
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1481 Long: -77.3599 Datum: WGS 84
Soil Map Unit Name: Readington silt loam, 0-3% slopes (22A) NWI classification: PEM1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** Yes ✓ No ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
Swale located between agriculture fields.
Photograph: WAS-4391_Photo 2_32JJJJ

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 1
Water Table Present?	Yes ✓	No ☐	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology provided by high water table and overland flow from adjacent agriculture fields and roadway.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32JJJJ

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimineum*	60	Yes	FAC
2. *Dichanthelium clandestinum*	40	Yes	FAC
3. *Juncus effusus*	20	No	FACW
4. *Apocynum cannabium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	125 = Total Cover		

50% of total cover: 62.5 20% of total cover: 25

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ☑ **No** ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32JJJJ

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 5/2	70	7.5YR 4/4	30	C	M	Clay loam	
6-18	7.5YR 5/2	50	7.5YR 4/4	25	C	M	Clay loam	
			7.5YR 5/6	25	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.2 Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Ag | Roadway Distance to nearest roadway or other development 10 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 325555

Latitude 39.1481 Longitude -77.3599

Prepared by: EB, MM Date

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		Feature ID: 32KKK	Use Class: Perennial (IP)
Date: 1/14/21	State: MD	Photos: WAS-4427_Photo 2_32KKK, WAS-4427_Photo 3_32KKK	
Crew: ES, MM	County: Montgomery	Last Flag Number: 32KKK 1 A/B to 5 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity – Upstream: Out of LOD (Pipe) Downstream: Out of LOD Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 7 ft	Silts	Sands	Muck	RB: Forest/Road
✓ Artificial (man-made)	Depth: 3 m	✓ Cobbles	✓ Gravel	Other:	LB: Forest
Manipulated (man-altered)	Bank Erosion/stability:	✓ Bedrock	Concrete		*Notes:*
Other:	Stable				
		Side slope: ☐ >1:1 ☐ 2:1 ✓ 3:1 ☐ <4:1			

General Notes: Rip Rap at pipe outlet

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown/ Montgomery Sampling Date: 2/10/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32KKKK
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1281 Long: -77.3494 Datum: WGS 84
Soil Map Unit Name: Readington silt loam, 0-3% slopes (22A) NWI classification: PEM1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐ Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** Yes ✓ No ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
Swale located between agriculture fields.
Photograph: WAS-4412_Photo 2_32KKKK

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 4
Water Table Present?	Yes ✓	No ☐	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology provided by high water table and overland flow from adjacent agriculture fields and roadway.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32KKKK

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimineum*	60	Yes	FAC
2. *Dichanthelium clandestinum*	40	Yes	FAC
3. *Juncus effusus*	20	No	FACW
4. *Apocynum cannabium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	125 = Total Cover		

50% of total cover: 62.5 20% of total cover: 25

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32KKKK

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	5YR 4/2	80	5YR 4/6	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 12

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.1 Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Ag | Roadway Distance to nearest roadway or other development 20 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32KKKK

Latitude 39.1281 Longitude -77.3494

Prepared by: ES, MM Date 2/10/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WAS 3622

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory SWM		**Feature ID:** 32 L	**Use Class:** Perennial
Date: 12/29/2020	**State:** MD	**Photos:** WAS-3622_Photo 3-32L	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** 32L 1 A/B - 4 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity –	Upstream: out of LOD	Downstream: out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15 ft	Silts	✓ Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 2 ft	✓ Cobbles	✓ Gravel	Other:	LB: None (Rock/Riprap)
✓ Manipulated (man-altered)	Bank Erosion/stability: Man-made - failing	✓ Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Both banks have been altered. Downstream Right - block wall. Downstream left - Riprap and Road embankment material.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Nov **Year:** 2020

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other: Edge of placed material	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WAS 3622

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory Swa		**Feature ID:** 32M	**Use Class:** Perennial (I-P)
Date: 12/29/2020	**State:** MD	**Photos:** WAS-3622-Photo 4- 32M	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** 32M, A/B to 2 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity – Upstream: Piped Downstream: Piped under Road Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3 ft	✓ Silts / Sands / ✓ Muck		RB: Herbaceous
✓ Artificial (man-made)	Depth: 4 inches	Cobbles / Gravel / Other:		LB: Scrub-Shrub
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock / Concrete		*Notes:*
Other:	Moderate			
		Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1		

General Notes: Short, open channel portion of a re-directed/piped tributary.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Nov Year: 2020												
✓ No rain	✓ 0-0.1	✓ 0-0.5													
Light rain	0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	(3)	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
✓ Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Greenbelt/ Prince George's Sampling Date: 1/18/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32MMM-WET

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 39.0067 Long: -76.8930 Datum: WGS 84

Soil Map Unit Name: Christiana-Downer-Urban Landcomplex, 5-15% slopes (CdD) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Depression within a maintained (mowed) area. A fire hydrant is located within the study area and it is possible the fire hydrant is leaking underground.
Photos: WAS-2010_Photo 4_32MMM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ✓ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 3
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

It is unclear if hydrology is coming from high water table or a leaking pipe to the fire hydrant. Iron sheening was observed on the water surface.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32MMM-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimenium*	40	yes	FAC
2. *Grass sp.*	30	yes	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Area apprears to be regularly mowed during the growing season.

SOIL

Sampling Point: 32MMM-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 6/1	80	7.5YR 4/4	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
✓ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 12

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Road | Maintained lawn Distance to nearest roadway or other development 25ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32MMM

Latitude 39.0067 Longitude -76.8930

Prepared by: BMM Date 1/18/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Laurel Prince George's Sampling Date: 1/5/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32O-WET

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 39.0919 Long: -76.8937 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0-65% slopes (UdaF) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Small PEM Swale with high water table.
Photos: PAX-2559_Photo 3_32O

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32O-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Typha angustifolia*	20	yes	OBL
2. *Phragmites australis*	25	yes	FACW
3. *Microstegium vimineum*	15	no	FAC
4. *Juncus effusus*	10	no	OBL
5. *Carex sp.*	10	no	NI
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32O-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 5/1	85	7.5 YR 6/6	15	C	M	Silty Clay Loam	Contains gravel fill
4-14	10 YR 7/1	50	7.5 YR 6/6	25	C	M	Silt Loam	Contains gravel fill
			7.5YR 5/4	25				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
✓ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock/fill

Depth (inches): 14

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 ac Human made? Yes Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway Distance to nearest roadway or other development 25 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 320 - Wet

Latitude 39.0919 Longitude -76.8937

Prepared by: ES, MM Date 1/5/2021

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM - PAX 0313 City/County: U. Marlboro/Prince George's Sampling Date: 3/8/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32OO-WET

Investigator(s): JT, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S MLRA 149A Lat: 38.8525 Long: -76.7268 Datum: NAD 83

Soil Map Unit Name: Dodon fine sandy loam, 5 to 10 percent slopes (DfC) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

32OO is a low depression (possibly constructed) located off of Beech Tree Parkway.
Photos: PAX0313_Photo 6_Potential WP 32OO, PAX0313_Photo 7_Potential WP 32OO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): N/A
Water Table Present?	Yes ✓	No _____	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): N/A

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

32OO receives hydrology from surrounding hill slopes and potential groundwater. At the time of the site visit, areas of standing water were observed.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32OO-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. *Carex stricta*	40	yes	OBL
2. *Phragmites australis*	30	yes	FACW
3. *Juncus effusus*	10	no	OBL
4. *Phalaris arundinacea*	10	no	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32OO-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5 YR 3/1	100					loamy muck	
2-12	7.5 YR 6/2	75	7.5 YR 6/6	10			Clay	
			7.5 YR 4/4	15				
12-20	7.5 YR 7/1	85	10 YR 5/8	15			sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
✓ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.05 ac Human made? Y Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Roadway | Residential | Greenway Distance to nearest roadway or other development 50 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? N

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 3200

Latitude 38.8525 Longitude -76.7268

Prepared by: EB MM Date 3/8/2021

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Brandywine/ Prince George's Sampling Date: 1/20/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32OOO-WET

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 38.7266 Long: -76.8369 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0-65% slopes (UdaF) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** **Yes ✔ No _____**
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Small, narrow PEM wetland within a constructed roadside ditch. Significantly disturbed by off-road vehicle tracks. Vegetation is destroyed and soils are compacted in areas of the wetland.
Photos: WAS-0996_Photo 4_32OOO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ✔ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✔ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✔	No _____	Depth (inches): 3
Water Table Present?	Yes ✔	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32OOO-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30 ft)			
1. *Typhus angustifolia*	20	yes	OBL
2. *Phalaris arundinacea*	15	yes	OBL
3. *Dichanthelium clandestinum*	10	yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		

50% of total cover: 22.5 20% of total cover: 9

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32OOO-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/1	100					Loam	mucky
4-12	7.5YR 6/2	60	5YR 5/6	40	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ✔ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock/Fill

Depth (inches): 10

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 Human made? Y Is wetland part of a wildlife corridor? Y or a "habitat island"? _____

Adjacent land use Roadway / Forest Distance to nearest roadway or other development 5 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? _____

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32 000

Latitude 38.7266 Longitude -76.8369

Prepared by: ES, MM Date 1/20/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N _____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Project: MLS compensatory SWM		Feature ID: 32 0000	Use Class: Intermittent (I)
Date: 2/18/21	State: MD	Photos: WAS-2612_Photo 6_320000	
Crew: ES MM	County: Prince Georges	Last Flag Number: 32 0000 1A/B to 6 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Carries hydrology from 32AAA (WET) in a concrete channel directly to UNT to Little Paint Br. (32NNNN).

Hydrologic Connectivity – Upstream:	Downstream:	Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
N/A ✓	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 2 ft	Silts	Sands	Muck	RB: open field
Artificial (man-made)	Depth: 3 inch	Cobbles	Gravel	Other:	LB: Wetland
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	✓ Concrete		*Notes:*
Other:	Concrete				
		Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Last 48hrs	Last week
✓ No rain	✓ 0-0.1	0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	✓ Other: Concrete Channel	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Beltsville/ Prince George's Sampling Date: 1/6/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 32P-WET

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 39.0623 Long: -76.9159 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0-65% slopes (UdaF) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

NarrowPEM Swale with high water table. Drains into 32Q (WUS).
Photos: WAS-2554_Photo 2_32P

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 2
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32P-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Euthamia graminifolia*	20	yes	FAC
2. *Microstegium vimineum*	20	yes	FAC
3. *Juncus effusus*	20	yes	OBL
4. *Phalaris arundinacea*	10	no	OBL
5. *Carex sp.*	5	no	NI
6.			
7.			
8.			
9.			
10.			
11.			
	75 = Total Cover		
50% of total cover: 37.5	20% of total cover: 15		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32P-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 6/1	90	7.5 YR 6/6	10	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock/fill

Depth (inches): 10

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.09 Human made? Yes Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roadway Distance to nearest roadway or other development ≈ 15 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Drains into 32Q

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32P- WET

Latitude 39.0623 Longitude -76.9159

Prepared by: ES, MM Date 1/6/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Beallsville/ Montgomery Sampling Date: 2/15/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32PPPP
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1718 Long: -77.4162 Datum: WGS 84
Soil Map Unit Name: Goresville and Bucks soils, 8-15% slopes (GbC) NWI classification: PEM1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐ Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
Roadside swale that collects and holds runoff from adjacent road and agricultural fields. High water table is also present.
Photograph: WAS-4386_Photo 2_32PPPP

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 1
Water Table Present?	Yes ✓	No ☐	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? **Yes** ✓ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology provided by high water table and overland flow from adjacent agriculture fields and roadway.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32PPPP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30 ft)			
1. *Phalaris arundinacea*	50	Yes	FAC
2. *Euthamia graminifolia*	40	Yes	FAC
3. *Dichanthelium clandestinum*	30	Yes	FAC
4. *Carex sp.*	10	No	NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	130 = Total Cover		

50% of total cover: 65 20% of total cover: 26

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32PPPP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/2	85	10YR 4/6	15	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock/Fill

Depth (inches): 8

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? Yes

Adjacent land use Roadway/Ag Distance to nearest roadway or other development 15ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32 PPPP

Latitude 39.1718 Longitude -77.9162

Prepared by: ES, MM Date 2/15/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WAS-2554

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 32Q	**Use Class:** Intermittent (I)
Date: 1/6/2021	**State:** MD	**Photos:** WAS-2554 - Photo 3 - 32Q	
Crew: ES, MM	**County:** Prince George's	**Last Flag Number:** 32Q 1A/B to 3A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity –	Upstream: 32P - WET	Downstream: out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	✓ Yes / No	Yes / ✓ No	✓ Yes / No	Yes / ✓ No	✓ Yes / No
N/A ☐	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / ✓ No	✓ Yes / No	Yes / ✓ No	Yes / ✓ No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1 ft	✓ Silts	✓ Sands	Muck	RB: Herb.
✓ Artificial (man-made)	Depth: 3 inches	Cobbles	✓ Gravel	Other:	LB: Herb.
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:* Mowed ROW.
Other:					
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Roadside Ditch, Receives hydrology from upstream wetland (32P).

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** DEC **Year:** 2020

-6	-5	-4	-3	-2	-1	0	1	2	(3)	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM - PAX 0315 City/County: U. Marlboro/Prince George's Sampling Date: 3/15/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32QQ

Investigator(s): ES,MM Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S MLRA 149A Lat: 38.849720 Long: -76.726013 Datum: NAD 83

Soil Map Unit Name: DfB - Dodon fine sandy loam, 2 to 5 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** **Yes ✔ No _____**
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

32QQ is located east of Beech Tree Parkway. 32QQ wetland is a poorly drained swale. Hydrology appears to appears to settle in the swale before slowly draining to the south of out of the LOD. The property containing 32QQ was restricted when PAX-0315 was intially visited on 01/11/21. A second site visit was conducted on 3/15/21 once property access was granted.
Photo: PAX-0315_Photo 5_32QQ

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ✔ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✔ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✔ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✔	No _____	Depth (inches): Surface
Water Table Present?	Yes ✔	No _____	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): N/A

Wetland Hydrology Present? **Yes ✔ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

32QQ is assumed to receive discharge from Swale No. 162507, Structure No. 1602398 and groundwater. During the intial site visit, 32QQ had visible standing water. No standing water or high water table was observed during the follow-up site visit.

See Photos: PAX0315_Photo 3_Potential WP 32QQ, PAX0315_Photo 4_Potential WP 32QQ

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32QQ

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Herb Stratum (Plot size: 30 ft)			
1. *Juncus effusus*	10	yes	OBL
2. *Persicaria perfoliata*	10	yes	FAC
3. *Carex sp.*	10	yes	NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (If observed, list morphological adaptations below).

Sparsely vegetated surface.

SOIL

Sampling Point: 32QQ

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					Loam	
3-8	10YR 5/2	60	10YR 5/6	15	C	M	Clay	
			7.5YR 4/6	25	C	M		
8-20	10YR 5/6	80	10YR 5/6	20	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
✔ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.03ac Human made? Y Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Roadway | Field Distance to nearest roadway or other development 20 ft.

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32 QQ

Latitude 38.8497 Longitude -76.7260

Prepared by: EB, MM Date 3/15/2021

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - WAS-4203 City/County: Dickerson/Montgomery Sampling Date: 1/14/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32RR-WET
Investigator(s): JT, KH Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): LRR S Lat: 39.2212163 Long: -77.4247400 Datum: NAD 83
Soil Map Unit Name: 23A - Croton silt loam, occasionally ponded, 0 to 3 percent slopes NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
32RR is located west of MD 28, between a business (Absolute Auto, Kevin Elliott's Tree Service and Titus Trash) and a private residence. The wetland drains into an inlet that is located on the west of MD 28.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 0
Water Table Present?	Yes ✓	No ☐	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): 0

Wetland Hydrology Present? **Yes** ✓ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
32RR receives hydrology from 32SS, which drains through an inlet into a wetland area (located outside of buffer), which drains into an inlet and then feeds 32R and also runoff from pavement.

Photos: WAS-4203_Photo 3_32RR-WET,WAS-4203_Photo 4_32RR-WET,WAS-4203_Photo 5_32RR-WET,WAS-4203_Photo 7_32RR-WET, WAS-4203_Photo 8_32RR-WET, WAS-4203_Photo 9_32RR-WET

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32RR-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Y	FAC
2. *Acer saccharinum*	10	Y	FACW
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: 20 20% of total cover: 8

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Shrub Stratum (Plot size: 30 ft)			
1. *Acer rubrum*	15	Y	FAC
2. *Ilex opaca*	5	Y	FACU
3.			
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot size: 30 ft)			
1. *Euthamia graminifolia*	20	Y	FAC
2. *Hedera helix*	15	Y	FACU
3. *Juncus effusus*	10	N	FACW
4. *Lonicera japonica*	10	N	FACU
5. *Toxicodendron radicans*	10	N	FAC
6. *Carex sp.*	5	N	NA
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		

50% of total cover: 35 20% of total cover: 14

Woody Vine Stratum (Plot size: 30 ft)			
1. *Hedera helix*	15	Y	FACU
2. *Toxicodendron radicans*	5	Y	FAC
3.			
4.			
5.			
	20 = Total Cover		

50% of total cover: 10 20% of total cover: 4

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32RR-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Silty clay loam	Saturated
2-14	10YR 4/1	90	2.5YR 4/6	10	C	M	Silty clay loam	
14-20	10YR 4/1	85	2.5YR 4/6	10	C	M	Silty clay loam	
			5YR 5/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 8574 sf Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation/Commercial/Residental Distance to nearest roadway or other development 20' from MD 28

Dominant wetland systems present Yes Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? * see notes

How many tributaries contribute to the wetland?_____ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32RR

Latitude 39.2212 Longitude -77.4247

Prepared by: KH,JT Date 1/14/2021

Wetland Impact:
Type PFO1B Area 8,574 SF

Evaluation based on:
Office_____ Field X

Corps manual wetland delineation completed? Y X N_____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			The water disperses and is not channelized, which would not be ideal habitat.
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Frogs, birds, etc.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 32RR drains to an inlet at the business driveway, which flows to a sequence of inlets, that eventually drains to the Little Monocacy River

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 32RRK	**Use Class:**
Date: 1/21/21	**State:** MD	**Photos:** WAS- 0959_Photo2 _32RRK	
Crew: ES, MM	**County:** Prince Georges	**Last Flag Number:** 32RRK 1A to 2A	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	~~TNW~~	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Piscataway Creek main stem. Only flagged downstream Right side.

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
N/A ✓	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 30 ft	Silts	Sands	Muck	RB: Roadway
✓ Artificial (man-made)	Depth: 2+ ft	Cobbles	Gravel	✓ Other:	LB: Roadway
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	Unknown	*Notes:*
Other:	stable				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Banks were concrete walls North & South bound bridges of Rt 5.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - WAS-4202 City/County: Dickerson/Montgomery Sampling Date: 1/14/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32SS-WET
Investigator(s): JT, KH Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR or MLRA): LRR S Lat: 39.2219 Long: -77.4251 Datum: NAD 83
Soil Map Unit Name: 22B - Readington silt loam, 3 to 8 percent slopes NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** Yes ✓ No ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
32SS is located east of MD 28. The wetland drains into an inlet that drains to the west of MD 28.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 0
Water Table Present?	Yes ✓	No ☐	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
32SS is fed by groundwater and runoff from the residence to the east.

Photos: WAS-4202_Photo 2_Overall, WAS-4202_Photo 3_32SS-WET and WAS-4202_Photo 5_32SS-WET

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32SS-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Y	FAC
2. *Acer negundo*	5	N	FAC
3. *Diospyros virginiana*	2	N	FAC
4.			
5.			
6.			
	27 = Total Cover		
50% of total cover: 13.5	20% of total cover: 5.4		

Sapling Stratum (Plot size: 30 ft)			
1. *Acer negundo*	10	Y	FAC
2. *Acer rubrum*	5	Y	FAC
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Shrub Stratum (Plot size: 30 ft)			
1. *Lonicera tatarica*	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Herb Stratum (Plot size: 30 ft)			
1. *Leersia oryzoides*	60	Y	OBL
2. *Doellingeria umbellata*	15	N	FACW
3. *Phragmites australis*	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		

Woody Vine Stratum (Plot size: 30 ft)			
1. *Toxicodendron radicans*	5	Y	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32SS-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	85	5YR 5/8	15	C	M	Silty clay loam	Saturated
12-20	10YR 5/1	85	5YR 5/6	10	C	M	Silty clay loam	
			5YR 4/1	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 8501 sf Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residental/Transportation Distance to nearest roadway or other development 20' from MD 28

Dominant wetland systems present Yes Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? * see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32SS

Latitude 39.2219 Longitude -77.4251

Prepared by: KH, JT Date 1/14/2021

Wetland Impact:
Type PFO1B Area 8,501 SF

Evaluation based on:
Office ____ Field X

Corps manual wetland delineation completed? Y X N ____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds, frogs, etc.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 32SS flows into an inlet that drains to a wetland , which drains to 32RR that drains to an inlet that flows to the Little Monocacy River.

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory Swm		Feature ID: 32SSS	Use Class: Perennial (=)
Date: 1/27/2021	State: MD	Photos: WAS-0651 - Photo 2 - 32SSS	
Crew:	County: Prince Georges	Last Flag Number: 32SSS 1 A/B to 3 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Hunters Mill Branch

Hydrologic Connectivity –	Upstream: Out of LOD	Downstream: Out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
N/A [X]	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15 ft	Silts	X Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 1 ft	X Cobbles	X Gravel	Other:	LB: Forested
X Manipulated (man-altered)	Bank Erosion/stability: moderate/stable	Bedrock	Concrete		*Notes:* minimal veg. present
Other:					
		Side slope: [ ] >1:1 [ ] 2:1 [✓] 3:1 [ ] <4:1			

General Notes: Carried through box culvert under MD-210

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
X No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark							
	Clear, natural line impressed on the bank	X	Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.
X	Presence of flood litter/debris		Leaf litter disturbed	X	Sediment sorting		Observed/predicted flow events
X	Vegetation matted down, bent, or absent	X	Scour		Other:		

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Project: MLS Compensatory Swm		Feature ID: 32TTTT	Use Class: Perennial (I-P)
Date: 2/16/2021	State: MD	Photos: WAS-4371_ Photo 3_ 32TTTT	
Crew: MM / ES	County: MoCo	Last Flag Number: 32TTTT 1A/B to 9A & 8B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity –	Upstream: out of LOD	Downstream: 32UUUU meets	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
N/A ☒	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 7 ft	Silts	☒ Sands	Muck	RB: scrub shrub / forested
Artificial (man-made)	Depth: 6-12 inches	Cobbles	☒ Gravel	Other:	LB: "
Manipulated (man-altered)	Bank Erosion/stability: moderate/	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ >1:1 ☒ 2:1 ☐ 3:1 ☐ <4:1			

General Notes: Begins @ pipe under Damerstown Rd. 32UUUU (WVS) flows into 32TTTT w/in LOD

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
☒ No rain	0-0.1	0-0.5
Light rain	☒ 0.1-0.5	☒ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark							
	Clear, natural line impressed on the bank	☒	Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line	☒	Shelving	☒	Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting		Observed/predicted flow events
☒	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM - WAS-2034 City/County: Chillum/Prince George's Sampling Date: 1/19/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32UU -WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain/Toe-of-slope Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S MLRA 149A Lat: 38.9551375 Long: -76.9628767 Datum: NAD 83

Soil Map Unit Name: CF - Codorus and Hatboro soils, frequently flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** **Yes ✓ No ____**
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

32UU is located at the toe-of-slope southeast of the MD 500/Hamilton Street intersection. The wetland area abuts Facility No. 161872, which appears to have underwent recent construction. The Northwest Branch Trail i. s adjacent to 32UU across the Northwest Branch Anacostia River

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): Surface
Water Table Present?	Yes ✓	No ____	Depth (inches): Surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): Surface

Wetland Hydrology Present? **Yes ✓ No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

An iron sheen was observed in the standing water within drainage patterns.

Photos: WAS-2034_Photo 6_32UU and WAS-2034_Photo 7_32UU

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32UU -WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	15	yes	FAC
2. *Acer rubrum*	10	yes	FAC
3. *Platanus occidentalis*	5	no	FACW
4.			
5.			
6.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Sapling Stratum (Plot size: 30 ft)			
1. *Liquidambar styraciflua*	5	yes	FAC
2. *Acer rubrum*	5	yes	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Shrub Stratum (Plot size: 30 ft)			
1. *Liquidambar styraciflua*	10	yes	FAC
2. *Acer rubrum*	5	yes	FAC
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	55	yes	FAC
2. *Microstegium vimineum*	15	no	FAC
3. *Persicaria perfoliata*	10	no	FAC
4. *Carex sp.*	5	no	NA
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		

Woody Vine Stratum (Plot size: 30 ft)			
1. *Toxicodendron radicans*	5	yes	FAC
2. *Vitus sp.*	5	no	NA
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 32UU -WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	75	5YR 4/6	15	C	M	Sandy clay loam	Saturated
			10YR 4/2	10	D	M		
4-10	10YR 3/1	80	5YR 5/6	20	C	M	Sandy clay loam	
10-20	10YR 3/1	95	10YR 5/2	5	D	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
✓ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 3439 sf Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation - Roadway/Recreation Distance to nearest roadway or other development **40' from MD 500**

Dominant wetland systems present Yes Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? * see notes

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32UU

Latitude 38.95513 Longitude -76.9629

Prepared by: JT, KH Date 1/19/2021

Wetland Impact:
Type PFO1B Area 3,439 SF

Evaluation based on:
Office ____ Field X

Corps manual wetland delineation completed? Y X N ____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds, Frogs, etc.
Recreation	N			Located adjacent to the NW Branch Trail
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes:

32UU drains to Northwest Branch Anacostia River.

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Project: MLS Compensatory Swm		Feature ID: 32UUUU	Use Class: Perennial (E-P)
Date: 2/16/2021	State: MD	Photos: WAS-4371 - Photo 4 - 32uuuu	
Crew: MM / RS	County: MoCo	Last Flag Number: 32uuuu 1A/B to 3A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity – Upstream: out of LOD Downstream: meets 32TTTT Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	Documentation:
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[X] Natural Channel Shape	Width: 7 ft	Silts	[X] Sands	Muck	RB: Scrub Shrub/forested
Artificial (man-made)	Depth: 6 in	Cobbles	[X] Gravel	Other:	LB: " " "
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		Notes:
Other:	severe				

Side slope: [ ] >3:1 [X] 2:1 [ ] 3:1 [ ] <4:1

General Notes: Begins @ pipe under Germantown Rd. Flows into 32TTTT (WWS) w/in LOD

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
[X] No rain	[X] 0-0.1	0-0.5
Light rain	0.1-0.5	[X] 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark							
	Clear, natural line impressed on the bank	[X]	Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line	[X]	Shelving	[X]	Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting		Observed/predicted flow events
[X]	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Beallsville/ Montgomery Sampling Date: 2/17/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32VVVV
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Terrace/Floodplain Local relief (concave, convex, none): Flat Slope (%): 1-2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1772 Long: -77.4092 Datum: WGS 84
Soil Map Unit Name: Hatboro silt loam, 0-3% clopes, frequently flooded (54A) NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐ Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
Forested wetland adjacent to an unnamed tributary to Dry Seneca Creek (32WWWW).
Photograph: WAS-4383_Photo 3_32VVVV, WAS-4383_Photo 4_32VVVV

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 1
Water Table Present?	Yes ✓	No ☐	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? **Yes** ✓ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32VVVV

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Ulmus americana*	20	Yes	FACW
3. *Cornus amomum*	20	Yes	FACW
4.			
5.			
6.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		

Sapling Stratum (Plot size: 30 ft)			
1. *Lindera benzoin*	30	Yes	FAC
2. *Acer rubrum*	30	Yes	FAC
3. *Cornus amomum*	10	No	FACW
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		

Shrub Stratum (Plot size: 30 ft)			
1. *Lindera benzoin*	20	Yes	FAC
2. *Acer rubrum*	20	Yes	FAC
3. *Rosa multiflora*	10	No	FACU
4. *Cornus amomum*	10	No	FACW
5.			
6.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Herb Stratum (Plot size: 30 ft)			
1. *Allium vineale*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Woody Vine Stratum (Plot size: 30 ft)			
1. *Toxicodendron radicans*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 89 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32VVVV

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 5/2	85	5YR 6/4	15	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock/Root

Depth (inches): 8

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.2ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Roadway / Forest Distance to nearest roadway or other development 10 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Upper / Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32 VVVV

Latitude 39.1772 Longitude -77.4092

Prepared by: ES, MM Date 2/17/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Project: MLS compensatory SWM		Feature ID: 32 WWWW	Use Class: Perennial (E-P)
Date: 2/17/21	State: MD	Photos: WAS-4341_Photo 4 – 32WWWW	
Crew: ES, MM	County: Montgomery	Last Flag Number: 32WWWW 1 A/B – 11 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to Dry Seneca Creek

Hydrologic Connectivity –	Upstream: Out of LOD	Downstream: Out of LOD	Adjacent/Abutting: 32WWW + 32XXXX

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 10 ft	✓ Silts	✓ Sands	Muck	RB: Ag (upstream), PSS (Downstream)
Artificial (man-made)	Depth: 1 ft	✓ Cobbles	✓ Gravel	Other:	LB: PFO (upstream), Forest (Downstream)
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Stable				
		Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
✓ Changes in the character of soil	✓ Presence of wrack line	✓ Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - WAS-4456 City/County: Boyds/Montgomery Sampling Date: 1/28/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32XX-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe-of-slope Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR S Lat: 39.1848755 Long: -77.3119172 Datum: NAD 83

Soil Map Unit Name: 16C - Brinklow-Blocktown channery silt loams, 8 to 15 percent slopes NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

32XX is located at a WSSC access road and east of MD 121.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): Surface
Water Table Present?	Yes ✓	No ____	Depth (inches): *
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): *

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

32XX receives hydrology from Structure No. 1520304.002 (WAS-4450), which drains to Structure No. 1520304.001 (WAS-4451), which drains to 32XX, which drains to Little Seneca Lake.

* Saturation and Water table assumed due to overflow observed from Little Seneca Lake.

Photos: WAS-4456_Photo 5_32XX, WAS-4456_Photo 6_32XX

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 32XX-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Salix nigra*	5	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5 = Total Cover		
Herb Stratum (Plot size: 30 ft)			
1. *Carex sp.*	70	no	NA
2. *Typha latifolia*	20	yes	OBL
3. *Euthamia graminifolia*	10	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32XX-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
*								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

*Hydric soil assumed based off of hydrology and vegetation indicators.

The wetland area is located within a pending access area and will not allow auger digs.

Wetland Function-Value Evaluation Form

Total area of wetland 0.21AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Little Seneca Lake/Transportation -- Road Distance to nearest roadway or other development 63' to MD121

Dominant wetland systems present Yes Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? * See notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32XX

Latitude 39.18488 Longitude -77.31192

Prepared by: JT, KH Date 1/28/21

Wetland Impact:
Type PEM Area 9,028 SF

Evaluation based on:
Office _____ Field X

Corps manual wetland delineation completed? Y X N _____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	Y			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Hawk observed at time of visit.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: **Structure No. 1520304.002 (WAS-4450) drains to Structure No. 1520304.001 (WAS-4451), which drains to 32XX, which drains to Little Seneca Lake.**

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory Swm		**Feature ID:** 32XXX	**Use Class:** Perennial (2)
Date: 1/28/21 and 2/25/21	**State:** MD	**Photos:** WAS-1009_Photo4_32XXX; WAS-1009_Photo6_32XXX	
Crew: ES, MM	**County:** Prince George's	**Last Flag Number:** 32XXX 1A/B to 3A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: JNT to Piscataway Creek

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 15	✓ Silts	✓ Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 2 ft	Cobbles	Gravel	Other:	LB: Forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ✓ >1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	✓ 0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

F-332

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Beallsville/ Montgomery Sampling Date: 2/17/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32XXXX
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Flat Slope (%): 1-2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1767 Long: -77.4087 Datum: WGS 84
Soil Map Unit Name: Hatboro silt loam, 0-3% clopes, frequently flooded (54A) NWI classification: PSS1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ✓ Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
Scrub-shrub wetland adjacent to an unnamed tributary to Dry Seneca Creek (32WWWW). A portion of the wetland is within a cleared utility ROW.
Photograph: WAS-4381_Photo 5_32XXXX, WAS-4381_Photo 6_32XXXX

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 1
Water Table Present?	Yes ✓	No ☐	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? **Yes** ✓ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 32XXXX

Tree Stratum (Plot size: 30 ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	5	Yes	FAC
2. *Diospyros virgiana*	5	Yes	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Sapling Stratum (Plot size: 30 ft)

1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: 20% of total cover:

Shrub Stratum (Plot size: 30 ft)

1. *Lindera benzoin*	20	Yes	FAC
2. *Acer rubrum*	15	Yes	FAC
3. *Alnus incana*	15	Yes	FACU
4.			
5.			
6.			
	50 = Total Cover		

50% of total cover: 25 20% of total cover: 10

Herb Stratum (Plot size: 30 ft)

1. *Phalaris arundinacea*	25	Yes	FACW
2. *Persicaria perfoliata*	25	Yes	FAC
3. *Onocea sensibilis*	15	Yes	FACW
4. *Lonicera japonica*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75 = Total Cover		

50% of total cover: 37.5 20% of total cover: 15

Woody Vine Stratum (Plot size: 30 ft)

1. *Toxicodendron radicans*	15	Yes	FAC
2.			
3.			
4.			
5.			
	15 = Total Cover		

50% of total cover: 7.5 20% of total cover: 3

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 89 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32XXXX

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 5/2	85	5YR 4/4	15	C	M	Clay loam	
12-18	7.5YR 6/1	100					Clay	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock/Root

Depth (inches): 8

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.07ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Ag/Roadway Distance to nearest roadway or other development 10 ft

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32XXXX

Latitude 39.1767 Longitude -77.4087

Prepared by: ES, MM Date 2/17/21

Wetland Impact:
Type PSS Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MO-00018		**Feature ID:** 32YY (Rock run)	**Use Class:** I-P
Date: 2/16/21	**State:** MD	**Photos:** MO-00018_Photo 1-32YY / Photo 2-3	
Crew: JT, KH	**County:** Montgomery	**Last Flag Number:** 9A / 8B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity – Upstream: at Falls Road Downstream: at Logan Drive Adjacent/Abutting: Forest/neighborhoods

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / ✓ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15-20'	✓ Silts	✓ Sands	Muck	RB: forested
Artificial (man-made)	Depth: 6" - 1.5'	✓ Cobbles	✓ Gravel	Other:	LB: forested/wetlands
✓ Manipulated (man-altered)	Bank Erosion/stability: eroded; LB undercut from rapid flow during storms	Bedrock	Concrete		*Notes:*
Other: converted c US and DS extents					
		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21												
✓ No rain	0-0.1	0-0.5													
Light rain	✓ 0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events 2/10 after event
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Beallsville/ Montgomery Sampling Date: 2/17/21
Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 32YYYY
Investigator(s): ES, MM Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): MLRA 148 Lat: 39.2445 Long: -77.3518 Datum: WGS 84
Soil Map Unit Name: Linganore-Hyattstown channery silt loams, 3-8% slopes (9B) NWI classification: PEM1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ☐ (If no, explain in Remarks.)
Are Vegetation ✓ Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ☐	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ☐
Hydric Soil Present?	Yes ✓	No ☐	
Wetland Hydrology Present?	Yes ✓	No ☐	

Remarks:
32YYYY is the upper portion of an agriculture swale. Vegetation appears to be mowed during dryer periods. 32YYYY contained flowing water at the time of the survey. The wetland extends southeast out of the LOD.
Photograph: WAS-4154_Photo 2_32YYYY, WAS-4154_Photo 3_32YYYY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ☐	Depth (inches): 1
Water Table Present?	Yes ✓	No ☐	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes ✓	No ☐	Depth (inches): surface

Wetland Hydrology Present? **Yes** ✓ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 32YYYY

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30 ft)			
1. *Phalaris arundinacea*	20	Yes	FACW
2. *Dichanthelium clandestinum*	15	Yes	FAC
3. *Carex sp.*	15	Yes	NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		

50% of total cover: 25 20% of total cover: 10

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 32YYYY

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 5/2	85	7.5YR 5/6	15	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Ag/Roadway Distance to nearest roadway or other development 10 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? No Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 32 YYYY

Latitude 39.2445 Longitude -77.3518

Prepared by: ES, MM Date 2/17/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory SWM		Feature ID: 32 ZZZ	Use Class: Perennial (J)
Date: 1/28/21	State: MD	Photos: See below	
Crew: ES, MM	County: Prince Georges	Last Flag Number: 32 ZZZ	7B & 8A.

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: constructed Riprap at fall. channelizes hydro to a constructed pool then flows to UNT to Beaver Creek

WAS-0647-Photo 3- 32ZZZ
WAS-0647-Photo 4- 32ZZZ

Hydrologic Connectivity –	Upstream: Out of LOD	Downstream: Out of LOD	Adjacent/Abutting: 32 NNNNNNNN

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 15-20 ft	Silts	Sands	✓ Muck	RB: Forested
✓ Artificial (man-made)	Depth: 2 ft	Cobbles	Gravel	✓ Other:	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	Rip Rap	*Notes:*
Other:					
		Side slope: ≥1:1 / 2:1 / ✓ 3:1 / ≤4:1			

General Notes: constructed | stabilized channel. Riprap

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20												
During visit	Last 48hrs	Last week													
✓ No rain	0-0.1	0-0.5													
Light rain	✓ 0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	(3)	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	✓ Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	✓ Other: Rip Rap	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensatory SWM		**Feature ID:** 33AA	**Use Class:** 1-P
Date: 2/25/21	**State:** MD	**Photos:** 9223-24	
Crew: SLY/EMK	**County:** Montgomery	**Last Flag Number:** 33AA-9	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Shallow bed + bank, upstream outside of LOD channel is more defined + wider - probably perennial. unnamed tributary to Buckloodge Branch

Hydrologic Connectivity – Upstream: outside study area Downstream: 33BB Adjacent/Abutting: 33BB

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1'	✓ Silts	✓ Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 1-3"	Cobbles	✓ Gravel	Other:	LB: Forested
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	stable				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ✓ ≤4:1			

General Notes: Runs into + through wetland 33BB - has gravel in streambed. Evidence of manipulation outside study area - evidence of weir, etc.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	X 0-0.5
Light rain	X 0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Boyds / Montgomery Sampling Date: 2/25-/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33BB
Investigator(s): SLY / EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.191018 Long: -77.338573 Datum: NAD 83
Soil Map Unit Name: Sackland silt loam 3-8% slopes NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Stream 33A feeds wetland, man made berm bisects wetland + stream 33AA cuts through. Part of larger wetland complex outside study area to east. Photos 9222-23

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 2"
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Iron sheen on water surface. Crayfish burrows outside plot area.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 33BB

Tree Stratum (Plot size: 10x20')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus bicolor	10	N	FACW
2. Acer rubrum	15	Y	FAC
3. Liriodendron tulipifera	30	Y	FACU
4.			
5.			
6.			
	55 = Total Cover		
50% of total cover: 27.5	20% of total cover: 11		

Sapling Stratum (Plot size: 10x20')			
1. Acer rubrum	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Shrub Stratum (Plot size: 10x20')			
1. Sambucus nigra	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Herb Stratum (Plot size: 10x20')			
1. Poa palustris	40	Y	FACW
2. Cinna arundinacea	15	N	FACW
3. Smilax rotundifolia	5	N	FAC
4. Microstegium vimineum	15	N	FAC
5. Boehmeria cylindrica	5	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		

Woody Vine Stratum (Plot size: 10' + 20')			
1. Vitis sp.	10	Y	—
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.6 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 33BB

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non Invasive property Access did not allow for subsurface investigation

Wetland Function-Value Evaluation Form

Total area of wetland 0.08AC Human made? NO Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest / Roadside Distance to nearest roadway or other development 20'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33BB

Latitude 39.191018 Longitude -77.338573

Prepared by: [illegible] Date 2/25/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export	✓				
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Boyds / Montgomery Sampling Date: 2/25/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33CC
Investigator(s): SLY / EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.193993 Long: -77.331171 Datum: NAD83
Soil Map Unit Name: Brinklow - Blockstown Channery Silt loams 3-8% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ____	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Roadside PEM drains to 33DD + ephemeral ditch – has some shallow runoff flowing through wetland
Photos 9229-9236

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ?
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Observed surface water outside plot – probably has water table but cannot dig pit to verify due to access constraints.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 33CC

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 20'R)			
1. Typha latifolia	20	N	OBL
2. Ludwigia alternifolia	10	N	FACW
3. Onoclea sensibilis	10	N	FACW
4. Mimulus ringens	5	N	OBL
5. Microstegium vimineum	30	Y	FAC
6. Arthraxon hispidus	50	Y	FAC
7. Mikania scandens	2	N	FACW
8.			
9.			
10.			
11.			
	137 = Total Cover		

50% of total cover: 68.5 20% of total cover: 27.4

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 33CC

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non invasive Access did not allow for subsurface investigation

Wetland Function-Value Evaluation Form

Total area of wetland 0.17 AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Agriculture / Hedgerow Distance to nearest roadway or other development 101

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33CC

Latitude 39.193993 Longitude -77.331171

Prepared by: [illegible] Date 2/25/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensatory SWM			**Feature ID:** 33DD	**Use Class:** I-P	
Date: 2/25/21	**State:** MD		**Photos:** 9232-33 + 9236		
Crew: SZY / EYG	**County:** Montgomery		**Last Flag Number:** 33DD-6		

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Shallow channel flowing on edge of 33CC, goes under road to east + flows over grass into culvert outside study area.

Hydrologic Connectivity –	Upstream: outside study area	Downstream: 33CC	Adjacent/Abutting: 33CC

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1-4'	✓ Silts	✓ Sands	Muck	RB: Scrub shrub
Artificial (man-made)	Depth: 2-3"	Cobbles	✓ Gravel	Other:	LB: scrub shrub
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	stable				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☑ ≤4:1			

General Notes: a lot of sediment in stream, woody debris present – covered w/ invasive vegetation

Weather/Precipitation Conditions:

Rain				Monthly Drought Condition NCDC Regional PDSI													
During visit	Last 48hrs	Last week		http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021													
✓ No rain	0-0.1	X 0-0.5									X						
Light rain	X 0.1-0.5	0.5-1		-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	
Heavy Rain	> 0.5	>1		Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet			

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Boyds / Montgomery Sampling Date: 2/25/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33EE
Investigator(s): SLY / EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): outflow swale Local relief (concave, convex, none): concave Slope (%): 0-2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.193776 Long: -77.33116 Datum: NAD 83
Soil Map Unit Name: Baile Silt Loam 0-3 % Slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
originates from culvert with pooling water w/ little to no flow - connects downstream to 33DD outside study area - Photos 9238-39

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 6"
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Ponded water at outflow of culvert - saturated soil on fringe

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 33EE

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: Whole area)			
1. Arthraxon hispidus	50	Y	FAC
2. Ludwigia alternifolia	5	N	FACW
3. Mimulus ringens	2	N	OBL
4. Mikania scandens	5	N	FACW
5. Boehmeria cylindrica	2	N	FACW
6. Juncus effusus	5	N	FACW
7.			
8.			
9.			
10.			
11.			
	69 = Total Cover		

50% of total cover: 34.5 20% of total cover: 13.8

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 33EE

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non-invasive property Access did not allow for sub surface investigation.

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Field Distance to nearest roadway or other development 5'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33EE

Latitude 39.193776 Longitude -77.33116

Prepared by: SLY Date 8/25/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensatory SWM		**Feature ID:** 336	**Use Class:** I-P
Date: 2/10/21	**State:** MD	**Photos:** 3474-75, 3477, 3484-3485	
Crew: SLY/EYG	**County:** Montgomery	**Last Flag Number:** 336-84, 336-101 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: starts @ culvert running under MD 117, high flow. Draining cattail wetland / ag fields to west across road.

Hydrologic Connectivity –	Upstream: 331	Downstream: 32 1111	Adjacent/Abutting: 33 H

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3-8'	✓ Silts	✓ Sands	Muck	RB: Forest / Road
Artificial (man-made)	Depth: 4-12"	✓ Cobbles	✓ Gravel	Other:	LB: Forest
Manipulated (man-altered)	Bank Erosion/stability: Moderate	✓ Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: stream is sinuous, some erosion along banks

Weather/Precipitation Conditions:

Rain		
During visit	Last 48hrs	Last week
✓ No rain	0-0.1	✓ 0-0.5
Light rain	✓ 0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** July **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Poolesville, Montgomery Sampling Date: 2/10/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33H
Investigator(s): SLY/EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.150009 Long: -77.3612227 Datum: NAD83
Soil Map Unit Name: Readington Silt loam 3-8% Slopes NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Photos 3478-79. Small isolated wetland with surface water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Isolated depression adjacent to road.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 33H

Tree Stratum (Plot size: 15'R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus rubra	30	Y	FAC
2. Acer rubrum	50	Y	FAC
3.			
4.			
5.			
6.			
	80 = Total Cover		

50% of total cover: 40 20% of total cover: 16

Sapling Stratum (Plot size: 15'R)			
1. Acer rubrum	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Shrub Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: 20% of total cover:

Herb Stratum (Plot size: 15'R)			
1. Smilax rotundifolia	40	Y	FAC
2. Microstegium vimineum	20	Y	FAC
3. Lonicera japonica	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		

50% of total cover: 35 20% of total cover: 14

Woody Vine Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: 20% of total cover:

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 33H

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

non-invasive access did not permit subsurface investigation at time of visit

Wetland Function-Value Evaluation Form

Total area of wetland 0.02 AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest / Roadside Distance to nearest roadway or other development 30'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33H

Latitude 39.150009 Longitude -77.361222

Prepared by: SLY/EYG Date 2/10/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

*Refer to backup list of numbered considerations.

Notes:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Poolesville, Montgomery Sampling Date: 2/10/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33K
Investigator(s): SLY/EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5
Subregion (LRR or MLRA): MLRA 148 Lat: 39.150043 Long: -77.3619 58 Datum: NAD83
Soil Map Unit Name: Readington Silt loam 3-8 % slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: PEM forming at bottom of slope draining ag field - drains out of LOD down to 33G
photos: 3495-96

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1"
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
some pockets of standing water in matted down grass

Sampling Point: 33K

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 15' x 15')			
1. Arthraxon hispidus	50	Y	FAC
2. Leersia oryzoides	40	Y	OBL
3. Mimulus ringens	5	N	OBL
4. Smilax rotundifolia	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		

50% of total cover: 55 20% of total cover: 22

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 33K

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non-invasive probe access did not permit subsurface investigation at time of visit

Wetland Function-Value Evaluation Form

Total area of wetland 0.12 AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Agriculture Distance to nearest roadway or other development 30'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33K

Latitude 34.150043 Longitude -77.361758

Prepared by: SLS/EYG Date 2/10/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project:	NLS Compensatory SWM			**Feature ID:** 33L	**Use Class:** I-P
Date:	2/10/21	**State:**	MD	**Photos:** 3502-3503	
Crew:	SLY/EYG	**County:**	Montgomery	**Last Flag Number:** 33L-4	

Feature Hydrologic Class (check one):

Tidal		Perennial		Intermittent		Ephemeral		Other	
	TNW		TNW		Tributary		Tributary		Impoundment
		X	Tributary		Ditch		Ditch		POW

Describe rationale for hydrologic class, including flow: Drains from culvert under road from ag field.

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:
	Out of study area	out of study area	33M

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3-4'	✓ Silts	✓ Sands	Muck	RB: wetland 33M / Hedgerow
Artificial (man-made)	Depth: 1-4"	Cobbles	✓ Gravel	Other:	LB: Ag field
✓ Manipulated (man-altered)	Bank Erosion/stability: stable within LOD buffer	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☑ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	X 0-0.5
Light rain	X 0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank		Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving	✓	Destruction of terrestrial veg.
	Presence of flood litter/debris	✓	Leaf litter disturbed		Sediment sorting	✓	Observed/predicted flow events
✓	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Poolesville, Montgomery Sampling Date: 2/10/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33M
Investigator(s): SLY/EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 2%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.156605 Long: -77.37412411 Datum: NAD 83
Soil Map Unit Name: Readington silt loam 3-8% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ____	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Photos 3504-05 wetland adjacent to 33L, receiving water from 33L + adjacent ag field

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1"
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: some surface water in pockets within wetland

Sampling Point: 33M

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 20' R)			
1. Leersia oryzoides	70	Y	OBL
2. Barbarea vulgaris	10	N	FACW
3. Boehmeria cylindrica	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		

50% of total cover: 42.5 20% of total cover: 17

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: 33M

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non inclusive property access did not permit subsurface investigation @ time of V.3.7

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Agriculture Distance to nearest roadway or other development 50'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33M

Latitude 39.156605 Longitude -77.3742411

Prepared by: SLY/EVG Date 2/10/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 330	**Use Class:** I-P
Date: 2/17/21	**State:** MD	**Photos:** 2512-15	
Crew: SLY/EYG	**County:** Montgomery	**Last Flag Number:** 330-11B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: draining uplands, running to channel 33P - downstream Unnamed tributary to Dry Seneca Creek

Hydrologic Connectivity –	Upstream: outside study area	Downstream: 33P	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1'-3'	✓ Silts	✓ Sands	Muck	RB: agriculture field
Artificial (man-made)	Depth: 4-6"	✓ Cobbles	✓ Gravel	✓ Other: riprap	LB: road
✓ Manipulated (man-altered)	Bank Erosion/stability: stable	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☑ ≤4:1			

General Notes: starts as natural channel to riprap lined channel along road

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	X 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark					
	Clear, natural line impressed on the bank		Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving	✓	Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting	✓	Observed/predicted flow events
✓	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 33P	**Use Class:** 1-P
Date: 2/17/21	**State:** MD	**Photos:** 3516-17, 3523-24	
Crew: SZY/EYG	**County:** Montgomery	**Last Flag Number:** 33P 104A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Perennial trib running under road, 33O + 33Q drain into channel Unnamed tributary to Dry Seneca Creek

Hydrologic Connectivity –	Upstream: out of study area	Downstream: out of study area	Adjacent/Abutting: 33Q, 33O

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3'~ 40'	✓ Silts	✓ Sands	Muck	RB: Hedgerow / ag field
Artificial (man-made)	Depth: 6"- 2'	✓ Cobbles	✓ Gravel	Other:	LB: Hedgerow / ag field
✓ Manipulated (man-altered)	Bank Erosion/stability: Moderate	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ☑ 2:1 ☑ 3:1 ☐ ≤4:1			

General Notes: Ag fields/pasture adjacent to stream. More trees on south side of road along riparian edge. Manipulated at bridge crossing

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	X 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Poolesville, Montgomery Sampling Date: 8/17/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33Q
Investigator(s): SLY/EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.157068 Long: -77.376443 Datum: NAD83
Soil Map Unit Name: 5LA, Bowmansville-Melvin silt loams 0-2% slopes, occasionally flooded NWI classification: PEM1
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation ✓, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Depression at bottom of sloped ag. field. Used Pethorum sedoides to delineate edge since could not dig soil pits. Photo 3518 Drains to 33P. Ag field is sig disturbed by harvest, resulting in problematic vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Can see water on aerial imagery.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 33Q

Tree Stratum (Plot size: 10'R)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 10'R)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 10'R)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 10'R)			
1. Bromus vulgaris	30	Y	FACU
2. Phalaris arundinacea	40	Y	FACW
3. Pentherum sedoides	5	N	OBL
4. Glycine max	10	N	UPL
5. Abutilon theophrasti	5	N	UPL
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		

50% of total cover: 45 20% of total cover: 18

Woody Vine Stratum (Plot size: 10'R)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	5	x 1 = 5
FACW species	40	x 2 = 80
FAC species		x 3 =
FACU species	30	x 4 = 120
UPL species	15	x 5 = 75
Column Totals:	90 (A)	280 (B)

Prevalence Index = B/A = 3.111

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.) Area is an agricultural managed plant community that has hydrology (soils will be determined with invasive access) present. Because it is within an ag field with natural species ag species are present and mixed in that have wetland indicators (FACW, OBL).

SOIL

Sampling Point: 33Q

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Non-invasive property Access did not permit subsurface investigation

Wetland Function-Value Evaluation Form

Total area of wetland 0.06AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Agriculture / Hedgerow Distance to nearest roadway or other development 50ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? Low

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33Q

Latitude 39.15706 Longitude -77.33644

Prepared by: SZM Date 2/17/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 33R	**Use Class:** 1-P
Date: 2/17/21	**State:** MD	**Photos:** 3546-49	
Crew: SLY/EYG	**County:** Montgomery	**Last Flag Number:** 15B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Roadside constructed ditch – becomes naturalized after it flows under road to the east. Connected to wetland 33S.

Hydrologic Connectivity – Upstream: outside study area Downstream: outside study area Adjacent/Abutting: 33S

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	✓ Yes / No	Yes / ✓ No	✓ Yes / No	Yes / ✓ No	Yes / ✓ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / ✓ No	✓ Yes / No	✓ Yes / No	Yes / ✓ No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 1'-4'	Silts	Sands	Muck	RB: roadside/ag field
✓ Artificial (man-made)	Depth: 1"-5"	✓ Cobbles	✓ Gravel	✓ Other:	LB: pasture
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
Other:	moderate			asphalt	
		Side slope: ✓ ≥1:1	✓ 2:1	☐ 3:1	☐ ≤4:1

General Notes: some of roadside asphalt breaking off into ditch

Weather/Precipitation Conditions:

Rain					Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021													
During visit	Last 48hrs		Last week															
✓ No rain		0-0.1		0-0.5									X					
Light rain	X	0.1-0.5	X	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	
Heavy Rain		> 0.5		>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet			

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank		Sediment deposition	✓	Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving	✓	Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting		Observed/predicted flow events
✓	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Poolesville, Montgomery Sampling Date: 2/24/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 335
Investigator(s): SLY/EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1649446 Long: -77.3610875 Datum: NAD83
Soil Map Unit Name: Readington silt loam 3-8% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: wetland drains to 33R, has one black willow present, so classified as PEM. Draining ag field. Second part of wetland located just south. Photos 9185-87

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 2 11
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 335

Tree Stratum (Plot size: 20' R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	30	Y	OBL
2.			
3.			
4.			
5.			
6.			
	30 = Total Cover		

50% of total cover: 15 20% of total cover: 6

Sapling Stratum (Plot size: 20' R)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Shrub Stratum (Plot size: 20' R)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Herb Stratum (Plot size: 20' R)			
1. Ludwigia alternifolia	5	N	FACW
2. Persicaria sagittata	5	N	OBL
3. Juncus effusus	10	N	FACW
4. Bidens frondosa	5	N	FACW
5. Epilobium sp.	2	N	
6. Carex lurida	40	Y	OBL
7. Phalaris arundinacea	10	N	FACW
8.			
9.			
10.			
11.			
	77 = Total Cover		

50% of total cover: 38.5 20% of total cover: 15.4

Woody Vine Stratum (Plot size: 20' R)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 33S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non invasive property access did not allow for sub surface investigation

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"?

Adjacent land use Agriculture Distance to nearest roadway or other development 201

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 335

Latitude 39.1649446 Longitude -77.3610875

Prepared by: SCY Date 2/24/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Poolesville, Montgomery Sampling Date: 2/24/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33T
Investigator(s): SLY/EVG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1646513 Long: -77.3609239 Datum: NAD 83
Soil Map Unit Name: Readington silt loam 3-8% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Small depression in hay field - may be draining uplands + holding rainwater. Photo 9188

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 4"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 33T

Tree Stratum (Plot size: whole site)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: whole site)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: whole site)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: whole site)			
1. Schedonorus arundinaceus	85	Y	FACU
2. Arthraxon hispidus	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		

50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot size: whole site)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species	10	x 3 = 30
FACU species	85	x 4 = 340
UPL species		x 5 =
Column Totals:	95 (A)	370 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

S. arundinaceus is a new arrival to the area + is listed as FAC in AGCP. It has been observed in pasture wetlands elsewhere. Since it is new its growing habits are not well known. It is recommended for planting in wet pasture areas

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 33T

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non invasive property access did not allow for subsurface investigation.

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Agriculture Distance to nearest roadway or other development 30'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33T

Latitude 39.164653 Longitude -77.369239

Prepared by: SLY Date 2/24/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MIS Compensatory SWM		**Feature ID:** 33U	**Use Class:** 1-P
Date: 2/24/21	**State:** MD	**Photos:** 9193-94	
Crew: SUU / EYG	**County:** Montgomery	**Last Flag Number:** 33U 5A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: High flow from snowmelt, originates out of study area under road to the west. Unnamed tributary to Bucklodge Branch.

Hydrologic Connectivity – Upstream: outside study area Downstream: outside study area Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 51-151	✓ Silts	✓ Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 4"-24"	✓ Cobbles	✓ Gravel	Other:	LB: Forested
✓ Manipulated (man-altered)	Bank Erosion/stability: Moderate	✓ Bedrock	✓ Concrete		*Notes:*
Other:					
		Side slope: ✓ ≥1:1 ✓ 2:1 3:1 ≤4:1			

General Notes: Headwall w/ eroded concrete apron, cascades down to natural stream type

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
During visit	Last 48hrs	Last week													
✓ No rain	0-0.1	✓ 0-0.5								X					
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
✓	Clear, natural line impressed on the bank	✓	Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed	✓	Sediment sorting	✓	Observed/predicted flow events
	Vegetation matted down, bent, or absent	✓	Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 33V	**Use Class:** I-P
Date: 2/24/21	**State:** MD	**Photos:** 9197-99	
Crew: SLY/EYG	**County:** Montgomery	**Last Flag Number:** 33V-5A	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Starts as slow moving pool on west side of road, flows into culvert + has more nat. channel shape, flows into double pipes under pasture

Hydrologic Connectivity – Upstream: out of study area Downstream: out of study area Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1'-3'	✓ Silts	✓ Sands	Muck	RB: Hedgerow
Artificial (man-made)	Depth: 11"-6"	✓ Cobbles	✓ Gravel	✓ Other:	LB: Hedgerow
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
Other:	moderate				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☑ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	X 0-0.5
Light rain	X 0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Sep. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Rockville, Montgomery Sampling Date: 2/25/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 33E
Investigator(s): SLY/EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.181069 Long: -77.353558 Datum: NAD83
Soil Map Unit Name: Rowland silt loam 0-3% slopes, occasionally flooded NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Photos 9216-17. PEM in study area – transitions to PFO beyond study area, adjacent to 33Y.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 2"
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 33t

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 10'x10')			
1. Typha latifolia	40	Y	OBL
2. Smilax rotundifolia	20	Y	FAC
3. Persicaria sagittata	2	N	OBL
4. Poa palustris	15	N	FACW
5. Microstegium vimineum	10	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	87 = Total Cover		

50% of total cover: 43.5 20% of total cover: 17.4

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 332

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Mangenese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Non invasive property Access did not permit sub surface investigation

Wetland Function-Value Evaluation Form

Total area of wetland 0.03 AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Roadside/Forest Distance to nearest roadway or other development 10'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 33Z

Latitude 34.181069 Longitude -77.353558

Prepared by: SLY Date 2/25/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Oxbow

Project: MLS Compensatory SWM		**Feature ID:** 34A	~~**Stream Order:**~~ Use: I-P.
Date: 2/10/21 & 2/17/21	**State:** MD	**Photos:** 2539-40, 45, 48-50	
Crew: SJK/CAS	**County:** Mo	**Last Flag Number:** Lidar + 34A-6a/b	

Feature Hydrologic Class (check one): Cabin Branch start bridge Goshen 34A-1056 (backwater)

Tidal	Perennial	Intermittent (SNE)	Ephemeral (SNE)
☐ TNW (Subject to ebb and flow)	☑ TNW – Perennial (Flowing year round)	☐ RPW – Flow ≥ 3 months	☐ Non-RPW draining uplands
	☐ RPW – Perennial (Flowing year round)	☐ Non-RPW – Flow < 3 months	☐ Non-RPW erosional feature
			☐ Non-RPW with abutting wetland
			☐ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Named tributary - Cabin Branch; steady flow			☐ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: 34C 34D, 34E, 34G, 34H, 34I	Downstream: Outside Study Area	Adjacent/Abutting: 34B

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 8 – 20+'	☒ Silts	☒ Sands	☐ Muck	RB: forest + lawn
☐ Artificial (man-made)	Depth: 3" - 36+"	☒ Cobbles	☒ Gravel	☐ Other:	mostly forest
☒ Manipulated (man-altered)	Bank Erosion/stability: Mud, Unstable	☐ Bedrock	☐ Concrete		LB: forest + lawn
☐ Other: bridge		Side slope: ☒ ≥1:1 ☒ 2:1 ☒ 3:1 ☐ ≤4:1			

Notes:

F-392

Weather/Precipitation Conditions:

During Field Visit		Inches of Rain Within Last Week		Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021												
☒	No rain		0-0.5								X					
	Light rain	X	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
	Heavy Rain		>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☒ Yes	☐ Clear, natural line impressed on the bank	☒ Sediment deposition	☒ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☒ Shelving	☒ Presence of flood litter/debris	☒ Observed/predicted flow events
	☒ Vegetation matted down, bent, or absent	☒ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown/Montgomery Sampling Date: 3/4/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 34 AA
Investigator(s): SLY / JAT Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.156545 Long: -77.262332 Datum: NAD83
Soil Map Unit Name: Hatboro silt loam 0-3% slopes, frequently flooded NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Abuts 34Z, adjacent to 34X+34Y. Used hydro + veg to delineate boundary. Soil chroma varied btw. 2+3. Disconnected floodplain, but appears to drain horizontally via groundwater flow to 34J (Gunners Branch). Very steep bank to 34J

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Some strands of standing water throughout site show on aerial imagery. May be mostly from recent rain/snowmelt.

Sampling Point: 34 AA

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Sapling Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Shrub Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Herb Stratum (Plot size: ____)			
1. Phalaris arundinacea	100	Y	FACW
2. Boehmeria cylindrica	20	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		

50% of total cover: 60 20% of total cover: 24

Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Utilized false nettle to help define boundary. Excluded areas of high Rubus or dogbane.

SOIL

Sampling Point: 34AA

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 2/2	95	7.5YR 4/6	5	C	M	clay loam	fine roots
4-10	7.5YR 4/2	75	5YR 4/6	25	C	M	clay loam	
10-16	7.5YR 4/3	60	7.5YR 4/6	40	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ✓ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Chroma of soils varies from 2 to 3 w/ extensive redox.

Wetland Function-Value Evaluation Form

Total area of wetland 0.27AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest + meadow Distance to nearest roadway or other development 275'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34 AA

Latitude 39.156545 Longitude -77.262332

Prepared by: SLY JAT Date 3/4/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

MLS

Project/Site: Compensatory SWM City/County: Montgomery Sampling Date: 2/10/2021
Applicant/Owner: SHA / MM-NCPPC State: MD Sampling Point: 34B-WET
Investigator(s): CAS, SJK Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1-3
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1716192 Long: -77.1875922 Datum: NAD83
Soil Map Unit Name: Hatboro silt loam, 0 to 3% slopes, frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Last flag 34B-5

Photos 2542-2544 (soil, N, S to stream)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
low area next to stream 34A, ~4-6' separation from stream
silt-stained leaves

2/17/2021: 2-6 in standing water

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34B-WET

Tree Stratum (Plot size: whole site 25'x6-15')

	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	40	Y	FacW
2. Box elder			
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: 20 20% of total cover: 8

Sapling Stratum (Plot size: 25' x 10')

1. Acer negundo	30	Y	FacW
2. Box elder			
3.			
4.			
5.			
6.			
	30 = Total Cover		

50% of total cover: 15 20% of total cover: 6

Shrub Stratum (Plot size: 25' x 10')

1. None			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 25' x 10')

1. Woodreed, sweet	30	Y	FacW
2. Cinna arundinacea			
3. Creeping Jenny	20	Y	FacW
4. Lysimachia nummularia			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		

50% of total cover: 25 20% of total cover: 10

Woody Vine Stratum (Plot size: 25' x 10')

1. –			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Winter ID, overhanging trees from buffer

SOIL

Sampling Point: 34B-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	60	2.5YR 4/6	25	C	M	Silty	Clay Loam
"			5YR 4/6	15	C	M		
12-17	2.5Y 4/2	75	5YR 4/6	25	C	M	Silty	Clay Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Low chroma w/ mottles

Wetland Function-Value Evaluation Form

Total area of wetland 504 SF Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Stream, floodplain field Distance to nearest roadway or other development ~300 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? next to 34A stream on floodplain (4-6' below to stream)

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34B

Latitude 39.1716301 Longitude -77.1875965

Prepared by: SJK CBS Date 2/10/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y				
Floodflow Alteration		N			
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention	Y				little (small wetland)
Nutrient Removal	Y				little "
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat		N			
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Mo. Co. Sampling Date: 2/17/21
Applicant/Owner: SHA / M-NCPPC State: MD Sampling Point: 34BB
Investigator(s): SJK/CAS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 0-5
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1711126 Long: -77.1888081 Datum: NAD83
Soil Map Unit Name: Hatboro silt loam, 0 to 3% slopes, frequently flooded NWI classification: PFO*/PUB**
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Potential vernal pool separated from 34A/Cabin Br. by small berm
* Overhanging canopy – no trees in the pool
**Could be PEM if there's veg. in growing season

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 18"
Water Table Present?	Yes ✓	No _____	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Some Algae & lots of fallen leaves in deep pool next to Cabin Branch / 34A, and near 34E
Depression: steep side slopes to deep pool

Photos 2585-86

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34BB

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.)
Some algae – No veg. in February / winter; Sweet Wood reed outside around pool

SOIL

Sampling Point: 34BB

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Soils not sampled because of deep water (~18") and ice

Wetland Function-Value Evaluation Form

Total area of wetland 127 SF Human made? No Is wetland part of a wildlife corridor? Yes Stream Valley Park or a "habitat island"? No

Adjacent land use Forest & stream 34A Distance to nearest roadway or other development 180 ft

Dominant wetland systems present PFO/PUB* Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? no surface connection If not, where does the wetland lie in the drainage basin? 34A floodplain near backwater off main stem

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

* Possible PEM if there is veg. in the growing season

Wetland I.D. 34BB

Latitude 39.1711126 Longitude -77.1888081

Prepared by: SJK Date 2/17/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				minor
Floodflow Alteration		✓			very minor
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				minor
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other		✓			

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensatory SWM		**Feature ID:** 34C	**Use Class:** I-P
Date: 2/10/2021	**State:** MD	**Photos:** 2546, 2547 (US, DS), 2551	
Crew: CAS, SK	**County:** Montgomery	**Last Flag Number:** 34C-4 a/b	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	X Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Begins @ concrete SWM outfall + riprap. Picked up 1st flags after riprap. Intercepts GW, but very shallow flow in US end. downstream of

Hydrologic Connectivity – Upstream: Poinsettia Ct. stormdrain outfall Downstream: 34A Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☒	Yes ☒ No	Yes No	Yes No	Yes No	Yes No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes ☒ No	Yes No	Yes No	Yes No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 2 to 5 ft	X Silts	X Sands	X Muck	RB: mowed lawn + scattered trees
Artificial (man-made)	Depth: 3in to 8in.	X Cobbles	Gravel	Other:	LB: forest
Manipulated (man-altered) X	Bank Erosion/stability: Moderately Stable	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Oil sheen on surface. Picks up more flow DS. Some backflow from 34A @ confluence. mostly stagnant/puddled water

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021												
X No rain	X 0-0.1	0-0.5									X				
Light rain	0.1-0.5	X 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank	X	Sediment deposition		Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.
X	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting	X	Observed/predicted flow events low flow – stagnant
X	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: ***(check all that apply)*** N/A

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Mo. Co. Sampling Date: 2/12/21
Applicant/Owner: SHA/M-NCPPC State: MD Sampling Point: 34CC
Investigator(s): SJK/CAS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 0-5%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1711659 Long: -77.1888103 Datum: NAD83
Soil Map Unit Name: Hatboro silt loam, 0 to 3% slopes, frequently flooded NWI classification: PFO* / PUB**
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Potential vernal pool separated from 34A/Cabin Br. by small berm
* Overhanging canopy – no trees in pool
** Could be PEM if veg. in growing season

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 20"
Water Table Present?	Yes ✓	No _____	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Lots fallen leaves in deep pool next to 34A.

Photo 2587

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34CC

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.)
No veg. in Feb./winter; Sweet woodreed outside/around pool

SOIL

Sampling Point: 34CC

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Soils not sampled because of deep water (~20") and ice cover

Wetland Function-Value Evaluation Form

Total area of wetland 66.5 SF Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest & stream 34A Distance to nearest roadway or other development ~200 ft

Dominant wetland systems present PFO/PUB* Contiguous undeveloped buffer zone present yes

Is the wetland a separate hydraulic system? no surface connection If not, where does the wetland lie in the drainage basin? → 34A floodplain near main stem

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

* Poss. PEM if there is veg. in the growing season

Wetland I.D. 34CC

Latitude 39.1727513 Longitude -77.1835563

Prepared by: SJK Date 2/17/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				minor
Floodflow Alteration		✓			very minor
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				minor
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other		✓			

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensatory SWM		**Feature ID:** 34D	**Use Class:** I-P
Date: 2/10/2021	**State:** MD	**Photos:** 2555-2559	
Crew: CAS, SK	**County:** Montgomery	**Last Flag Number:** 68	(only 1A, all others beside)

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	X Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Low flow, likely dries in more dry months. Leaf litter in channel bed cont.

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 34A	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☒	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape X	Width: 2-4 ft	X Silts	Sands	X Muck	RB: forest
Artificial (man-made)	Depth: 3-6 in	Cobbles	Gravel	X Other:	LB: forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	Leaves	*Notes:*
Other:	Stable				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☒ 3:1 ☐ ≤4:1			

General Notes: ph. 2555 → "Headcut" outside Study area (US). Large fallen trees disrupt confluence w/ 34A. Backwater area near confluence. ph. 2558

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021												
X No rain	X 0-0.1	0-0.5									X				
Light rain	0.1-0.5	X 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
	Clear, natural line impressed on the bank	X	Sediment deposition	X	Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.
X	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting	X	Observed/predicted flow events low
X	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Mo. Co Sampling Date: 2/23/21
Applicant/Owner: SHA/M-NCPPC State: MD Sampling Point: 34DD
Investigator(s): SJK/AGA Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 0-5%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.1727513 Long: -77.1835563 Datum: NAD83
Soil Map Unit Name: Hatboro silt loam, 0 to 3% slopes, frequently flooded NWI classification: PFO*/PUB**
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Potential vernal pool 6-8 feet from 34I
* Overhanging canopy – no trees in pool
** Could be PEM if there's veg. in growing season

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 20"
Water Table Present?	Yes ✓	No _____	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Some algae & lots of fallen leaves in deep pool

photo 3553

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34DD

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.) Sweet wood reed outside/around pool
Some algae - No veg. in Feb./winter.

SOIL

Sampling Point: 34DD

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

Soils not sampled because of deep water (~20") and ice cover

Wetland Function-Value Evaluation Form

Total area of wetland 83 SF Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use forest & streams Distance to nearest roadway or other development ~330 ft

Dominant wetland systems present PFO/PUB* Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? no surface connection If not, where does the wetland lie in the drainage basin? 34A floodplain by 34I, cut-off old oxbow

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

* Possible PEM if there is veg. in the growing season

Wetland I.D. 34DD

Latitude 39.1727513 Longitude -77.1835563

Prepared by: SJK Date 2/23/21

Wetland Impact: Type PFO Area

Evaluation based on: Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				minor
Floodflow Alteration		✓			very minor
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				minor
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other		✓			

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 34E	**Use Class:** I-P
Date: 2/17/2021	**State:** MD	**Photos:** 2588-2593 (DS/US Pairs)	
Crew: CAS, SK	**County:** Montgomery	**Last Flag Number:** 34E-6a (only -1b, otherwise just flagged 'a' side)	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[X] Tributary	[ ] Tributary	[ ] Impoundment
	[ ] Tributary	[ ] Ditch	[ ] Ditch	[ ] POW

Describe rationale for hydrologic class, including flow: upper reaches ephemeral outside study area or above 5a, low flow - stagnant, from culvert

Hydrologic Connectivity – Upstream: culvert/ephemeral Downstream: 34A Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[ ] Natural Channel Shape [X]	Width: 8-24"	[X] Silts	[X] Sands	[X] Muck	RB: forest
[ ] Artificial (man-made)	Depth: 2-6"	[ ] Cobbles	[X] Gravel	[ ] Other:	LB: forest
[ ] Manipulated (man-altered) [X]	Bank Erosion/stability: Mod. stable	[ ] Bedrock	[ ] Concrete		*Notes:*
[ ] Other:					
		Side slope: [ ] ≥1:1 [ ] 2:1 [X] 3:1 [ ] ≤4:1			

General Notes: many debris jams + woody debris

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
[X] No rain	[ ] 0-0.1	[ ] 0-0.5
[ ] Light rain	[ ] 0.1-0.5	[X] 0.5-1
[ ] Heavy Rain	[X] > 0.5	[ ] >1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[ ] Sediment deposition	[ ] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[X] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris	[X] Leaf litter disturbed (mostly)	[ ] Sediment sorting	[X] Observed/predicted flow events low/stagnant
[X] Vegetation matted down, bent, or absent	[ ] Scour	[ ] Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 2/17/2021
Applicant/Owner: SHA/M-NCPPC State: MD Sampling Point: 34F-WET
Investigator(s): CAS, SJK Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1-3
Subregion (LRR or MLRA): MLRA148 Lat: 39.171302 Long: -77.187585 Datum: NAD83
Soil Map Unit Name: Hatboro silt loam, 0 to 3 % slopes, frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Appears to be former oxbow in 34A Floodplain

photos 2494-95 (WF15: NW&E), 2596-97 by plot pt

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ True Aquatic Plants (B14)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- ✓ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 4-16in
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
~2-4in @ plot point. Surface water near edge ~12in standing water in deeper portions. Recent rainfall = at least 0.5in, plus snow melt

Poss. old cut-off oxbow

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34F-WET

Tree Stratum (Plot size: 10x20')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum, Silver maple	40	Y	FACW
2. Quercus palustris, Pin Oak	40	Y	FACW
3.			
4.			
5.			
6.			
	80 = Total Cover		

50% of total cover: 40 20% of total cover: 16

Sapling Stratum (Plot size: 10x20')			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Shrub Stratum (Plot size: 10x20')			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Herb Stratum (Plot size: 10x20')			
1. Sedge sp., Carex sp.	15	Y	"FACW" *
2. Juncus effusus, Common Rush	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		

50% of total cover: 10 20% of total cover: 4

Woody Vine Stratum (Plot size: 10x20')			
1. Vitus sp.	10	Y	?
2.			
3.			
4.			
5.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

One dominant species could not be identified to species level. Therefore, the vegetation is problematic. However, if the unidentified species had an upland indicator status, the Dominance Test would still be met. Also, given the landscape setting and hydrologic and soil indicators, the Carex sp. likely had a wetland indicator status, as more than 70% of Carex in MD are FAC or wetter.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.) Inundated; trees overhanging, winter

* Sedge comment

SOIL

Sampling Point: 34F-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	70	10YR 4/4	30	C	M	Silt Loam	Roots
5-12	10YR 4/1	65	7.5YR 4/4	35	C	M	Silt Loam	Roots
12-18	10YR 4/2	80	10YR 4/4	20	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): None

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.09AC Human made? N Is wetland part of a wildlife corridor? Y / Stream Valley Park or a "habitat island"? _____

Adjacent land use Cabin Branch SVP / Forest Distance to nearest roadway or other development 100 Ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? _____ If not, where does the wetland lie in the drainage basin? adjacent / cut-off from stream 34A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34F

Latitude 39.171302 Longitude -77.187585

Prepared by: SJK Date 2/17/21

Wetland Impact:
Type PFO Area _____

Evaluation based on:
Office _____ Field X

Corps manual wetland delineation completed? Y X N _____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y				
Floodflow Alteration		N			minor
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention	Y				little
Nutrient Removal	Y				minor
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat	Y				minor
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

Notes:

* Refer to backup list of numbered considerations. p.26 manual

(only Y or N unless ≥ ½ acre (check polygon area))

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compostatory SWM		**Feature ID:** 34G	**Use Class:** I-P
Date: 2/17/2021	**State:** MD	**Photos:** 2598-2599 (DS, US)	
Crew: CAS, SJK	**County:** Montgomery	**Last Flag Number:** 4a	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	X Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flowing @ time of delineation; weakly defined banks, low flow, borderline intermittent

Hydrologic Connectivity – Upstream: SWM facility – Pipe Downstream: 34A Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [X]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape ✓	Width: 1-4 ft	✓ Silts	✓ Sands	Muck	RB: forest/scrub
Artificial (man-made)	Depth: 1-6 in	✓ Cobbles	✓ Gravel	Other:	LB: forest/scrub
✓ Manipulated (man-altered) ✓	Bank Erosion/stability:	Bedrock	Concrete		*Notes:* Steep hillside
Other:					
		Side slope: [ ] ≥1:1 [X] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes: Flowing from corrugated metal pipe (CMP); likely a SWM facility outlet @ head

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
X No rain	0-0.1	0-0.5
Light rain	0.1-0.5	X 0.5-1
Heavy Rain	X > 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events US
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 34H	**Use Class:** I-P
Date: 2/17/21	**State:** MD	**Photos:** 2604-07 (down & upstream pairs)	
Crew: SJK/CAS	**County:** Mo	**Last Flag Number:** 34-H-8a/9b	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
☐ TNW	☐ TNW	☐ Tributary	☐ Tributary	☐ Impoundment
	☒ Tributary	☐ Ditch	☐ Ditch	☐ POW

Describe rationale for hydrologic class, including flow: well developed stream w/ good flow (mod.)

Hydrologic Connectivity – Upstream: out of study area Downstream: 34A Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☒	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☒ Natural Channel Shape	Width: 5-12'	☐ Silts	☒ Sands	☐ Muck	RB: forest
☐ Artificial (man-made)	Depth: 6-18"	☒ Cobbles	☒ Gravel	☐ Other:	LB: forest & lawn
☐ Manipulated (man-altered)	Bank Erosion/stability: mod. stable to mod. unstable	☐ Bedrock	☐ Concrete		*Notes:*
☐ Other:					
		Side slope: ☒ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: wider by 34A

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
☒ No rain	☐ 0-0.1	☐ 0-0.5
☐ Light rain	☐ 0.1-0.5	☒ 0.5-1
☐ Heavy Rain	☒ > 0.5	☐ >1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
☒ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Water staining	☐ Abrupt change in plant community
☐ Changes in the character of soil	☐ Presence of wrack line	☒ Shelving	☒ Destruction of terrestrial veg.
☐ Presence of flood litter/debris	☒ Leaf litter disturbed	☒ Sediment sorting	☒ Observed/predicted flow events
☒ Vegetation matted down, bent, or absent	☐ Scour	☐ Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 34I	**Use Class:** I-P
Date: 2/23/2021	**State:** MD	**Photos:** 3551-52, 54-55	
Crew: SJK + AGA	**County:** Montgomery	**Last Flag Number:** 34I-10 a/b	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW	[✓] Tributary	[ ] Tributary	[ ] Impoundment
	[ ] Tributary	[ ] Ditch	[ ] Ditch	[ ] POW

Describe rationale for hydrologic class, including flow: Appears to be an old cut off oxbow with a trickle of flow where gw intercepts, observed standing water

Hydrologic Connectivity – Upstream: outside of study Downstream: cabin Branch/34A weak connection Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [✓]	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
[✓] Natural Channel Shape	Width: 2-15'	[✓] Silts / [ ] Sands / [✓] Muck		RB: Forest
[ ] Artificial (man-made)	Depth: 2-16"	[ ] Cobbles / [ ] Gravel / [ ] Other:		LB: Forest
[ ] Manipulated (man-altered)	Bank Erosion/stability:	[ ] Bedrock / [ ] Concrete		*Notes:*
[ ] Other:	stable – mod. stable	[ ] / [ ]		
		Side slope: [ ] ≥1:1 [✓] 2:1 [✓] 3:1 [ ] ≤4:1		

F-422

General Notes: trickle in narrow parts, stagnant pools, algae between stream & pond

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
[X] No rain	[ ] 0-0.1	[ ] 0-0.5
[ ] Light rain	[X] 0.1-0.5	[X] 0.5-1
[ ] Heavy Rain	[ ] > 0.5	[ ] >1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
[✓] Clear, natural line impressed on the bank	[ ] Sediment deposition	[ ] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[ ] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris (mostly)	[ ] Leaf litter disturbed	[ ] Sediment sorting	[✓] Observed/predicted flow events
[X] Vegetation matted down, bent, or absent	[ ] Scour	[ ] Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
[ ] Tidal gauges		[ ] Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: NIS compensation SWM		**Feature ID:** 34J	**Use Class:** I-P
Date: 2/23/2021 & 3/2/21	**State:** MD	**Photos:** 3559, 3561; 3618-19, 24, 25-28	
Crew: SJK + AGA	**County:** Montgomery	**Last Flag Number:** Lidar	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: observed flow during field visit, blue line stream good, Gunners Branch → Great Seneca Creek (→ Potomac)

Hydrologic Connectivity –	Upstream: 34L, 34N, 34O, 34T, 34V, and 34Y	Downstream: outside of study area	Adjacent/Abutting: non tribs

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 12-30'	✓ Silts	✓ Sands	Muck	RB: Forest
✓ Artificial (man-made)	Depth: 4"-2+'	✓ Cobbles	✓ Gravel	Other:	LB:
✓ Manipulated (man-altered)	Bank Erosion/stability: mod. unstable	Bedrock	Concrete		*Notes:*
Other: Bridge Culvert Clopper Rd					
		Side slope: ✓ ≥1:1, ✓ 2:1, 3:1, ≤4:1			

General Notes: culvert under railroad tracks to culvert under Clopper Rd

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	X 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other: Mapped Gunners Branch	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 2/23/2021
Applicant/Owner: MDOT SHA State: MD Sampling Point: 34K-Wet
Investigator(s): SJK + AGA Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.161108 Long: -77.25707 Datum: NAD83
Soil Map Unit Name: Brinklow-Blocktown channery silt loams 8-10% slopes NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
PEM in forest. No trees rooted in wetland, just outside of wetland, but overhanging canopy.
Photos 3562-63

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ✓ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 2"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34K-wet

Tree Stratum (Plot size: 20' Radius)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 20' radius)

1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 20' Radius)

1. Lindera benzoin	10	Y	Fac
2. Spice bush			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot size: 5' Radius)

1. Scirpus polyphyllus, Leafy bulrush	20	Y	OBL
2. Skunk cabbage	50	Y	OBL
3. Symplocarpus foetidus			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		

50% of total cover: 35 20% of total cover: 14

Woody Vine Stratum (Plot size: 20' radius)

1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Overhang canopy from surrounding forest

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 34K-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/2	100					Silt Loam	Roots present
5-13	2.5Y 4/2	95	2.5Y 3/3	5	C	M	Silty Clay Loam	
13-18	2.5Y 4/1	90	10YR 3/4	10	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02AC Human made?_____ Is wetland part of a wildlife corridor? ✓ or a "habitat island"?_____

Adjacent land use forest/SV Park Distance to nearest roadway or other development 115 ft but RR Tracks

Dominant wetland systems present PFO CAS Contiguous undeveloped buffer zone present ✓ 34J

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? floodplain disconnected

How many tributaries contribute to the wetland? — Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34K

Latitude 39.161108 Longitude -77.25707

Prepared by: SJK Date 2/23/2021

Wetland Impact:
Type_____ Area_____

Evaluation based on:
Office_____ Field ✓

Corps manual wetland delineation completed? Y ✓ N_____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y				
Floodflow Alteration	Y				minor
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention	Y				minor
Nutrient Removal	Y				minor
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat		N			
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 34L	**Use Class:** I-P
Date: 2/23/21	**State:** MD	**Photos:** 3564-67	
Crew: SJK/AGA	**County:** Mo.	**Last Flag Number:** 34L-4b (only 'b' side)	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: low definition in upper section (poss. ephemeral outside study area) small channel, incised by 34J

Hydrologic Connectivity –	Upstream: outside study area	Downstream: 34J/Gunners Br.	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☑	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2-3'	✓ Silts / Sands / ✓ Muck		RB: Forest
Artificial (man-made)	Depth: 1-4"	Cobbles / ✓ Gravel / Other:		LB:
Manipulated (man-altered)	Bank Erosion/stability: mod. stable upper, mod. unstable lower reach	Bedrock / Concrete		*Notes:*
Other:				
		Side slope: ☑ ≥1:1 (lower) ☐ 2:1 ☑ 3:1 (upper) ☐ ≤4:1		

F-428

General Notes: lots snowmelt

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	X 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
							X					
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour by 34J	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discoloréd
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS compensatory SWM City/County: Montgomery Sampling Date: 2/23/2021
Applicant/Owner: MDOT SHA State: MD Sampling Point: 34M - wet
Investigator(s): SJK + AGA Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0-2 %
Subregion (LRR or MLRA): MLRA 148 Lat: 39.158937 Long: -77.258841 Datum: NAD 83
Soil Map Unit Name: Hatboro silt loam, 0 to 3% slopes, frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.) CAS
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? ND Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? ND (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Depression in forest, likely formed from disturbance in past, adjacent berm not natural; overhanging canopy from outside wetland
photos: 3570-71

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 7"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
high, dry ephemeral channel to 34J
connection (weak)

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 34-M wet

Tree Stratum (Plot size: 10 x 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. Red Maple	50	Y	FAC
2. Acer rubrum			
3.			
4.			
5.			
6. trunk on edge of wet			
	50 = Total Cover		

50% of total cover: 25 20% of total cover: 10

Sapling Stratum (Plot size: 10 x 20')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Shrub Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Herb Stratum (Plot size: 10 x 10')			
1. Skunk Cabbage	15	Y	OBL
2. Symplocarpus foetidus			
3. Wood Reed	5	Y	FACW
4. Cinna arundinacea			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		

50% of total cover: 10 20% of total cover: 4

Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: ____ 20% of total cover: ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes Y No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Winter ID, mostly ice/open water

SOIL

Sampling Point: 34m

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) wet

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 3/3	95	10YR 3/6	5	C	M	Silt Loam	
4-12	2.5Y 4/2	97	7.5YR 3/4	3	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? No Is wetland part of a wildlife corridor? ✓ or a "habitat island"? No

Adjacent land use Forest, residential outside study area Distance to nearest roadway or other development 190 ft

Dominant wetland systems present PFO CAS Contiguous undeveloped buffer zone present yes

Is the wetland a separate hydraulic system? semi - weak ephemeral connection to 34J If not, where does the wetland lie in the drainage basin? mid.

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34m

Latitude 39.158937 Longitude -77.258841

Prepared by: SSK Date 2/23/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field

Corps manual wetland delineation completed? (Y) N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y				minor
Floodflow Alteration		N			
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention		N			
Nutrient Removal		N			
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat		N			
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory SWM		**Feature ID:** 34N	**Use Class:** I-P
Date: 2/24/2021	**State:** MD	**Photos:** 3572-3573, 3574-75	
Crew: SJK + AGA	**County:** Montgomery	**Last Flag Number:** 34N 5 alt to Lidar	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Observed steady flow, lidar data for this stream, flows through culvert under park road to parking lot.

Hydrologic Connectivity – Upstream: out of study area Downstream: 34J Adjacent/Abutting: Weak connection to 34P

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4-10 ft.	✓ Silts	✓ Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 1" - 2 ft.	✓ Cobbles	✓ Gravel	Other:	LB: Forest
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:* small section piped under road 225 ft long
Other:	Mod stable downstream / Mod unstable upstream				
		Side slope: ✓ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1			

General Notes: piped through culvert under gunner's branch park road to parking lot

F-433

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	X 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Jan. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	X 1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
✓ Presence of flood litter/debris	✓ Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Waters of the U.S. Data Sheet

W. of Rd

Project: NUS compensatory SWM		**Feature ID:** 34Q	**Stream Order:** I-P
Date: 2/24/2021 & 2/25/21	**State:** MD	**Photos:** 3576-77 (East of Rd), 3580-81, 3590-92 (to 34J)	
Crew: SJK + AGA / SJK + CAS	**County:** Montgomery	**Last Flag Number:** -2a/b ↑ -6a/b ↑ side ch. outside area (2-3 are pipe under Road) Lower section: 100a/b, b-side 105-114b outside area	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent (SNE)	Ephemeral (SNE)
TNW (Subject to ebb and flow)	TNW – Perennial (Flowing year round)	✓ RPW – Flow ≥ 3 months	Non-RPW draining uplands
			Non-RPW erosional feature
	RPW – Perennial (Flowing year round)	Non-RPW – Flow < 3 months	Non-RPW with abutting wetland
			Non-RPW with adjacent wetland
Describe rational for hydrologic class: E. of rd. debris jams, stagnant - low flow not well-defined, leaves on channel			Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: out of study area	Downstream: 34J and 34N	Adjacent/Abutting: 34Q, weak connection to 34P

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1-10'	✓ Silts	Sands	✓ Muck	RB: Forest
Artificial (man-made)	Depth: 1"-4"	Cobbles	Gravel	✓ Other: leaves	
✓ Manipulated (man-altered)	Bank Erosion/stability: stable	Bedrock	Concrete		LB: Forest
Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☑ ≤4:1			small section under park road

Notes: Piped under Park Rd, lots of fallen trees/debris jams affecting flow near road

F-434

Weather/Precipitation Conditions: some skunk cabbage

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
✓ No rain	0-0.5								X					
Light rain	X 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes slight	Clear, natural line impressed on the bank	Sediment deposition	Sediment sorting
No	Changes in the character of soil	✓ Water staining leaves	Scour
	Shelving	Presence of flood litter/debris	✓ Observed/predicted flow events low
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	Abrupt change in plant community
	✓ Leaf litter disturbed	Presence of wrack line	Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Notes:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS compensatory SWM City/County: Montgomery Sampling Date: 2/24/2021
Applicant/Owner: MDOT SHA State: MD Sampling Point: 34P-wet
Investigator(s): SJK + AGA Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Low area on terrace Local relief (concave, convex, none): concave Slope (%): 0-1%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.159818 Long: -77.260565 Datum: NAD 83
Soil Map Unit Name: Hatboro silt loam, 0-3 % slopes, frequently flooded NWI classification: PFM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
plateau between two streams (34O & 34N)
Photos 3582-83, Flags to 34P-5

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 3"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
weak connection from 34O &
weaker connection to 34N

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34P - wet

Tree Stratum (Plot size: 15 x 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3. —			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15 x 30')			
1.			
2.			
3. —			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15 x 30')			
1.			
2.			
3. —			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 15 x 30')			
1. skunk cabbage	20	Y	obl
2. creeping tenny	15	Y	Facw
3. carex sp.	10	N	
4. Cinna arundinacea	10	N	Facw
5.			
6. Sci. or Common Names:			
7. 1. Symplocarpus foetidus			
8. 2. Lysimachia nummularia			
9. 3. Sedge			
10. 4. Sweet Woodreed			
11.			
	55 = Total Cover		

50% of total cover: 27.5 20% of total cover: 11

Woody Vine Stratum (Plot size: 15 x 30')			
1.			
2.			
3. —			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Plot = entire wetland area

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Winter ID

SOIL

Sampling Point: 34p-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 3/2	100					silty clay Loam	roots present
3-10	2.5Y 3/2	85	10YR 3/6	15	C	M	silty clay Loam	some roots present
10-15	10YR 3/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:
wet areas outside have upland veg. like Japanese knotweed & multiflora rose

Photos 3582-83

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? ND Is wetland part of a wildlife corridor? yes or a "habitat island"? ND

Adjacent land use Forest & residential / school area Park Distance to nearest roadway or other development <10 ft.

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? ND If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

weak connection from 340, weaker connection to 34P

Wetland I.D. 34P-wet

Latitude 39.159818 Longitude -77.260565

Prepared by: SJK + AGA Date 2/24/2021

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y				minor, small
Floodflow Alteration		N			
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention	Y				minor
Nutrient Removal		N			
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat		N			
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: MO Sampling Date: 2/24/21
Applicant/Owner: SHA/M-NCPPC State: MD Sampling Point: 34Q wet
Investigator(s): SJK/AGA/CAS Section, Township, Range: _____
Landform (hillslope, (terrace) etc.): _____ Local relief (concave) convex, none): slight Slope (%): 1-3%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.159047 Long: -77.260074 Datum: NAD83
Soil Map Unit Name: Hatboro silt loam, 0-3 % slopes, frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) mostly
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)
Soils disturbed, less strong on poss. old access Rd section (WQ-1-12+)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Abuts 34O stream from 34Q 18 – 19
(Poss. Old access Rd)
Photos 3587-89, 3593-94 (outside poss. old access)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1-3"
Water Table Present?	Yes ✓	No _____	Depth (inches): *
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
*Perched water above gravel in old poss. access rd.
- 2/25/21 → water table 0-4 in to surface
  ↳ still heavy clay in lower layers, poss. perched water

Multiflora rose dom. "island" cut out of center of 34Q

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34 Q Wet

Tree Stratum (Plot size: 10 x 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2. (dead green ash trees			
3. outside poss. access)			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 10' x 10')			
1. Green Ash	10%	Y	FACW
2. *Fraxinus pennsylvanica*			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Shrub Stratum (Plot size: 10)			
1. – none –			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5')			
1. Wood Reed, Cinna arundinacea	25	Y	FACW
2. Jap. Stiltgrass, M	40	Y	FAC
3. *Microstegium vimineum*			
4. Creeping Jenny	15	N	FACW
5. *Lysimachia nummularia*			
6. Common Rush	10	N	FACW
7. *Juncus effusus*			
8. Fescue sp.	5	N	Upl?
9.			
10.			
11.			
	95 = Total Cover		

50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Winter, mod. – many skunk cabbage in non-access area & less rush/sedge

SOIL

Sampling Point: 34Q

Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y 5/2	90	7.5YR 4/4	10	C	M	Silty clay loam	2-5mm gravel, roots
5-8	2.5Y 5/2	85	7.5YR 5/6	15	C	M	"	more gravel
8+								gravel refusal
*								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Poss. old access rd. for sewer work, 1-2+ in. trees
wet area above old ox bow that is dry

other holes in poss. access, shallower gravel or clay w 8" 3-8+" refusal

* 2/25/21 (SJK & CAS)
Area abutting 340 stream between 34Q 18-19, outside poss. old access

0-4 10YR 4/2 90% 7.5YR 4/6 10% C M silty clay
4-12 10YR 4/1 80% 7.5YR 4/6 20% C M " "

Wetland Function-Value Evaluation Form

Total area of wetland 0.2AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use forest Distance to nearest roadway or other development 100Ft

Dominant wetland systems present CAS PFO Contiguous undeveloped buffer zone present ✓

Is the wetland a separate hydraulic system? weakly connected to 340 If not, where does the wetland lie in the drainage basin? perched above N & O

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34Q

Latitude 39.159047 Longitude -77.260074

Prepared by: SJK Date 2/24/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field

Corps manual wetland delineation completed? Y N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		N			
Floodflow Alteration		N			
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention		N			
Nutrient Removal		N			
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat	Y				deer trail
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

Notes:

* Refer to backup list of numbered considerations.

Only Y/N unless polygon area ≥ ½ ac (p. 26 manual)

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 34R	**Use Class:** I-P
Date: 2/25/2021	**State:** MD	**Photos:** 3595 - 3598	
Crew: CAS/STK	**County:** Montgomery	**Last Flag Number:** Lidar	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Defined bed + bank; consistent flow; very incised at top, slightly incised at bottom

Hydrologic Connectivity – Upstream: outside study area / culvert under Cinnamon Dr. Downstream: 34J Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A X	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
X Natural Channel Shape	Width: 4-12 ft	Silts	X Sands	Muck	RB: hedgerow + houses
Artificial (man-made)	Depth: 1-12 in	X Cobbles	X Gravel	Other:	LB: hedgerow/mowed fields; forest DS
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	X Concrete		*Notes:*
Other: straight from culvert, between path & school	Unstable				
		Side slope: X ≥1:1 X 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: originates in study area from culvert; ~25ft of stone @ outlet; banks highly incised DS of outlet less incised starting ~310 ft from outlet (more natural shape) 10'-20' banks in upper section

Weather/Precipitation Conditions:

Rain																
During visit	Last 48hrs	Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan. Year: 2021													
X No rain	0-0.1	0-0.5								X						
Light rain	X 0.1-0.5	X 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet			

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
X Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	X Destruction of terrestrial veg.
X Presence of flood litter/debris	Leaf litter disturbed	X Sediment sorting	X Observed/predicted flow events
X Vegetation matted down, bent, or absent	X Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: MB Sampling Date: 2/25/2021
Applicant/Owner: SHA / M-NCPPC State: MD Sampling Point: 34S-WET
Investigator(s): CAS/SJK Section, Township, Range: _____
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.158429 Long: -77.260965 Datum: NAD 83
Soil Map Unit Name: Hatboro silt loam, 0-3% slopes, frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Photos 3606-3607
Depression @ toe of slope. No apparent connection to 34J.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0-3in
Water Table Present?	Yes X	No _____	Depth (inches): 0in
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0in

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water, but recent rainfall + snowmelt

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 34S-WET

Tree Stratum (Plot size: 30 x 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum (just outside/			Fac
2. Red Maple only)			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Sapling Stratum (Plot size: 30 x 30)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: 20% of total cover:

Shrub Stratum (Plot size: 30 x 30)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: 20% of total cover:

Herb Stratum (Plot size: 30 x 30)			
1. Creeping jenny, Lysimachia nummularia	40	Y	FacW
2. Cinna arundinacea, Woodreed	10	N	FacW
3. Carex sp., Sedge	10	N	*
4. Microstegium vimineum	10	N	Fac
5. Symplocarpus foetidus,	25	Y	Obl
6. Skunk Cabbage			
7.			
8. Japanese stiltgrass			
9.			
10.			
11.			
	95 = Total Cover		

50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot size: 30 x 30)			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: 20% of total cover:

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Red maple in canopy (overhanging), but not in plot
* Sycamore
* Algae covers 2/3 area

SOIL

Sampling Point: 345 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	100					Silt Loam	Roots
3-20	2.5Y 5/2	70	7.5YR 4/6	30	C	M	Si Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Forest / school fields Distance to nearest roadway or other development 65ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Yes, but school fields in 30' plateau next

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? to 34J

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)
- weak connection to culvert

Wetland I.D. 34S

Latitude 39.158429 Longitude -77.260965

Prepared by: SJK Date 2/25/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		N			
Floodflow Alteration		N			
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention		N			
Nutrient Removal	Y				minor - near culvert from Dom. School
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat	Y				minor
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

* Refer to backup list of numbered considerations.

Notes:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MJS Compensatory SWM		**Feature ID:** 34T path culvert	**Use Class:** I-P
Date: 3/2/21	**State:** MD	**Photos:** 3609-10, 11-12, 15-16, 17 (- to 34T)	
Crew: SJK/AGA/JAT	**County:** Mo.	**Last Flag Number:** 34T-17 a/b	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: low flow, algae covered leaves on bottom - poss. ephemeral/<3mo. base flow in upper reaches (maybe to Park path

Hydrologic Connectivity –	Upstream: SW culvert	Downstream: 34J	Adjacent/Abutting: 34U.

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☑	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2 - 5.5' (wider for wetland fringe bars in some sections)	✓ Silts	Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 1 - 6"	Cobbles	Gravel	✓ Other: leaves/OM	LB: Forest
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: 34-12 a/b to 13 a/b culvert under asphault Park path; and -14b-15b Flags 34-6b to -7b, pulling in wetland fringe/bar - Creeping Jenny & skunk cabbage

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	X > 0.5	X >1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Feb **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other: algae in upper reach not in upper reaches, only below path	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS compensatory SWM City/County: Montgomery Sampling Date: 3/2/2021
Applicant/Owner: MDOT SHA State: MD Sampling Point: 34 U-wet
Investigator(s): SJK / AGA / JAT Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Swale on terrace Local relief (concave, convex, none): concave Slope (%): 1-2%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.157871 Long: -77.260603 Datum: NAD 83
Soil Map Unit Name: Hatboro silt loam, 0-3% slopes, frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Drains to 34T, tree canopy on edge of wetland overhanging
photos: 3613-14 (up & towards 34T stream)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ✓ Algal Mat or Crust (B4)
- ✓ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1-3"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
wet winter

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34U-wf

Tree Stratum (Plot size: 4 X 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 4 X 10')			
1.			
2.			
3.			
4.			
5.			
6.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 4 X 10')			
1. Lindera benzoin	10	Y	Fac
2. Spice Bush			
3. Rosa multiflora	5	Y	FacU
4. Multiflora rose			
5.			
6.			
	15	= Total Cover	

50% of total cover: 7.5 20% of total cover: 3

Herb Stratum (Plot size: 4 X 10')			
1. Cinna arundinacea, Wood reed	35	Y	FacW
2. Creeping Jenny, Lysimachia nummularia	5	N	FacW
3. Skunk cabbage	5	N	Obl
4. grass sp.	5	N	
5.			
6. Symplocarpus foetidus			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	

50% of total cover: 25 20% of total cover: 10

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

More skunk cabbage outside of plot, algae in plot

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 344-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/3	100					Silt Loam	roots in Layer
3-12	10YR 3/2	85	10YR 3/6	15	C	M	Silt Loam	gravel in Layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Forest / SV Park Distance to nearest roadway or other development 190ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present ✓

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? drains to 34T stream

How many tributaries contribute to the wetland? 2 ephemeral Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34U.

Latitude 39.157871 Longitude -77.260603

Prepared by: SJK Date 3/2/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		N			
Floodflow Alteration		N			very minor
Fish and Shellfish Habitat		N			
Sediment/Toxicant Retention		N			
Nutrient Removal		N			
Production Export		N			
Sediment/Shoreline Stabilization		N			
Wildlife Habitat	Y				minor / small
Recreation		N			
Educational/Scientific Value		N			
Uniqueness/Heritage		N			
Visual Quality/Aesthetics		N			
ES Endangered Species Habitat		N			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 34V	**Use Class:** I-P
Date: 3/2/21	**State:** MD	**Photos:** 3621-22	
Crew: SJK/AGA/JAT	**County:** Md.	**Last Flag Number:** 34V-4a (flagged 'a's only	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: low flow, starts at headcut below riprap in old/left SWM pond - dry

Hydrologic Connectivity – Upstream: Stormw. outfall & ephemeral Downstream: Culvert to 34J Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1-4'	Silts	✓ Sands	Muck	RB: Forest
✓ Artificial (man-made)	Depth: 1-3"	✓ Cobbles	✓ Gravel	Other:	LB: Forest/SWM pond
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	✓ Concrete		*Notes:*
Other: piped to 34J	Mod. stable				
		Side slope: ☐ ≥1:1 ✓ 2:1 ✓ 3:1 ☐ ≤4:1			

F-453

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	X > 0.5	X >1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Feb. **Year:** 2021

-6	-5	-4	-3	-2	-1	0	X 1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events low
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown / Montgomery Sampling Date: 3/4/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 34W
Investigator(s): SLY, JAT Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.156887 Long: -77.260958 Datum: NAD83
Soil Map Unit Name: Hatboro Silt loam 0-3% Slopes, frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Depressional wetland at bottom of steep slope.
Photos 3629-30

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No ___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water outside plot point, concentrated in center of feature

Sampling Point: 34W

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum (Plot size: 15' x 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus alba	15	Y	FACU
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Sapling Stratum (Plot size: 15' x 15')			
1. Fraxinus pennsylvanica	10	N	FACW
2. Prunus avium	20	Y	UPL
3. Acer negundo	30	Y	FAC
4.			
5.			
6.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Shrub Stratum (Plot size: 15' x 15')			
1. Lindera benzoin	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Herb Stratum (Plot size: 15' x 15')			
1. Symplocarpus foetidus	25	Y	OBL
2. Smilax rotundifolia	10	Y	FAC
3. Lonicera japonica	5	N	FACU
4. Fraxinus pennsylvanica	10	Y	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- __ 3 - Prevalence Index is ≤3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

P. avium rooted outside wetland, but fell down bank into wetland

SOIL

Sampling Point: 34W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	95%	7.5YR 4/6	5%	C	M	silty clay -loam	some fine roots
2-13	10YR 4/1	85%	7.5YR 4/6	15%	C	M	silty clay -loam	
13-16	10YR 3/1	95%	5YR 4/6	5%	C	M, PL	silty clay -loam	some gravel in soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.03AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest Distance to nearest roadway or other development 100'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34W

Latitude 39.156887 Longitude 77.260958

Prepared by: SLY, JAT Date 3/4/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown/Montgomery Sampling Date: 3/4/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 34X
Investigator(s): SLY, JAT Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 3
Subregion (LRR or MLRA): MLRA 148 Lat: 39.156341 Long: -77.262401 Datum: NAD 83
Soil Map Unit Name: Hatboro silt loam 0-3% slopes, frequently flooded NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland?	Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____		
Wetland Hydrology Present?	Yes ✓ No ____		

Remarks: Photos 3635 – 3639. linear wetland that begins at culvert - flows east and channelizes into 34Y. which drains to 34J (Gunners Branch). Vegetation growing in central channel/ditch

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 3"
Water Table Present?	Yes ✓	No ____	Depth (inches): 7"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: water slowly flowing through wetland until forms channel 34Y.

Sampling Point: 34X

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Sapling Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Shrub Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Herb Stratum (Plot size: 5'x15')			
1. Phalaris arundinacea	75	Y	FACW
2. Juncus effusus	5	N	FACW
3. Boehmeria cylindrica	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		

50% of total cover: 42.5 20% of total cover: 17

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

50% of total cover: ____ 20% of total cover: ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Single live black willow on bank, not in plot. Some overhanging multiflora not rooted in wetland

SOIL

Sampling Point: 34X

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	95	5YR 4/6	5	C	PL, M	clay loam	fine roots
3-14	10YR 3/2	80	5YR 5/8	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Field Distance to nearest roadway or other development 200'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34X

Latitude 39.156341 Longitude -77.262401

Prepared by: SLY Date 3/4/21

Wetland Impact: Type PEM Area

Evaluation based on: Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensation SWM			**Feature ID:** 34Y	**Use Class:** 1-P	
Date: 3/4/21	**State:** MD		**Photos:** 3640-41		
Crew: SM / JAT	**County:** Montgomery		**Last Flag Number:** 34Y-3A		

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flowing at time of visit. Drains wetland 34X from culvert to Gunners Branch (34J)

Hydrologic Connectivity –	Upstream: 34X	Downstream: 34J	Adjacent/Abutting: 34AA

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
N/A [X]	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1-4'	✓ Silts	✓ Sands	Muck	RB: Field
Artificial (man-made)	Depth: 1-12"	Cobbles	✓ Gravel	Other:	LB: Field
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Severe				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Deeply incised banks w/ erosion. Drops off from 34X abruptly to 34T

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	X 0-0.1	X 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Feb. **Year:** 2021

							X					
-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown, Montgomery Sampling Date: 3/4/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 347
Investigator(s): SLY / JAT Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 148 Lat: 39.156755 Long: -77.26209 Datum: NAD 83
Soil Map Unit Name: Hatboro Silt loam 0-3% slopes frequently flooded NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Small PFO wetland under pin oaks. Photos 3642-43. Abuts 34AA.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5"
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Some microtopography holding standing water.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 34E

Tree Stratum (Plot size: 20'R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus pallustris	85	Y	FACW
2.			
3.			
4.			
5.			
6.			
	85 = Total Cover		

50% of total cover: 42.5 20% of total cover: 17

Sapling Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: 20% of total cover:

Shrub Stratum (Plot size: 20'R)			
1. Rosa multiflora	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot size: 20'R)			
1. Cinna arundinacea	35	Y	FACW
2. Microstegium vimineum	20	Y	FAC
3. Boehmeria cylindrica	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65 = Total Cover		

50% of total cover: 32.5 20% of total cover: 13

Woody Vine Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: 20% of total cover:

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 34Z

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	90	5YR 4/6	10	C	M	Silty clay loam	
5-14	7.5YR 4/2	80	7.5YR 4/6	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils did not meet (chroma 3) at western edge of wetland.

Wetland Function-Value Evaluation Form

Total area of wetland 0.07 AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest/Meadow Distance to nearest roadway or other development 350'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? upper

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 34Z

Latitude 39.156755 Longitude -77.26209

Prepared by: SLY JAT Date 3/4/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal	✓				
Production Export	✓				
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00029 City/County: Kensington/Montgomery Sampling Date: 4/13/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35A-WET

Investigator(s): MM, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0117440 Long: -77.0736770 Datum: NAD 83

Soil Map Unit Name: 53A - Codorus silt loam, 0 to 3 percent slopes, occassionally flooded NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

35A drains to the Unnamed tributary of Rock Creek. The system is a depression, which at the time of the visit was ponding water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 4
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Photos: MO_00029_Photo 4_35A and MO_00029_Photo 4_35A

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35A-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	30	yes	FAC
2. *Persicaria sp.*	5	no	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Homeowner (Ms. Stumpf) at 9600 Kensington Parkway approached and commented that the invasive plants (Glechoma hederacea and Ficaria verna) along the Unnamed tributary to Rock Creek were now observed in her lawn within her Pachysandras (invasive). Is there a way to get rid of these?

SOIL

Sampling Point: 35A-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 4/1	90	7.5YR 4/4	10	C	M	Loam	Saturated
2-18	7.5YR 6/1	75	7.5YR 5/6	15	C	M	Clay loam	
			7.5YR 4/4	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Park)/Transportation (Road) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35A

Latitude 39.01174 Longitude -77.073677

Prepared by: KH, MM Date 4/13/2021

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed. Potential habitat for frogs.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 31 feet east from Kensington Parkway
** Drains east to the Unnamed tributary to Rock Creek

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		Feature ID: 35AA	Use Class:
Date: 2/23/2021	State: MD	Photos: WAS-4444-Photo 2 35AA	
Crew: ES, MM	County: Montgomery	Last Flag Number: 35AA	A/B to 4A/B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to Little Seneca Creek

Hydrologic Connectivity –	Upstream: Out of LOD	Downstream: Out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 8 ft	✓ Silts	✓ Sands	Muck	RB: Scrub Shrub
Artificial (man-made)	Depth: 4 inches	✓ Cobbles	✓ Gravel	Other:	LB: "
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ >[illegible] ☐ [illegible] ✓ [illegible] ☐ <[illegible]			

General Notes:

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
During visit	Last 48hrs	Last week													
✓ No rain	✓ 0-0.1	0-0.5													
Light rain	0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	(3)	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - SSS_150023 City/County: Wheaton/Montgomery Sampling Date: 2/25/21

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35AAA-WET

Investigator(s): JT, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0613282 Long: -77.0274944 Datum: NAD 83

Soil Map Unit Name: 54A, Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35AAA is located between the Equestrian trail and the Unnamed tributary to Northwest Branch Anacostia River. The wetland drains to the WUS.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 0.25
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35AAA receives hydrology from overflow of the unnamed tributary to Northwest Branch Anacostia River and groundwater.

Photos: SSS_150023_Photo 1_35AAA, SSS_150023_Photo 2_35AAA and SSS_150023_Photo 3_35AAA

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35AAA-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Lindera benzoin*	20	yes	FAC
2. *Acer rubrum*	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	45	yes	FAC
2. *Panicum capillare*	20	yes	FAC
3. *Lindera benzoin*	10	no	FAC
4. *Carex sp.*	10	no	NA
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35AAA-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	90	2.5YR 4/6	10	C	M	Silty clay loam	
3-16	10YR 6/2	75	5YR 5/4	20	C	M	Silty clay loam	Moist
			10YR 3/2	5	D	M		
16-20	10YR 6/1	70	5YR 5/8	15	C	M	Silty clay loam	
			10YR 3/2	15	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.09AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Forested Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? * see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35AAA

Latitude 39.06132 Longitude -77.02749

Prepared by: JT, KH Date 2/25/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes:

* 219' from Kemp Mill Road; Drains to Unnamed tributary to NWBAR.

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/16/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35AAAA-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0418045 Long: -77.0371547 Datum: NAD 83

Soil Map Unit Name: 54A - Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35AAAA is a depression that abuts a backyard and drains to 35ZZZ.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 14

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35AAAA receives hydrology from 35ZZZ floodwaters (homeowner who came out to talk to us stated during rain events their backyard floods) and flow from the yard abutting the wetland -- downspout drains to the forest.

Photos: MPAO_0022_Photo 1_35AAAA, MPAO_0022_Photo 2_35AAAA

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35AAAA-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Symplocarpus foetidus*	40	yes	OBL
2. *Cinna arundinacea*	20	yes	FACW
3. *Ficaria verna*	15	no	FAC
4. *Boehmeria cylindrica*	10	no	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Bamboo located between 35ZZZ (WUS) and 35AAAA.

SOIL

Sampling Point: 35AAAA-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	100					Clay loam	
4-20	10 YR 4/2	75	5YR 5/8	20	C	M, PL	Sandy clay loam	Saturated at 14"
			10YR 6/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential/Recreation (park) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35AAAA

Latitude 39.04176 Longitude -77.037355

Prepared by: KH, JT Date 3/16/2021

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 245' from Ladd Street

** Drains to 32XXXXXXX, which drains to Sligo Creek.

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00029 City/County: Kensington/Montgomery Sampling Date: 4/13/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35B-WET

Investigator(s): KH, MM Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe-of-slope Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.01190 Long: -77.07333 Datum: NAD 83

Soil Map Unit Name: 53A - Cordorus silt loam, 0 to 3 percent slopes, occassionally flooded NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

35B is located on the left bank of the Unnamed tributary to Rock Creek and west of Kingston Road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35B receives hydrology from sidewalk/slope runoff and groundwater.

Photos: MO_00029_Photo 8_35B, MO_00029_Photo 9_35B and MO_00029_Photo 10_35B

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35B-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Lonicera tatarica*	10	yes	FACU
2. *Acer negundo*	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Fescue sp.*	40	yes	NI
2. *Ficaria verna*	30	yes	FAC
3. *Juncus effusus*	10	no	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

*A portion of the wetland is located within maintained lawn, therefore it was difficult to determine the grass species present.

SOIL

Sampling Point: 35B-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/1	100					Loam	Saturated
2-6	7.5YR 4/1	90	7.5YR 4/4	10	C	M	Loam	
6-18	7.5YR 5/1	80	7.5YR 4/4	10	C	M	Loam	
			7.5YR 3/4	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.18AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation (Road)/Recreation (Park) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35B

Latitude 39.01190 Longitude -77.07333

Prepared by: KH, MM Date 4/13/2021

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 35 feet west of Kingston Road
** 35B drains to the Unnamed tributary of Rock Creek

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: SSS-150023		**Feature ID:** 35BBB	**Use Class:** IV
Date: 2/25/21	**State:** MD	**Photos:** SSS-150023-Photo 1 - 35BBB	/ Photo 2
Crew: JT, KH	**County:** Montgomery	**Last Flag Number:** 9A/7B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: evidence of flow to the unnamed tributary to northwest branch Anacostia river.

Hydrologic Connectivity –	Upstream: outside study area	Downstream: 35DDD	Adjacent/Abutting: none

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary ✓
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 3-5'	✓ Silts	✓ Sands	Muck	RB: shrub/forested
✓ Artificial (man-made)	Depth: 2-3'	Cobbles	✓ Gravel	Other:	LB: shrub/forested
✓ Manipulated (man-altered)	Bank Erosion/stability: stable, but areas of erosion.	Bedrock	Concrete		*Notes:*
Other: piped					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21											
✓ No rain	0-0.1	✓ 0-0.5												
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet	

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MPRO-0022	State: MD	Feature ID: 35BBBB	Use Class: 1
Date: 3/16/21	County: Montgomery	Photos: MPRO-0022-Photo 1- 35BBBB / Photo 2-4	Last Flag Number: 3A/4B
Crew: UT, KH			

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
[ ] TNW	[ ] TNW [ ] Tributary	[ ] Tributary [✓] Ditch	[ ] Tributary [ ] Ditch	[ ] Impoundment [ ] POW

Describe rationale for hydrologic class, including flow: evidence of groundwater and flow

Hydrologic Connectivity – Upstream: Outside study area Downstream: 35LLL Adjacent/Abutting: 35LLL

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A [ ]	Yes [ ] No [✓]	Yes [ ] No [✓]	Yes [ ] No [✓]	Yes [ ] No [✓]	Yes [ ] No [✓]
	Toe of slope: Yes [✓] No [ ]	Symmetrical: [✓] Yes [ ] No	Const. Uplands: Yes [ ] No [✓]	Between Wetlands: Yes [ ] No [✓]	*Documentation:*

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
[✓] Natural Channel Shape	Width: 1-2'	[✓] Silts	[ ] Sands	[ ] Muck	RB: forested
[ ] Artificial (man-made)	Depth: 2"	[ ] Cobbles	[✓] Gravel	[ ] Other:	LB: forested
[ ] Manipulated (man-altered)	Bank Erosion/stability: stable	[ ] Bedrock	[ ] Concrete		*Notes:*
[ ] Other:					
		Side slope: [✓] ≥1:1 [ ] 2:1 [ ] 3:1 [ ] ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Last 48hrs	Last week
[✓] No rain	[ ] 0-0.1	[ ] 0-0.5
[ ] Light rain	[ ] 0.1-0.5	[ ] 0.5-1
[ ] Heavy Rain	[ ] > 0.5	[ ] >1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 02 Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
[ ] Clear, natural line impressed on the bank	[ ] Sediment deposition	[ ] Water staining	[ ] Abrupt change in plant community
[ ] Changes in the character of soil	[ ] Presence of wrack line	[ ] Shelving	[ ] Destruction of terrestrial veg.
[ ] Presence of flood litter/debris	[ ] Leaf litter disturbed	[ ] Sediment sorting	[ ] Observed/predicted flow events
[✓] Vegetation matted down, bent, or absent	[ ] Scour	[ ] Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
[ ] Oil or scum line along shore objects	[ ] Survey to available datum	[ ] Water is clear
[ ] Fine shell or debris deposits (foreshore)	[ ] Physical markings	[ ] Water is discolored
[ ] Physical markings/characteristics	[ ] Vegetation lines/changes in types	[ ] Oily film
		[ ] Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - SSS_150023 City/County: Wheaton/Montgomery Sampling Date: 2/25/21

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35CCC-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0616284 Long: -77.0266951 Datum: NAD 83

Soil Map Unit Name: Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PSS1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

35CCC is located at the edge of the trail and drains to the unnamed tributary to Northwest Branch Anacostia River (35DDD).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 3

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Photos: SSS_150023_Photo 1_35CCC and SSS_150023_Photo 2_35CCC

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35CCC-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	5	yes	FACU
2. *Ulmus americana*	5	yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Lindera benzoin*	30	yes	FAC
2. *Liriodendron tulipifera*	5	no	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	40	yes	FAC
2. *Rosa multiflora*	20	no	FACU
3. *Smilax rotundifolia*	20	no	FAC
4. *Lindera benzoin*	10	no	FAC
5. *Lonicera japonica*	10	no	FACU
6. *Unknown grass*	5	no	NA
7.			
8.			
9.			
10.			
11.			
12.			
	105 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35CCC-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	85	10YR 5/6	15	C	M	Clay loam	Moist
3-17	10YR 4/2	85	10YR 3/1	10	D	M	Sandy clay loam	
			10YR 5/8	5	C	M		
17-20	5YR 4/2	90	5YR 4/6	10	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Park)/Transportation (Road) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35CCC

Latitude 39.06163 Longitude -77.026695

Prepared by: KH, JT Date 2/25/21

Wetland Impact:
Type PSS Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 50' to Kemp Mill Road

** Drains to the Unnamed tributary to Northwest Branch of Anacostia River

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MO-00029		**Feature ID:** 35D	**Use Class:** I
Date: 4/21/21	**State:** MO	**Photos:** MO_00029_Photo 16 - 35D JS +	
Crew: MM, KH	**County:** Montgomery	**Last Flag Number:** delineated via aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: MO_00029_Photo 17 - 35D DS

Hydrologic Connectivity –	Upstream. out of study area	Downstream. out of study area	Adjacent/Abutting 35E

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 40-50'	Silts	Sands / Muck	RB: forested
Artificial (man-made)	Depth: 4-8'	✓ Cobbles	✓ Gravel / Other:	LB: forested
✓ Manipulated (man-altered)	Bank Erosion/stability: scour/undercutting present	Bedrock	Concrete	*Notes:*
Other: bridge				
		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 3 Year: 21											
✓ No rain	✓ 0-0.1	✓ 0-0.5												
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		Feature ID: 35DD	Use Class: Perennial (I)
Date: 2/24/21	State: MD	Photos: PAX-2511 – Photo 4 – 35DD	
Crew: ES, MM	County: Prince George's	Last Flag Number: 35DD	1 A/B to 4A/5B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Walker Branch.

Hydrologic Connectivity – Upstream: Out of LOD | Downstream: Out of LOD | Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 10 ft	Silts	✓ Sands	Muck	RB: Herb
Artificial (man-made)	Depth: 1.5 ft	✓ Cobbles	✓ Gravel	Other:	LB: Rock (see below)
✓ Manipulated (man-altered)	Bank Erosion/stability:	✓ Bedrock	✓ Concrete		*Notes:*
Other:	Stable				
		Side slope: ✓ ≥	☐	☐ ≤	

General Notes: Left bank stabalized with stacked, square Rock (approx 3" high).

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: DEC Year: 20												
✓ No rain	✓ 0-0.1	0-0.5													
Light rain	0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

to Northwest Branch Anacostia river

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: SSS-150023		**Feature ID:** 35DDD	**Use Class:** IV
Date: 2/25/21	**State:** MD	**Photos:** SSS-150023-Photo1 - 35DDD / Photo 2	
Crew: UT, KH	**County:** Montgomery	**Last Flag Number:** digitized via aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flows east/southeast into 35EEE

35Z, 35III, 35ZZ, 35JJJ, 35AAA, 35BBB, 35CCC, 35FFF

Hydrologic Connectivity – Upstream: non-jurisdictional culvert Downstream: 35EEE Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15-20'	✓ Silts	✓ Sands	Muck	RB: forested/shrub
Artificial (man-made)	Depth: 3-4'	Cobbles	✓ Gravel	Other:	LB: forested/shrub
✓ Manipulated (man-altered)	Bank Erosion/stability: eroded in areas, but stable	Bedrock	Concrete		*Notes:*
Other: culverted					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21											
✓ No rain	0-0.1	✓ 0-0.5												
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet	

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MD_00029		Feature ID: 35E	Use Class: 1
Date: 4/13/2021	State: MD	Photos: MD-00029_Photo 6_ 35E	/ Photo 7
Crew: MM, KH	County: Montgomery	Last Flag Number: delineated by aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity – Upstream: Out of Study Area Downstream 35D Adjacent/Abutting: 35A; 35B; 35F

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15-20'	✓ Silts	✓ Sands	Muck	RB: parkland/ maintained lawn
Artificial (man-made)	Depth: 5-8'	Cobbles	✓ Gravel	Other:	LB: parkland/ forest
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other: bridge crossings rip rap banks	poor – undercut/ eroded				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 03 Year: 21												
✓ No rain	0-0.1	0-0.5													
Light rain	✓ 0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		Feature ID: 35EE	Use Class: Perennial (I)
Date: 2/25/21	State: MD	Photos: WAS-1005_Photo 6_ 35EE	
Crew: ES MM	County: Prince Georges	Last Flag Number: 35EE	1 A/B to 6 A/B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity –	Upstream: Pipe	Downstream: 35GG	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 5 ft	Silts	✓ Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 6 in	✓ Cobbles	✓ Gravel	Other:	LB: Forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Mod.		✓		
		Side slope: ☐ ≥ ☑ ☐ ≤			

General Notes: Flows into 35GG (WUS) w/in LOD

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: SSS-150023		**Feature ID:** 35EEE	**Use Class:** IV
Date: 2/25/21	**State:** MD	**Photos:** SSS-150023-Photo 1-35EEE /Photo 2	
Crew: UT, KH	**County:** Montgomery	**Last Flag Number:** 4 (RB)	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: 35EEE is northwest branch anacostia river, which is flowing southeast.

Hydrologic Connectivity –	Upstream: outside study area	Downstream: outside study area	Adjacent/Abutting: 35DDD

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 30'	✓ Silts	✓ Sands	Muck	RB: forested
Artificial (man-made)	Depth: 3-5'	Cobbles	✓ Gravel	Other:	LB: forested
✓ Manipulated (man-altered)	Bank Erosion/stability: fairly eroded, but stable	Bedrock	Concrete		*Notes:*
Other: stream restoration on banks further ds.					
		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain				Monthly Drought Condition NCDC Regional PDSI													
During visit	Last 48hrs	Last week		http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21													
✓ No rain	✓ 0-0.1	✓ 0-0.5															
Light rain	✓ 0.1-0.5	0.5-1		-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	
Heavy Rain	> 0.5	>1		Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet			

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MO-00029		Feature ID: 35F	Use Class: I
Date: 4/13/2021	State: MD	Photos: MO-00029 - Photo 3 - 35F upstream / MO-00029 - Photo 15 - 35F downstream	
Crew: MM, KH	County: Montgomery	Last Flag Number: digitized via aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: 35F begins at Kensington Parkway and flows east into the unnamed tributary to Rock Creek.

Hydrologic Connectivity –	Upstream: Outside study area	Downstream: 35E	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes ✓ No	Yes ✓ No	Yes ✓ No	Yes ✓ No	Yes ✓ No
	Toe of slope: Yes ✓ No	Symmetrical: ✓ Yes No	Const. Uplands: Yes ✓ No	Between Wetlands: Yes ✓ No	*Documentation:*

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2-3 in.	✓ Silts	Sands	Muck	RB: shrubs/maintained lawn
Artificial (man-made)	Depth: 3-4 in.	Cobbles	✓ Gravel	Other:	LB: shrubs/maintained lawn
✓ Manipulated (man-altered)	Bank Erosion/stability: areas of erosion	Bedrock	Concrete		*Notes:*
Other: culverted					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 03 Year: 21												
✓ No rain	0-0.1	✓ 0-0.5													
Light rain	✓ 0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS compensatory SWM		Feature ID: 35FF	Use Class: Perennial (I)
Date: 2/23/21	State: MD	Photos: WAS-1005_Photo 5_35FF	
Crew: ES MM	County: Prince George's	Last Flag Number: 35FF 1A/B to 3 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity –	Upstream: Pipe	Downstream: 35GG	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 5 ft	Silts	Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 1 in	Cobbles	Gravel	✓ Other:	LB: Herb.
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	Riprap	*Notes:*
Other:	Mod.				
		Side slope: ☐ ≥[illegible] ☐ [illegible] ✓ [illegible] ☐ ≤[illegible]			

General Notes: Lined with Riprap to stabilize. Flows into 35GG (WUS) w/in LOD

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - SSS_150023 City/County: Wheaton/Montgomery Sampling Date: 3/2/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35FFF-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0619639 Long: -77.0268437 Datum: NAD 83

Soil Map Unit Name: 54A - Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35FFF is a depression located along the Unnamed tributary to Northwest Branch Anacostia River and Kemp Mill/Glenallan Road parking area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 0.25
Water Table Present?	Yes ✓	No ___	Depth (inches): 11
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35FFF receives hydrology from groundwater due to restrictive layer and potential flood overflow.

Photos: SSS_150023_Photo 1_35FFF, SSS_150023_Photo 2_35FFF, SSS_150023_Photo 3_35FFF

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35FFF-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Acer rubrum*	10	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10 = Total Cover		
Herb Stratum (Plot size: 30 ft)			
1. *Persicaria perfoliata*	30	yes	FAC
2. *Ficaria verna*	15	yes	FAC
3. *Elymus sp.*	10	no	NA
4. *Carex stricta*	10	no	OBL
5. *Juncus effusus*	5	no	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35FFF-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	80	5YR 4/4	20	C	M	Silty clay loam	
5-14	10YR 4/1	85	5YR 4/4	10	C	M	Sandy clay loam	Gravel present
			10YR 5/6	5	C	M		
14+	Refusal							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 14

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.08AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation (Roadway) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35FFF

Latitude 39.06196 Longitude -77.026843

Prepared by: JT, KH Date 3/2/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds Observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes:

* 45' to Kemp Mill Road; ** Drains to the UNT to NWBAR

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00018 City/County: Potomac/Montgomery Sampling Date: 2/8/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35G

Investigator(s): NC, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR S Lat: 39.008262 Long: -77.211286 Datum: NAD 83

Soil Map Unit Name: 54A - Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
35G is located north off of Logan Drive into Heritage Park. The wetland is a bowl that drains into Rock Run (32YY) and an ephemeral stream (formerly 32ZZ).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Photos: MO_00018_Photo 1_ 35G MO_00018_Photo 2_ 35G , MO_00018_Photo 3_ 35G and MO_00018_Photo 4_ 35G

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35G

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carpinus caroliniana*	5	yes	FAC
2. *Nyssa sylvatica*	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	30	yes	FAC
2. *Carex sp.*	20	yes	NA
3. *Smilax rotundifolia*	15	yes	FAC
4. *Elymus virginicus*	5	no	FACW
5. *Lonicera japonica*	5	no	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	65 (A)		195 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

The dominance test was applied here since the dominant species within the plot/adjacent to the plot were FAC or wetter. With the indicator status unknown for the Carex sp., the plot still passes the dominance test.

SOIL

Sampling Point: 35G

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 5/2	100					Silty clay loam	
5-15	10YR 5/2	75	10YR 6/8	10	C	M	Silty clay loam	
			10YR 4/2	5	D	M		
			5YR 5/8	10	C	M		
15-20	5YR 5/2	80	5YR 5/8	15	C	M	Silty clay loam	
			10YR 4/2	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.31AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Park)/Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35G

Latitude 39.00826 Longitude -77.211286

Prepared by: KH, NC Date 2/8/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds
Recreation	Y			Walking trail
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * approximately 100' to Logan Drive

* Refer to backup list of numbered considerations.

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS compensatory SWM		Feature ID: 35GG	Use Class: Perennial (I)
Date: 2/25/21	State: MD	Photos: 35GG	Photo 7 35GG
Crew: ES MM	County: Prince Georges	Last Flag Number: 35GG	1 A/B to 3 A/B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to Piscataway Creek

Hydrologic Connectivity –	Upstream: Pipe	Downstream: Out of LOD	Adjacent/Abutting: 35EE, 35FF

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 15 ft	Silts	✓ Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 1 ft	✓ Cobbles	✓ Gravel	Other:	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability: Mod	Bedrock	Concrete		*Notes:*
Other:		Side slope: ☐ ≥1 ☐ 2 ☑ 3 ☐ ≤4			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - SSS_150023 City/County: Wheaton/Montgomery Sampling Date: 3/2/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35GGG-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0614839 Long: -77.0255475 Datum: NAD 83

Soil Map Unit Name: 2B - Glenelg silt loam, 3 to 8 percent slopes NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35GGG is a forested wetland located abutting the Northwest Branch Trail and Kemp Mill Road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 0.25
Water Table Present?	Yes ✓	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 10

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35GGG receives hydrology from hillslope runoff and groundwater. The wetland expands outside of the study area and is piped, which drains to the Unnamed tributary to Northwest Branch Anacostia River.

Photos: SSS_150023_Photo 1_35GGG. SSS_150023_Photo 2_35GGG, SSS_150023_Photo 3_35GGG, SSS_150023_Photo 4_35GGG, SSS_150023_Photo 5_35GGG, SSS_150023_Photo 6_35GGG

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35GGG-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	yes	FAC
2. *Platanus occidentalis*	10	yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Lindera benzoin*	25	yes	FAC
2. *Ulmus americana*	10	yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	80	yes	FAC
2. *Lindera benzoin*	10	no	FAC
3. *Lonicera japonica*	5	no	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35GGG-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Silty clay loam	
2-10	10YR 4/1	85	5YR 5/8	15	C	M	Silty clay loam	10" saturated
10-20	10YR 4/1	80	2.5YR 4/6	20	C	M	Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.16AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation (Roadway)/Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35GGG

Latitude 39.06148 Longitude -77.025548

Prepared by: KH, JT Date 3/2/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes:

*45' to Kemp Mill Road;** Drains into a pipe that drains to UNT of NWBAR

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory SWM		Feature ID: 35GGGG	Use Class: Perennial (I)
Date: 3/15/21	State: MD	Photos: PAT-0616 - Photo 13 - 35GGGG	
Crew: MM, ES	County: AA Co	Last Flag Number: 35GGGG	4A / 5B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to Galloway Creek (out of LOD)

Hydrologic Connectivity – Upstream: Pipe/out of LOD Downstream: Galloway Creek (out of LOD) Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A X	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
X Natural Channel Shape	Width: 8 ft	Silts	X Sands	Muck	RB: forested
Artificial (man-made)	Depth: 3 inches	Cobbles	Gravel	Other:	LB: forested
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	moderate erosion				
		Side slope: ☐ ≥ ☐ ☒ ☐ ≤			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
X No rain	X 0-0.1	X 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: FEB Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark							
	Clear, natural line impressed on the bank		Sediment deposition	X	Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.
X	Presence of flood litter/debris	X	Leaf litter disturbed		Sediment sorting		Observed/predicted flow events
X	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00018 City/County: Potomac/Montgomery Sampling Date: 2/8/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35H-WET

Investigator(s): KH, NC Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0121885 Long: -77.2114049 Datum: NAD 83

Soil Map Unit Name: 25C - Legore silt loam, 8 to 15 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ✓, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35H is a depression that is abutting a trail within the park and drains to 32YY (Rock Run).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 2
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35H receives hydrology from trail runoff and storm events. Photos:

MO_00018_Photo 1_35H, MO_00018_Photo 2_35H

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35H-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Cinna arundinacea*	5	yes	FACW
2. *Aster sp.* *	5	yes	NA
3. *Rosa multiflora*	2	no	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	12 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

* The Aster species is located within a sparsely vegetated concave surface, area is assumed to be wetland. The other dominant herbaceous species within the plot is FACW. Due to the presence of hydric soils and wetland hydrology, it is assumed that the Aster sp. would also likely be FAC or wetter.

SOIL

Sampling Point: 35H-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	90	5YR 4/4	10	C	M	Silty clay loam	
4-10	10YR 5/2	80	5YR 5/8	20	C	M	Silty clay loam	
10-20	10YR 4/2	70	5YR 5/8	20	C	M	Silty clay loam	
			10YR 6/8	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Parkland (Recreation)/Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM1B Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Drains to 32YY

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35H

Latitude 39.01218 Longitude -77.211404

Prepared by: KH, NC Date 2/8/2021

Wetland Impact:
Type PEM1B Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	N			
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 643' to the Hall Road parking area.

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		Feature ID: 35HH	Use Class: Perennial (I)
Date: 2/25/21	State: MD	Photos: WAS-1011 - Photo 6 - 35HH	
Crew: ES, MM	County: Prince Georges	Last Flag Number: 35HH 1A/B to 4A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Tributary to Broad Creek

Hydrologic Connectivity –	Upstream:	Downstream:	Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 10 ft	Silts	✓ Sands	✓ Muck	RB: Forested
Artificial (man-made)	Depth: 6 in	Cobbles	✓ Gravel	✓ Other:	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	clay	*Notes:*
Other:	Moderately Stable				
		Side slope: ☐ >[illegible] ☐ [illegible] ✓ [illegible] ☐ <[illegible]			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 12 Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
✓ Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: U. Marlboro/ Prince George's Sampling Date: 3/17/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 35HHHH

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9095 Long: -76.8355 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0 to 65% slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Stormwater swale in median of Rt 202.
Photos: PAX-0019_Photo 1_overall

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 1
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Source of hydrology is primarily stormwater, but evidence of a high water table was present.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 35HHHH

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Juncus effusus*	10	yes	OBL
2. *Microstegium vimineum*	10	yes	FAC
3. *Typha angustifolia*	10	yes	OBL
4. *Grass sp.*	10	yes	NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Vegetation is disturbed from regular mowing.

SOIL

Sampling Point: 35HHHH

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 5/1	50	10 YR 5/6	25	C	M	sandy clay loam	
			5 YR 4/6	25	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.1ac Human made? Y Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Roadway Distance to nearest roadway or other development 10 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35HHHH

Latitude 38.9095 Longitude -76.8355

Prepared by: ES, MM Date 3/17/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MO-00018 MLS compensatory SWM		**Feature ID:** 351	**Use Class:** I-P
Date: 2/8/21	**State:** MD	**Photos:** MO-00018_photo 1-351; MO-00018_photo 2-351	
Crew: NC, KH	**County:** Montgomery	**Last Flag Number:** 4A/4b	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: 351 flows into Rock Run and is culverted under a trail.

Hydrologic Connectivity –	Upstream: culverted	Downstream: 32YY	Adjacent/Abutting: 35J

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2-3'	✓ Silts	Sands / Muck	RB: forest/maintained lawn
Artificial (man-made)	Depth: 1-2'	Cobbles	✓ Gravel / Other:	LB: trail/forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	✓ Concrete	*Notes:*
Other:	none			
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	✓ 0-0.5
Light rain	✓ 0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI

http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** 01 **Year:** 21

-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Beltsville/ Prince George's Sampling Date: 3/2/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 35II

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 39.0458 Long: -76.9390 Datum: WGS 84

Soil Map Unit Name: Fallsington sandy loams, 0-2% slopes, northern coastal plains (FaaA) NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Concave depression adjacent to a perennial stream (out of LOD and Buffer). Gullies from 35II drain into the stream. The wetland is approximately 3 feet above the water level of the stream.
Photos: WAS-22526_Photo 3_35II

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 4
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 35II

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula nigra*	50	yes	FACW
2. *Acer rubrum*	30	yes	FAC
3. *Lieriodendron tulipifera*	10	no	FACU
4. *Liquidambar styraciflua*	10	no	FAC
5.			
6.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1. *Lonicera tatarica*	5	yes	FACU
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Herb Stratum (Plot size: 30 ft)			
1. *Smilax rotundifolia*	40	yes	FAC
2. *Carex sp.*	20	yes	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Woody Vine Stratum (Plot size: 30 ft)			
1. *Toxicodendron radicans*	5	yes	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 35II

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 5/2	80	10YR 3/4	20	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock/gravel

Depth (inches): 6

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.08 Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Roadway / Forest Distance to nearest roadway or other development 50 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35II

Latitude 39.0458 Longitude -76.9290

Prepared by: ES, MM Date 3/2/21

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: SSS – 150023		**Feature ID:** 35III	**Use Class:** IV
Date: 3/2/21	**State:** MD	**Photos:** SSS – 150023 – Photo 1 – 35III / Photo 2 / Photo 3 / Photo 4	
Crew: VT, KH	**County:** Montgomery	**Last Flag Number:** 4A/4B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	X Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: evidence of flow and channelization

Hydrologic Connectivity –	Upstream: piped	Downstream: 35DDD	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 2'	✓ Silts	✓ Sands	Muck	RB: forested
Artificial (man-made)	Depth: 2'	Cobbles	Gravel	Other:	LB: forested
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other: piped at upstream	stable				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21											
✓ No rain	0-0.1	0-0.5												
Light rain	✓ 0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet	

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet — *Version 2.1 - August 2019*

Project: MLS Compensatory SWM		Feature ID: 35IIII	Use Class: Perennial
Date: 3/17/2021	State: MD	Photos: WAS-0641_Photo 3_35IIII	
Crew: ES, MM	County: Prince Georges	Last Flag Number: 35IIII	1A/B to 5A/5B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Hunters Mill Branch

Hydrologic Connectivity –	Upstream: outside study area	Downstream: non-jurisdictional pipe under highway	Adjacent/Abutting: none

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 10 ft	Silts	✓ Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 3 in	✓ Cobbles	✓ Gravel	Other:	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Poor				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☑ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: FEB Year: 21											
✓ No rain	✓ 0-0.1	✓ 0-0.5												
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet	

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
✓ Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00018 City/County: Potomac/Montgomery Sampling Date: 2/8/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35J-WET

Investigator(s): KH, NC Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0161021 Long: -77.2125501 Datum: NAD 83

Soil Map Unit Name: 6A, Baile silt loam, 0 to 3 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ✓, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35J is a depression that is located between 35I and a walking trail.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 2
Water Table Present?	Yes ✓	No ___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35J receives hydrology from groundwater and hill runoff.

Photos: MO_00018_Photo 1_35J, MO_00018_Photo 2_35J

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35J-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Cinna arundinacea*	25	yes	FACW
2. *Carex sp.*	20	yes	NA
3. *Aster sp.*	10	no	NA
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

The Carex sp. is assumed to be FAC or wetter since 35J has wetland hydrology and hydric soils present. The delineation was completed during winter and the species could not be determined.

SOIL

Sampling Point: 35J-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	85	10YR 5/8	10	CS	M	Silty clay loam	Saturation
			10YR 4/2	5	C	M		
4-14	10YR 6/1	80	5YR 5/6	20	C	M	Silty clay loam	
14+	Restricted							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 14

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Parkland (Recreation) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM1B Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35J

Latitude 39.01610 Longitude -77.212550

Prepared by: KH, NC Date 2/8/2021

Wetland Impact:
Type PEM1B Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 80' to Falls Road

** Drains to 32EEEEE

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Temple Hills/ Prince George's Sampling Date: 3/2/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 35JJ

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope/terrace Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 149A Lat: 38.8169 Long: -76.9174 Datum: WGS 84

Soil Map Unit Name: Croom-Marr complex, 15-25% slopes (CwE) NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

35JJ is a hillside seep that drains down to a terrace of 35KK (WUS). Hydrology eventually drains into 35KK Photos: WAS-3994_Photo 4_35JJ

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ✓ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 3
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 35JJ

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	10	yes	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Sapling Stratum (Plot size: 30 ft)			
1. *Liquidambar styraciflua (sapling)*	5	yes	FAC
2. *Acer negundo (sapling)*	5	yes	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimineum*	40	yes	FAC
2. *Hedera helix*	40	yes	FACU
3. *Persicaria perfoliata*	20	no	FAC
4. *Onoclea sensibilis*	15	no	FACW
5. *Vinca minor*	10	no	NI
6. *Smilax rotundifolia*	5	no	FAC
7. *Carex sp.*	5	no	NI
8.			
9.			
10.			
11.			
	135 = Total Cover		
50% of total cover: 67.5	20% of total cover: 27		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

PEM wetland. The wetland is within an open portion of the canopy. Several dead standing or fallen trees were observed in or closely adjacent to the wetland.

SOIL

Sampling Point: 35JJ

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5 YR 5/1	90	7.5 YR 3/4	10	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 8

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.03 ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest | Road Distance to nearest roadway or other development 50 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Low

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35JJ

Latitude 39.8169 Longitude -76.9174

Prepared by: ES, MM Date 3/3/21

Wetland Impact:
Type PEM Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - SSS_150023 City/County: Wheaton/Montgomery Sampling Date: 3/2/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35JJJ-WET

Investigator(s): JT, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0610640 Long: -77.0297787 Datum: NAD 83

Soil Map Unit Name: 54A - Hatboro Silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

35JJJ is a wetland ditch located abutting Glenallan Road and adjacent to the Equestrian trail.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35JJJ is piped under Glenallan Road. The upstream extent is an emergent/forested wetland that continues after the outfall and drains to the unnamed tributary to Northwest Branch Anacostia River. Hydrology is groundwater.

Photos: SSS_150023_Photo 1_35JJJ, SSS_150023_Photo 2_35JJJ, SSS_150023_Photo 3_35JJJ, SSS_150023_Photo 4_35JJJ, SSS_150023_Photo 5_35JJJ, and SSS_150023_Photo 6_35JJJ

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35JJJ-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Acer rubrum*	2	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	2 = Total Cover		
Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	55	yes	FAC
2. *Persicaria perfoliata*	15	no	FAC
3. *Typha latifolia*	10	no	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35JJJ-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/1	90	7.5YR 4/6	10	C	M	Sandy clay loam	Gravel
7-20	2.5Y 5/2	80	7.5YR 4/6	15	C	M	Clay loam	
			10YR 4/1	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.09AC Human made? Yes* Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Park)/Transportation (Road) Distance to nearest roadway or other development at Glenallan

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35JJJ

Latitude 39.06106 Longitude -77.029778

Prepared by: JT, KH Date 3/2/2021

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	N			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * Wetland is piped under Glenallan Road and at the outlet is a trapezoidal channel for approximately 120' and then opens to drain into the unnamed tributary to Northwest Branch Anacostia River

** Drains to Unnamed tributary to Northwest Branch Anacostia River

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MO-00018 MLS compensatory SWM		Feature ID: 35K	Use Class: I-P
Date: 2/8/21	State: MD	Photos: MO-00018_photo 1-35K; Photo 2-4	
Crew: NC, KH	County: Montgomery	Last Flag Number: 3A/3B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: 35K had defined bed/bank and was flowing at time of visit.

Hydrologic Connectivity –	Upstream: culverted	Downstream: 32YY	Adjacent/Abutting: none

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 5'	✓ Silts	Sands	Muck	RB: forested/grasses
Artificial (man-made)	Depth: 2'	✓ Cobbles	✓ Gravel	Other:	LB: residential
✓ Manipulated (man-altered)	Bank Erosion/stability: fairly stable; evidence of rutting at DS extent.	Bedrock	Concrete		*Notes:*
Other: culverted/cobbles along LB		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21												
During visit	Last 48hrs	Last week													
✓ No rain	0-0.1	✓ 0-0.5													
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MPA0-0022		**Feature ID:** 35KKK	**Use Class:** I
Date: 3/4/21	**State:** MD	**Photos:** MPA0-0022-Photo1- 35KKK	/ Photo 2-b
Crew: JT, KH	**County:** Montgomery	**Last Flag Number:** 7A/7B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: 35KKK drains 35MMM to Sligo Creek. (35LLL)

Hydrologic Connectivity –	Upstream: 35MMM	Downstream: 35LLL	Adjacent/Abutting: 35MMM

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2-3'	✓ Silts	Sands	Muck	RB: forested/wetland
Artificial (man-made)	Depth: 1-2'	Cobbles	✓ Gravel	Other:	LB: forested/wetland
Manipulated (man-altered)	Bank Erosion/stability: stable, but scour present on banks at bends	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: 35KKK is a drainage within 35MMM that intersects with another drainage channel within 35MMM and channelizes to Sligo Creek.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	✓ 0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** 01 **Year:** 21

-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MO-00018		**Feature ID:** 35L	**Use Class:** 1-P
Date: 2/10/21	**State:** MD	**Photos:** MO-00018 - Photo 3 - 35L, MO-00018 - Photo 4 - 35L	
Crew: UT, KH	**County:** Montgomery	**Last Flag Number:** 4A/3B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: evidence of flow and defined bed/bank.

Hydrologic Connectivity –	Upstream: non-jurisdictional culvert	Downstream: 32YY	Adjacent/Abutting: none

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes ✓ No	Yes ✓ No	Yes ✓ No	Yes ✓ No	Yes ✓ No
N/A ☐	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes ✓ No	✓ Yes No	Yes ✓ No	Yes ✓ No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 3-4'	✓ Silts	Sands	Muck	RB: forested/grass
Artificial (man-made)	Depth: 2-3'	✓ Cobbles	✓ Gravel	Other:	LB: forested/grass
✓ Manipulated (man-altered)	Bank Erosion/stability: stable, some areas of scour	Bedrock	Concrete		*Notes:*
Other: rip rap/ outfall					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21											
During visit	Last 48hrs	Last week												
✓ No rain	0-0.1	✓ 0-0.5												
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet	

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

F-542

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MPAO-0022		Feature ID: 35LLL	Use Class: 1
Date: 3/8 & 3/16/21	State: MD	Photos: MPAO-0022-Photo1-35LLL / Photo 2-5	
Crew: OT, KH	County: Montgomery	Last Flag Number: delineated via aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

35NNN, 35VVVV, 35WWWW, 35MMM, 35KKK, 35XXXX, 35ZZZ, 35BBBB, 35UUUU, 35OOO, 35PPP, 35YYY, 35XXX, 35YYYY, 35SSSS

Describe rationale for hydrologic class, including flow: blue-line stream, sligo creek.

Hydrologic Connectivity –	Upstream: outfall	Downstream: outside study area	Adjacent/Abutting:

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 8-15'	✓ Silts	✓ Sands	Muck	RB: maintained lawn/ WVS
Artificial (man-made)	Depth: 3-4'	Cobbles	✓ Gravel	Other:	LB: maintained lawn/ WVS
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	✓ Concrete		*Notes:*
Other: culvert	scour, but at upstream concrete lined.				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI												
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 02 Year: 21												
✓ No rain	✓ 0-0.1	✓ 0-0.5													
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00018 City/County: Potomac/Montgomery Sampling Date: 2/10/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35M-WET

Investigator(s): JT, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.01369 Long: -77.21167 Datum: NAD 83

Soil Map Unit Name: 6A, Baile silt loam, 0 to 3 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ✓, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ___ No ___
Hydric Soil Present?	Yes ___	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35M is located in the backyard west of Falls Bridge Lane. The wetland starts around adjacent to a manhole and drains/channelizes to Rock Run.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 2-3
Water Table Present?	Yes ✓	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology is floodflow from Rock Run (32YY) and potentially manhole overflow. The property owner at 9612 Falls Bridge Lane stated that during storm events the stream floods into his backyard.

Photos: MO_00018_Photo 1_35M and MO_00018_Photo 2_35M

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35M-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Carex sp.*	10	yes	NA
2. *Alisma triviale*	10	yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

The Carex sp. is assumed to be FAC or wetter since 35M has wetland hydrology and hydric soils present. Even if Carex sp. is not FAC or wetter, the dominance test would pass. The delineation was completed during winter and the species could not be determined.

SOIL

Sampling Point: 35M-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
*								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

* Hydric soil is assumed -- property access not available on GIS layer and in the backyard of 9612 Falls Bridge Lane.

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM1B Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35M

Latitude 39.01369 Longitude -77.21167

Prepared by: KH, JT Date 2/10/21

Wetland Impact:
Type PEM1B Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 220' to Falls Bridge Lane

** Drains to Rock Run

* Refer to backup list of numbered considerations.

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS Compensatory Swm		Feature ID: 35MM	Use Class: Perennial
Date: 3/3/21	State: MD	Photos: WAS 3999 - Photo 2 - 35MM 1 A/B to 5 A/B	
Crew: ES, MM	County: Prince George's	Last Flag Number: 35MM	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to Hensen Creek

Hydrologic Connectivity –	Upstream: out of LOD	Downstream: out of LOD	Adjacent/Abutting: N/A

Ditch Information	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 8 ft	Silts	✓ Sands	Muck	RB: Herb
✓ Artificial (man-made)	Depth: 6 in	✓ Cobbles	✓ Gravel	Other:	LB: Herb
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥ ☐ ☐ ☐ ≤			

General Notes: Upstream portion near outfall secured w/ Rip-Rap/boulder

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 2021												
During visit	Last 48hrs	Last week													
✓ No rain	✓ 0-0.1	0-0.5													
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/9/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35MMM-WET

Investigator(s): JT, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0411964 Long: -77.0354079 Datum: NAD 83

Soil Map Unit Name: 54A - Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35MMM is a forested wetland located in the floodplain of Sligo Creek (35LLL). The wetland expands downstream along the left bank.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 6

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35MMM receives hydrology from groundwater and flood overflow from Sligo Creek (35LLL).

Photos: MPAO_0022_Photo 1_35MMM, MPAO_0022_Photo 2_35MMM

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35MMM-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	yes	FAC
2. *Quercus palustris*	5	no	FACW
3. *Acer negundo*	5	no	FAC
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Smilax rotundifolia*	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	45	yes	FAC
2. *Microstegium vimineum*	30	yes	FAC
3. *Cinna arundinacea*	10	no	OBL
4. *Symplocarpus foetidus*	10	no	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35MMM-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	85	5YR 4/6	15	C	M	Sandy clay loam	
4-8	10YR 4/1	80	5YR 5/6	20	C	M, PL	Sandy clay loam	
8-20	2.5Y 6/1	80	2.5YR 4/6	20	C	M, PL	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 7.44AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Park) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 2 *** Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35MMM

Latitude 39.04119 Longitude -77.035407

Prepared by: KH, JT Date 3/9/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	4, 7, 13		
Floodflow Alteration	Y	4, 5, 6, 13		
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y	10, 14		
Nutrient Removal	Y	4, 12		
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y	6, 8		Birds and squirrels observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 95' from Channing Drive
** 32LLLLLLL drains to Sligo Creek
*** 32MMMMMMM and 32KKKKKKK are within 32LLLLLLL.

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00018 City/County: Potomac/Montgomery Sampling Date: 2/10/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35N-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR S Lat: 39.0117122 Long: -77.2104348 Datum: NAD 83

Soil Map Unit Name: 54A, Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35N is a forested wetland located behind a neighborhood, west of Falls Bridge Lane and east of Rock Run.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 3
Water Table Present?	Yes ✓	No ___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Groundwater present, which is channelizes and drains to Rock Run.

Photos: MO_00018_Photo 1_35N, MO_00018_Photo 2_35N, MO_00018_Photo 3_35N MO_00018_Photo 4_35N, MO_00018_Photo 5_35N, MO_00018_Photo 6_35N, MO_00018_Photo 7_35N, MO_00018_Photo 8_35N, MO_00018_Photo 9_35N, MO_00018_Photo 10_35N, MO_00018_Photo 11_35N, MO_00018_Photo 12_35N, MO_00018_Photo 13_35N, MO_00018_Photo 14_35N, MO_00018_Photo 15_35N, MO_00018_Photo 16_35N

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35N-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	yes	FAC
2. *Acer negundo*	15	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Lindera benzoin*	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Persicaria perfoliata*	40	yes	FAC
2. *Cinna arundinacea*	35	yes	FACW
3. *Glechoma hederacea*	10	no	FACU
4. *Lonicera japonica*	5	no	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35N-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 5/1	80	5YR 4/6	20	C	M, PL	Silty clay loam	Saturation
7-20	10YR 5/2	80	5YR 4/6	15	C	PL	Silty clay loam	
			10YR 2/1	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.81AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO1E Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35N

Latitude 39.01171 Longitude -77.210434

Prepared by: KH, JT Date 2/10/21

Wetland Impact:
Type PFO1E Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	7,13		
Floodflow Alteration	Y	5, 6, 10, 13		
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y	10		
Nutrient Removal	Y	5		
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y	8, 17		Deer and Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 220' to Falls Bridge Lane

** Drains to Rock Run

* Refer to backup list of numbered considerations.

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS compensatory swm		Feature ID: 35NN	Use Class: Perennial
Date: 3/4/21	State: MD	Photos: WAS-0644-Photo 3 - 35NN	
Crew: ES, MM	County: Prince Georges	Last Flag Number: 35NN	1 A/B to 7 A/B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: WAS-0644-Photo 4 - 35NN; WAS-0644 Photo 5 - 35NN

Hydrologic Connectivity –	Upstream: Out of LOD	Downstream: Out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4 ft	✓ Silts	✓ Sands	Muck	RB: Herb/Forest
Artificial (man-made)	Depth: 6 in	Cobbles	Gravel	Other:	LB: Herb/Forest
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ >1:1 ☐ 1:1 ☐ 3:1 ✓ <3:1			

General Notes: Culvert through a pipe under Woodyard Rd.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 21											
✓ No rain	✓ 0-0.1	✓ 0-0.5												
Light rain	0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	(3)	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MPAO-0022		Feature ID: 35NNN	Use Class: I
Date: 3/8/21	State: MD	Photos: MPAO-0022-Photo 1 – 35NNN /Photo 2	
Crew: JTSKH	County: Montgomery	Last Flag Number: delineated via aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flow observed, but assuming seasonal due to low flow and pipe placement.

Hydrologic Connectivity – Upstream: non-jurisdictional culvert Downstream: 35LLL Adjacent/Abutting: 35MMM

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes ✓ No	Yes ✓ No	Yes ✓ No	Yes ✓ No	Yes ✓ No
	Toe of slope: Yes ✓ No	Symmetrical: ✓ Yes No	Const. Uplands: Yes ✓ No	Between Wetlands: Yes ✓ No	Documentation:

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 2-3'	Silts	✓ Sands / Muck	RB: forested
Artificial (man-made)	Depth: 2'	Cobbles	✓ Gravel / Other:	LB: maintained lawn/ Sligo creek
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	Notes:
Other: culverted rip rap	scour			
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 02 Year: 21

-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MO-00018		**Feature ID:** 35O	**Use Class:** 1-P
Date: 2/10/21	**State:** MD	**Photos:** MO-00018-PHOTO1_ 35O	, MO-00018_Photo3. 35O
Crew: JT, KH	**County:** Montgomery	**Last Flag Number:** 6A/5B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: evidence of flow, bed/bank; decent sized culvert with flow, which led us to believe was usually has flow.

Hydrologic Connectivity –	Upstream: outfall	Downstream: 32YY	Adjacent/Abutting: 35N, 35Q

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / ✓ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 10-12'	✓ Silts	✓ Sands	Muck	RB: wetland/forested
Artificial (man-made)	Depth: 4-6'	✓ Cobbles	✓ Gravel	Other:	LB: forested/grass
✓ Manipulated (man-altered)	Bank Erosion/stability: evidence of scour, but stable	Bedrock	Concrete		*Notes:*
Other: culverted at upstream		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21												
✓ No rain	0-0.1	✓ 0-0.5													
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS compensatory SWM		Feature ID: 3500	Use Class: Perennial (I)
Date: 3/4/21	State: MD	Photos: PAL-0610_Photo 3_3500	
Crew: ES, MM	County: Prince Georges	Last Flag Number: 3500	1 A/B to 6 A/B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to Charles Branch

Hydrologic Connectivity –	Upstream: Out of LOD	Downstream: Out of LOD	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 7 ft	Silts	✓ Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 1 ft	✓ Cobbles	✓ Gravel	Other:	LB: Forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Severe				
		Side slope: ✓ ≥1	☐ 2	☐ 3	☐ ≤4

General Notes: Banks are severely incised

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Jan Year: 21												
During visit	Last 48hrs	Last week													
✓ No rain	✓ 0-0.1	✓ 0-0.5													
Light rain	0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	✓ Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MPRO-0022		**Feature ID:** 35OOO	**Use Class:** 1
Date: 3/4/21	**State:** MD	**Photos:** MPRO-0022-Photo 1- 35OOO	/ Photo 2-5
Crew: JT, KH	**County:** Montgomery	**Last Flag Number:** 3A/3B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: 35OOO is culverted under Sligo Creek Trail.

Hydrologic Connectivity –	Upstream: Culvert outside study area	Downstream: 35LLL	Adjacent/Abutting: 35VVV, 35MMM

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 4-5'	✓ Silts	Sands	Muck	RB: forested wetland
Artificial (man-made)	Depth: 2'	Cobbles	✓ Gravel	Other:	LB: forested
✓ Manipulated (man-altered)	Bank Erosion/stability: areas of scour	Bedrock	Concrete		*Notes:*
Other: culverted at trail					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Receives flow from 35MMM's drainage channel on right bank.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	✓ 0-0.5
Light rain	✓ 0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** 01 **Year:** 21

-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00018 City/County: Potomac/Montgomery Sampling Date: 2/10/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35P-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.008512 Long: -77.211106 Datum: NAD 83

Soil Map Unit Name: 54A, Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

35P is an emergent wetland, that is located on the left bank of Rock Run (32YY). The area is a tiny bench that receives hydrology during storm events.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35P receives hydrology from Rock Run (32YY) flood overflow and potentially pool drainage from the residence to the east.

Photos: MO_00018_Photo 1_35P, MO_00018_Photo 2_35P

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35P-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	40	yes	FAC
2. *Microstegium vimineum*	30	yes	FAC
3. *Persicaria perfoliata*	15	no	FAC
4. *Cinna arundinacea*	10	no	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35P-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	95	10YR 5/6	5	CS	M	Sandy clay loam	Saturation
4-18	10YR 4/2	80	5YR 4/6	20	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM1E Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35P

Latitude 39.00851 Longitude -77.211106

Prepared by: KH, JT Date 2/10/21

Wetland Impact:
Type PEM1E Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 440' to Falls Bridge Lane

** Drains to Rock Run

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/4/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35PPP-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0401631 Long: -77.0334084 Datum: NAD 83

Soil Map Unit Name: 54A - Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35PPP is a forested wetland that abuts Sligo Creek (35LLL) and the Sligo Creek trail on the southeast/southwest sides. 35TTT contributes hydrology to 35PPP.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 0.10
Water Table Present?	Yes ✓	No ___	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 6

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35PPP is fed by groundwater, 35TTT, and runoff from the Sligo Creek trail.

Photos: MPAO_0022_Photo 1_35PPP, MPAO_0022_Photo 2_35PPP, MPAO_0022_Photo 3_35PPP, MPAO_0022_Photo 4_35PPP, MPAO_0022_Photo 5_35PPP, MPAO_0022_Photo 6_35PPP, MPAO_0022_Photo 7_35PPP, MPAO_0022_Photo 8_35PPP

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35PPP-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Ilex opaca*	5	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimineum*	80	yes	FAC
2. *Smilax rotundifolia*	20	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35PPP-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 5/1	70	2.5YR 4/8	20	C	M, PL	Silty clay loam	
			10YR 7/6	5	C	M		
			10YR 4/2	5	D	M		Saturation at 6"
4-20	2.5Y 6/1	70	5YR 5/8	20	C	M, PL	Clay loam	
			7.5YR 6/8	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 1.88AC Human made? * Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential/Recreation Distance to nearest roadway or other development ** see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? *** see notes

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35PPP

Latitude 39.04016 Longitude -77.033408

Prepared by: JT, KH Date 3/4/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	7, 8, 13		Areas of seeps throughout wetland.
Floodflow Alteration	Y	4, 5, 6, 9, 13		Wetland located within the 100-year floodplain.
Fish and Shellfish Habitat	N	N/A		No areas of water deep enough for fish/shellfish to survive.
Sediment/Toxicant Retention	Y	3, 9, 10		Trails abut the wetland, which runoff into the system.
Nutrient Removal	Y	3, 4		Various depressions located within wetland, which could trap nutrients until drains to nearby WUS.
Production Export	N	N/A		Vegetation present does not seem to be a usable product for humans and the only wildlife present were birds.
Sediment/Shoreline Stabilization	N	N/A		Banks present show erosion and undercutting.
Wildlife Habitat	Y	6, 8, 20		Birds observed. Areas of ponded water, which could be habitat for frogs.
Recreation	Y	1		Wetland is located along the Sligo Creek trail.
Educational/Scientific Value	N	9, 11		Nearby school (Arcola Elementary School)
Uniqueness/Heritage	N	N/A		
Visual Quality/Aesthetics	N	9		
ES Endangered Species Habitat	N	N/A		Wetland is not known to contain RTE's.
Other				

Notes: * Partially human made -- homeowner disclosed that a wetland restoration took place in 2017
** 315' to Lamberton Drive
*** 32RRRRRRR drains into 32NNNNNNN, which drains to Sligo Creek.

* Refer to backup list of numbered considerations.

F-569

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory Swm		Feature ID: 35PPPP	Use Class: Intermittent (I)
Date: 3/17/21	State: MD	Photos: WAS-0647_Photo 5 35PPPP	
Crew: ES, MM	County: PG	Last Flag Number: 1 AIB to 3 AIB	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to UNT to Broad Creek.

Hydrologic Connectivity –	Upstream: None	Downstream: 32ZZZ	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	✓ Yes / No	Yes / ✓ No	Yes / ✓ No	Yes / ✓ No	Yes / ✓ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	Documentation:
	✓ Yes / No	✓ Yes / No	Yes / ✓ No	Yes / ✓ No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 3 ft	Silts	Sands	Muck	RB: Forested
✓ Artificial (man-made)	Depth: 2 ft	Cobbles	Gravel	Other:	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	✓ Concrete		Notes:
Other:	Good				
		Side slope: ☐ >3:1 ☐ 2:1 ☐ 3:1 ✓ <3:1			

General Notes: originates from a pipe into a concrete channel (at of LOD)

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: FEB Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00018 City/County: Potomac/Montgomery Sampling Date: 2/16/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35Q-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0090888 Long: -77.2110098 Datum: NAD 83

Soil Map Unit Name: 54A, Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35Q begins at the left bank of 35O and continues south.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 6
Water Table Present?	Yes ✓	No ___	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35Q received hydrology from Rock Run (32YY) and blocked drainage.

Photos: MO_00018_Photo 1_35Q, MO_00018_Photo 2_35Q, MO_00018_Photo 4_Drainage 35Q, MO_00018_Photo 5_Drainage 35Q, MO_00018_Photo 7_35Q, MO_00018_Photo 8_35Q, MO_00018_Photo 9_35Q, MO_00018_Photo 10_Drainage 35Q, MO_00018_Photo 11_35Q, MO_00018_Photo 12_35Q, MO_00018_Photo 13_Drainage 35Q, MO_00018_Photo 14_35Q, MO_00018_Photo 15_Observation, MO_00018_Photo 16_35Q, MO_00018_Photo 17_35Q, MO_00018_Photo 18_35Q

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35Q-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Carpinus caroliniana*	25	yes	FAC
2. *Quercus palustris*	5	no	FACW
3. *Ulmus americana*	2	no	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	32 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Cinna arundinacea*	55	yes	FACW
2. *Ficaria verna*	10	no	FAC
3. *Carex sp.*	10	no	NA
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35Q-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	90	5YR 5/8	10	C	M	Silty clay loam	Saturated
2-7	10YR 4/1	80	10YR 5/8	20	C	M	Silty clay loam	Gravel
7+	Restricted							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Concrete*

Depth (inches): 7

Hydric Soil Present? Yes ✓ No ___

Remarks:

*potentially an old access road for manhole access.

Wetland Function-Value Evaluation Form

Total area of wetland 1.83AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35Q

Latitude 39.00909 Longitude -77.211009

Prepared by: KH, JT Date 2/16/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	4, 7, 13		
Floodflow Alteration	Y	4, 5, 10, 13		
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y	1, 10		
Nutrient Removal	Y	3, 9		
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y	8, 16		Birds and deer observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 205' from Falls Bridge Lane

** Drains to 32YY

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Clinton/ Prince George's Sampling Date: 3/4/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 35QQ

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 149A Lat: 38.7515 Long: -76.8790 Datum: WGS 84

Soil Map Unit Name: Croom-Mar-Urban land complex, 5 to 15% slopes (CxD) NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

35QQ is a hillside seep that drains into of 35PP (WUS). Photos: WAS-0650_Photo 5_35QQ

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ✓ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 5
Water Table Present?	Yes ✓	No _____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): surface

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 35QQ

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	50	yes	FAC
2. *Betula nigra*	20	yes	FACW
3.			
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		

Sapling Stratum (Plot size: 30 ft)			
1. *Acer rubrum*	30	yes	FAC
2. *Fagus grandifolia*	10	yes	FACU
3. *Liquidambar styraciflua*	10	yes	FAC
4.			
5.			
6.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Smilax rotundifolia*	5	yes	FACW
2. *Carex sp.*	5	yes	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

Sparsely vegetated surface. Carex. sp. could not be identified to species level; however, even if Carex sp. is not FAC or wetter, the vegetation would pass the dominance test.

SOIL

Sampling Point: 35QQ

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5 YR 6/1	75	7.5 YR 5/6	15	C	M	Clay loam	
			7.5 YR 3/4	10	C	M		
4-12	7.5 YR 6/1	80	7.5 YR 5/6	20	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.06 Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Roadway / Forest Distance to nearest roadway or other development 50 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35QQ

Latitude 38.7515 Longitude -76.8790

Prepared by: ES, MM Date

Wetland Impact:
Type PFO Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

* Refer to backup list of numbered considerations.

Notes:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/8/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35QQQ-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0407636 Long: -77.0337862 Datum: NAD 83

Soil Map Unit Name: 6A - Baile silt loam, 0 to 3 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35QQQ is a depression located northeast of Sligo Creek trail and that drains into 35RRR.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 0.10
Water Table Present?	Yes ✓	No ___	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35QQQ receives hydrology from groundwater.

Photos: MPAO_0022_Photo 1_35QQQ, MPAO_0022_Photo 2_35QQQ

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35QQQ-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Liquidambar styracilfua*	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5 = Total Cover		
Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimineum*	20	yes	FAC
2. *Smilax rotundifolia*	15	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35QQQ-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/2	90	5YR 5/8	10	CS	M	Silty clay loam	Saturated
2-8	10YR 6/1	80	5YR 5/8	20	C	M	Silty clay loam	
8-20	10YR 6/2	70	5YR 5/8	20	C	M, PL	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Park) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35QQQ

Latitude 39.04076 Longitude -77.033786

Prepared by: JT, KH Date 3/8/2021

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 330' to Lamberton Drive

** 32OOOOOOO drains to 32PPPPPPP

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00051 City/County: Bethesda/Montgomery Sampling Date: 2/16/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35R-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe-of-slope Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 38.9729716 Long: -77.1022701 Datum: NAD 83

Soil Map Unit Name: 2UB, Glenelg-Urban land complex, 0 to 8 percent slopes NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

35R abuts an unnamed tributary to Willett Branch (35S). Observed recent tree plantings, potentially a recent stream restoration project on the stream abutting the wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35R receives hydrology from flood overflow and hill slope runoff.

Photos: MO_00051_Photo 1_35R, MO_00051_Photo 2_35R, MO_00051_Photo 3_35R and MO_00051_Photo 5_35R.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35R-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	5	yes	FACW
2. *Acer rubrum*	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Betula nigra*	15	yes	FACW
2. *Acer negundo*	10	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Dichanthelium clandestinum*	30	yes	FAC
2. *Acer negundo*	20	yes	FAC
3. *Juncus effusus*	5	no	FACW
4. *Scirpus cyperinus*	2	no	FACW
5. *Carex sp.*	10	no	NA
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	67 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35R-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	90	5YR 6/6	10	C	M	Sandy clay loam	Saturated
3-18	5YR 5/1	75	5YR 5/6	15	C	M	Clay loam	
			10YR 6/2	5	C	M		
			10YR 3/1	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.69AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation (Roadway) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35R

Latitude 38.97297 Longitude -77.102270

Prepared by: KH, JT Date 2/16/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	4, 7		
Floodflow Alteration	Y	5, 6, 13		
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y	10		
Nutrient Removal	Y	3		
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y	8		Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 86' to Little Falls Parkway

** Drains to an unnamed tributary of Willett Branch.

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MLS Compensatory SWM City/County: Bowie/ Prince George's Sampling Date: 3/8/2021

Applicant/Owner: MDOT SHA State: MD Sampling Point: 35RR

Investigator(s): ES, MM Section, Township, Range: _____

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): MLRA 149A Lat: 38.9032 Long: -76.7480 Datum: WGS 84

Soil Map Unit Name: Udorthents, highway, 0-65% slopes (UdaF) NWI classification: ~~PSS1A/~~PFO1A SLY 5/25/21

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

35RR is a depression wetland with some areas of deep standing water. A utility ROW extends through the wetland and appears to be cleared on a regular basis. A smaller portion of the wetland extends into a lawn and appears to be mowed when dry enough. Photos: PAX-0062_Photo 1_35RR, PAX-0062_Photo 2_35RR

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ✓ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 4
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 35RR

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	20	yes	FAC
2. *Acer rubrum*	5	yes	FAC
3.			
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		

Sapling Stratum (Plot size: 30 ft)			
1. *Liquidambar styraciflua*	20	yes	FAC
2. *Pyrus calleryana*	15	yes	NI
3.			
4.			
5.			
6.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		

Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft)			
1. *Smilax rotundifolia*	40	yes	FAC
2. *Juncus effusus*	25	yes	OBL
3. *Dichanthelium clandestinum*	20	no	FAC
4. *Microstegium vimineum*	20	no	FAC
5. *Euthamia graminifolia*	15	no	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
50% of total cover: 60	20% of total cover: 24		

Woody Vine Stratum (Plot size: 30 ft)			
1. *Toxicodendron radicans*	5	yes	FAC
2. *Lonicera japonica*	5	yes	FACU
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

A portion of the wetlands is cleared regularly for a utility ROW. Many of the trees in this area are not mature.

SOIL

Sampling Point: 35RR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10 YR 5/1	95	10 YR 4/4	5	C	M	clay loam	saturated
3-12	10 YR 5/2	80	10 YR 5/2	15	C	M	sandy clay loam	saturated
			5 YR 4/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04 ac Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? Y

Adjacent land use Road / Residential Distance to nearest roadway or other development 10 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35RR

Latitude 38.9032 Longitude -76.7480

Prepared by: [illegible] Date 3/8/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MPAO-0022		Feature ID: 35RRR	Use Class: 1
Date: 3/8/21	State: MD	Photos: MPAO-0022-Photo 1-35RRR	/ Photo 2
Crew: KH, JT	County: Montgomery	Last Flag Number: 3A / 4B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Fed partially by 35QQQ

Hydrologic Connectivity – Upstream: Outside study area | Downstream: 35TTT | Adjacent/Abutting: 35QQQ

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes ✓ No	Yes ✓ No	✓ Yes No	Yes ✓ No	Yes ✓ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes ✓ No	✓ Yes No	Yes ✓ No	Yes ✓ No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1-2'	✓ Silts	Sands	Muck	RB: forested
Artificial (man-made)	Depth: 6"-1'	Cobbles	Gravel	Other:	LB: wetland/forested
Manipulated (man-altered)	Bank Erosion/stability: stable	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 02 Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MD-00051		**Feature ID:** 35S	**Use Class:** I-P
Date: 2/11/21	**State:** MD	**Photos:** MD-0051 - Photo 1 - 35S	Photo 2-b
Crew: KH, JT	**County:** Montgomery	**Last Flag Number:** delineated via aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Perennial channel

Hydrologic Connectivity –	Upstream: Outside study area	Downstream: 35W	Adjacent/Abutting: 35U, 35R, 35Y

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / ✓ No
N/A ✓	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 20'	✓ Silts	✓ Sands	Muck	RB: forested/neighborhood
Artificial (man-made)	Depth: 3-4'	✓ Cobbles	✓ Gravel	Other:	LB: forested/wetland/trail
✓ Manipulated (man-altered)	Bank Erosion/stability: areas of erosion, but recent construction @ DS.	Bedrock	✓ Concrete		*Notes:*
Other: borders/tunnel					
		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Turns to a concrete channel at the downstream extent (a trail culvert) to Little Falls Pkwy.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** 01 **Year:** 21

-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		Feature ID: 35SS	Use Class: Perennial (I)
Date: 3/4/2021	State: MD	Photos: WAS-1000-Photo 3-35SS	
Crew: EK, MM	County: Prince George's	Last Flag Number: 35SS	1A/B to 9A/B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: UNT to UNT to Piscataway Crk.

Hydrologic Connectivity – Upstream: Broke Pipe (see Ex Notes) Downstream: Out of LOD Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	Documentation:
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 5 ft	✓ Silts	✓ Sands	Muck	RB: Forested
Artificial (man-made)	Depth: 3 m	✓ Cobbles	✓ Gravel	✓ Other: clay	LB: Forested
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		Notes:
✓ Other: Broken Pipe/ Gully	Poor				

Side slope: ☐ ≥ ☐ ☐ ✓ ☐ ≤

General Notes: Stream begins at a backed and undercut clay pipe. Portions of the pipe were observed throughout the Reach. See WAS-1000_Photo 4-35SS

Weather/Precipitation Conditions:

Rain: During visit	Last 48hrs	Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Feb Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
✓ Changes in the character of soil	✓ Presence of wrack line	✓ Shelving	✓ Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MPOC-0006-010-011		**Feature ID:** 35T	**Use Class:** I-P
Date: 2/23/21	**State:** MD	**Photos:** MPOC-0006-010-011 – Photo 1 – 35T	/Photo 2-5
Crew: UT, KH	**County:** Montgomery	**Last Flag Number:** aerially delineated	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Willett Branch. evidence of flow and defined bed/bank.

Hydrologic Connectivity –	Upstream: outside study area	Downstream: outside study area	Adjacent/Abutting: 35W, 35V, 35S, 35X

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 18-20'	✓ Silts	✓ Sands	Muck	RB: forested/shrub
Artificial (man-made)	Depth: 3-5'	✓ Cobbles	✓ Gravel	Other:	LB: forested/shrub/trail
✓ Manipulated (man-altered)	Bank Erosion/stability: stable, but areas of erosion.	Bedrock	Concrete		*Notes:*
Other: culverted under					
		Side slope: ☑ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: appears that a new pipe was installed at Hillandale Road and banks have been armored with rip rap.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** 01 **Year:** 21

-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MPAO-0022		Feature ID: 35TTT	Use Class: 1
Date: 3/8/21	State: MD	Photos: MPAO-0022_Photo 1_35TTT / Photo 2-4	
Crew: KHJT	County: Montgomery	Last Flag Number: 8A/7B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	X Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flows into pipe under Sligo Creek trail and drains into 35PPP.

Hydrologic Connectivity –	Upstream: Outside study area	Downstream: 35PPP	Adjacent/Abutting: 35RRR, 35QQQ

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
N/A ✓	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 3-5'	✓ Silts	✓ Sands	Muck	RB: wetland/forest
Artificial (man-made)	Depth: 2'	Cobbles	✓ Gravel	Other:	LB: trail
✓ Manipulated (man-altered)	Bank Erosion/stability: fairly stable; reinforced banks	Bedrock	Concrete		*Notes:*
Other: culverted/piped/stream restoration					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 02 Year: 21											
✓ No rain	✓ 0-0.1	✓ 0-0.5												
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/9/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35UUU-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0419706 Long: -77.0358237 Datum: NAD 83

Soil Map Unit Name: 6A - Baile silt loam, 0 to 3 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35UUU is a forested wetland located east/north of the Sligo Creek trail.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35UUU receives hydrology from groundwater.

Photos: MPAO_0022_Photo 1_35UUU, MPAO_0022_Photo 2_35UUU

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35UUU-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	yes	FAC
2. *Quercus falcata*	5	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Smilax rotundifolia*	10	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimineum*	25	yes	FAC
2. *Juncus effusus*	5	no	FACW
3. *Lonicera japonica*	5	no	OBL
4. *Symplocarpus foetidus*	5	no	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35UUU-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					Silty clay loam	
2-14	10YR 5/1	75	10YR 3/1	5	D	M	Silty clay loam	
			5YR 4/6	20	C	M		
14-20	10YR 4/1	70	10YR 4/2	15	D	M	Silty clay loam	
			5YR 4/6	15	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.38AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Park) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35UUU

Latitude 39.04198 Longitude -77.035824

Prepared by: KH, JT Date 3/9/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 983' to Lamberton Drive

** Drains to 32LLLLLLL through a pipe under Sligo Creek trail, which drains to Sligo Creek.

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/16/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35UUUU-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0414829 Long: -77.0367001 Datum: NAD 83

Soil Map Unit Name: 2UB - Glenelg-Urban land complex, 0 to 8 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ✓, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35UUUU is a forested wetland located between two backyards. The area seems fairly disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35UUUU receives hydrology from Sligo Creek flood overflow.

Photos: MPAO_0022_Photo 1_35UUUU, MPAO_0022_Photo 2_35UUUU

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35UUUU-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula Nigra*	15	yes	FACW
2. *Acer rubrum*	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	20	yes	FAC
2. *Chasmanthium latifolium*	10	yes	FACU
3. *Carex sp.*	5	no	NA
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35UUUU-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	90	7.5YR 5/8	10	C	M	Sandy clay loam	
6-12	10YR 4/2	85	10YR 5/8	15	C	M	Sandy lay loam	
12+	Refusal							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.07AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential/Recreation Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35UUUU

Latitude 39.04148 Longitude -77.036700

Prepared by: JT, KH Date 3/16/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 245' from Ladd Street

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Comp.SWM - MPOC_0006_010_011 City/County: Bethesda/Montgomery Sampling Date: 2/23/21

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35V-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 38.9723154 Long: -77.0993723 Datum: NAD 83

Soil Map Unit Name: 2UB - Glenelg-Urban land complex, 0 to 8 percent slopes NWI classification: PSS1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35V is a depression located between the Unnamed tributary to Willett Branch (35S), Willett Branch (35T) and a hillslope.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 2
Water Table Present?	Yes ✓	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35V receives hydrology from groundwater/hillslope runoff. Potentially flood waters from the Unnamed tributary to Willett Branch (35S) and Willett Branch (35T)

Photos: MPOC_0006_0010_0011_Photo 1_35V and MPOC_0006_0010_0011_Photo 2_35V

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35V-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Lindera benzoin*	15	yes	FAC
2. *Lonicera tatarica*	10	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25 = Total Cover		
Herb Stratum (Plot size: 30 ft)			
1. *Alisma triviale*	40	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35V-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	80	2.5YR 4/6	20	C	M	Clay loam	
6-20	10YR 5/1	85	5YR 4/6	15	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Forested Distance to nearest roadway or other development * see notes

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35V

Latitude 38.97232 Longitude -77.099372

Prepared by: JT, KH Date 2/23/21

Wetland Impact:
Type PSS Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 240' to Little Falls Parkway

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/9/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35VVV-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0411084 Long: -77.0349416 Datum: NAD 83

Soil Map Unit Name: 6A - Baile silt loam, 0 to 3 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35VVV is a forested wetland that is located north and east of Sligo Creek trail and drains into 35OOO.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35VVV receives hydrology from groundwater.

Photos: MPAO_0022_Photo 1_35VVV, MPAO_0022_Photo 2_35VVV, MPAO_0022_Photo 3_35VVV

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35VVV-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Cinna arundinacea*	25	yes	FACW
2. *Juncus effusus*	15	yes	FACW
3. *Smilax rotundifolia*	5	no	FAC
4. *Carex sp.*	10	no	NA
5. *Solidago sp.*	10	no	NA
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35VVV-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	90	5YR 5/6	10	C	M	Silty clay loam	
10+	Refusal							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Concrete

Depth (inches): 10

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.12AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (park) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35VVV

Latitude 39.04111 Longitude -77.034941

Prepared by: KH, JT Date 3/9/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 675' to Lamberton Drive

** Drains to 32MMMMMMM, which drains to Sligo Creek.

* Refer to backup list of numbered considerations.

F-611

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MPRO-0022	State: MD	Feature ID: 35VVVV	Use Class: I
Date: 3/8/21	County: Montgomery	Photos: MPRO-0022-Photo1 - 35VVVV / Photo 2	
Crew: UT, KH		Last Flag Number: digitized via aerial imagery	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flows into Sligo creek.

Hydrologic Connectivity – Upstream: Outside study area | Downstream: 35LLL | Adjacent/Abutting: 35WWWW

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	Documentation:
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 6-8'	✓ Silts	Sands / Muck	RB: maintained / Sligo creek
Artificial (man-made)	Depth: 3-4'	Cobbles	✓ Gravel / Other:	LB: forested wetland
✓ Manipulated (man-altered)	Bank Erosion/stability: stable, but areas of erosion.	Bedrock	Concrete	Notes:
Other: headwall				
		Side slope: ☑ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Last 48hrs	Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 02 Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MPOC-0006-010-011		**Feature ID:** 35W	**Use Class:** 1-P
Date: 2/23/21	**State:** MD	**Photos:** MPOC_0006-010-011 - Photo 1 - 35W / Photo 2-8	
Crew: VT, KH	**County:** Montgomery	**Last Flag Number:** 5A/7B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Piped at the upstream, highly eroded, evidence of bed/bank.

Hydrologic Connectivity –	Upstream: Pipe at Morgan Dr.	Downstream: 35T	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 6-8'	✓ Silts	✓ Sands	Muck	RB: trees/shrubs/trail/ 35VV
Artificial (man-made)	Depth: 3-6'	Cobbles	✓ Gravel	Other:	LB: forest/residential
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other: outfall (pipe)	severely eroded				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☑ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21												
✓ No rain	✓ 0-0.1	✓ 0-0.5													
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/16/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35WWWW-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0422800 Long: -77.0377043 Datum: NAD 83

Soil Map Unit Name: 54A - Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35WWWW is a forested wetland that extends along the 100-year floodplain on the right bank of Sligo Creek.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35WWWW is receiving flow from floodwaters of Sligo Creek, runoff from adjacent neighborhood and side tributaries.

Photos: MPAO_0022_Photo 1_35WWWW MPAO_0022_Photo 2_35WWWW, MPAO_0022_Photo 3_35WWWW

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35WWWW-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	10	yes	FACW
2. *Acer rubrum*	10	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Acer negundo*	10	yes	FAC
2. *Berberis thunbergii*	5	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	40	yes	FAC
2. *Cinna arundinacea*	15	no	FACW
3. *Microstegium vimineum*	15	no	FAC
4. *Boehmeria cylindrica*	10	no	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35WWWW-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/1	90	2.5YR 4/6	10	C	M, PL	Sandy clay loam	
2-8	10YR 4/1	80	2.5YR 4/6	15	C	M, PL	Sandy lay loam	
			10YR 3/1	5	D	M		
8-20	2.5YR 5/8	80	10YR 6/3	20	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 1.74AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential/Recreation Distance to nearest roadway or other development * see notes

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? ***see note Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35WWWW

Latitude 39.04228 Longitude -77.037704

Prepared by: JT, KH Date 3/16/2021

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	4, 7		
Floodflow Alteration	Y	4, 5, 6, 13		
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y	10, 14		
Nutrient Removal	Y	12		
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y	8		Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 245' from Ladd Street

** Drains to Sligo Creek

*** 1 tributary, 32CCCCCCCCC (Intermittent WUS)

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MPOC_0006-010-011		**Feature ID:** 35X	**Use Class:** 1-P
Date: 2/23/21	**State:** MD	**Photos:** MPOC_0006-010-011_Photo 1_35X / Photo 2-4	
Crew: UT, KH	**County:** Montgomery	**Last Flag Number:** 3A/2B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: evidence of flow and defined bed/bank.

Hydrologic Connectivity –	Upstream: at pipe outfall	Downstream: 35T	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 4'	✓ Silts	✓ Sands	Muck	RB: forested/shrub
Artificial (man-made)	Depth: 1'	Cobbles	✓ Gravel	Other:	LB: forested/shrub/roadway
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other: outfall pipe	stable				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** 01 **Year:** 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MPAO – 0022		Feature ID: 35XXXX	Use Class: I
Date: 3/16/21	State: MD	Photos: MPAO-0022_ Photo 1 – 35XXXX	/Photo 2-4
Crew: OT, KH	County: Montgomery	Last Flag Number: 5A/6B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: evidence of groundwater in stream

Hydrologic Connectivity –	Upstream: outfall w/ riprap	Downstream: 35LLLL	Adjacent/Abutting: 35WWWW

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 2-3'	✓ Silts	Sands	Muck	RB: forested
✓ Artificial (man-made)	Depth: 4-5'	Cobbles	✓ Gravel	Other:	LB: forested
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other: outfall/ riprap	eroded/ undercut				
		Side slope: ☐ ≥1:1	✓ 2:1	☐ 3:1 ☐ ≤4:1	

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 02 Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Comp. SWM - MPOC_0006_010_011 City/County: Bethesda/Montgomery Sampling Date: 2/23/21

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35Y-WET

Investigator(s): KH, JT Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR S Lat: 38.9721016 Long: -77.0995989 Datum: NAD 83

Soil Map Unit Name: 2UB - Glenelg-Urban land complex, 0 to 8 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ✓, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35Y is a small depression receiving hydrology from the manhole and hillslope.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 0.5
Water Table Present?	Yes ✓	No ___	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35Y receives hydrology from manhole flow.

Photos: MPOC_0006_010_011_Photo 1_35Y and MPOC_0006_010_011_Photo 2_35Y

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35Y-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Herb Stratum (Plot size: 30 ft)			
1. *Fescue sp.*	85	yes	NA
2. *Ficaria verna*	10	no	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

35Y is located within an assumed maintained access area abutting a manhole. The Fescue sp. is likely a planted landscape grass and is mowed in order to keep access available to the manhole. Because of the presence of wetland hydrology and hydric soils it is assumed that this area would also have hydrophytic vegetation.

SOIL

Sampling Point: 35Y-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 5/1	75	2.5YR 5/8	25	C	M, PL	Silty clay loam	
12-20	10YR 5/2	80	2.5YR 5/8	5	C	PL		
			5YR 5/6	10	C	M		
			10YR 3/2	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.04AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation (Roadway)/Forested Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35Y

Latitude 38.97210 Longitude -77.09959

Prepared by: KH, JT Date 2/23/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 106' to Little Falls Parkway

* Refer to backup list of numbered considerations.

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MLS compensatory SWM		Feature ID: 35YY	Use Class: Perennial (I)
Date: 3/10/2021	State: MD	Photos: WAS-0992 _ Photo 4_35YY	
Crew: ES, MM	County: Prince George's	Last Flag Number: 35YY	1B to 5B

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Main stem of Piscataway Creek. Only flagged left bank.

Hydrologic Connectivity –	Upstream: Outside study area	Downstream: Outside study area	Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)* Outside study area

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 40 ft	Silts	✓ Sands	Muck	RB: Scrub-Shrub
Artificial (man-made)	Depth: 3 ft (+)	✓ Cobbles	✓ Gravel	Other:	LB: Scrub-Shrub
Manipulated (man-altered)	Bank Erosion/stability:	✓ Bedrock	Concrete		*Notes:*
Other:	Fair				
		Side slope: ☐ >[illegible] ☐ [illegible] ☑ [illegible] ☐ <[illegible]			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: FEB Year: 21

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	✓ Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	✓ Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MPAO_0022 City/County: Wheaton/Montgomery Sampling Date: 3/9/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35YYY-WET

Investigator(s): JT, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain/toe-of-slope Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR or MLRA): LRR S Lat: 39.0393004 Long: -77.0335609 Datum: NAD 83

Soil Map Unit Name: 2UB - Glenelg-Urban complex, 0 to 8 percent slopes NWI classification: PEM1Y

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ✓	No ___	
Wetland Hydrology Present?	Yes ✓	No ___	

Remarks:

35YYY is an emergent wetland that spans along the right bank of Sligo Creek (35LLL) to where it enters a stormwater facility.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35YYY receives hydrology from Sligo Creek (35LLL) floodwaters, groundwater and runoff from the neighborhood to the west. Photos: MPAO_0022_Photo 1_35YYY

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35YYY-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Herb Stratum (Plot size: 30 ft)			
1. *Microstegium vimineum*	30	yes	FAC
2. *Ficaria verna*	25	yes	FAC
3. *Boehmeria cylindrica*	20	yes	FACW
4. *Perilla frutescens*	5	no	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35YYY-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/1	80	5YR 4/6	20	C	M, PL	Silty clay loam	
9-18	10YR 5/1	65	2.5YR 4/8	25	C	M, PL	Silty clay loam	
			10YR 2/1	10	D	M		
18-20	2.5Y 6/2	75	5YR 4/6	20	C	M	Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 1.63AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35YYY

Latitude 39.03930 Longitude -77.033560

Prepared by: JT, KH Date 3/9/2021

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	7, 13		
Floodflow Alteration	Y	5, 6, 13		
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y	10		
Nutrient Removal	Y	4		
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y	8, 17		Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: * 340' to Ladd Street

** Drains to Sligo Creek

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - SSS_150023 City/County: Wheaton/Montgomery Sampling Date: 2/25/21

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 35Z-WET

Investigator(s): JT, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe-of-slope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.0593739 Long: -77.0319895 Datum: NAD 83

Soil Map Unit Name: 2C, Glenelg silt loam, 8 to 15 percent slopes NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No ___	**Is the Sampled Area within a Wetland?** Yes ✓ No ___
Hydric Soil Present?	Yes ___	No ___	
Wetland Hydrology Present?	Yes ___	No ___	

Remarks:

35Z is located abutting the Arcola trail and drains to the Unnamed tributary to Northwest Branch Anacostia River (35DDD) following the toe-of-slope.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 0.25
Water Table Present?	Yes ✓	No ___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 12

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

35Z receives hydrology from groundwater and runoff from the hillslopes.

Photos: SSS_150023_Photo 1_35Z, SSS_150023_Photo 2_35Z, SSS_150023_Photo 3_35Z and SSS_150023_Photo 4_35Z

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 35Z-WET

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	= Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Ficaria verna*	75	yes	FAC
2. *Symplocarpus foetidus*	20	yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 35Z-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	80	2.5YR 5/8	20	C	M	Silty clay loam	
6-20	10YR 4/2	90	5YR 5/6	10	C	M	Silty clay loam	Saturated at 12"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Recreation (Brookside Gardens) Distance to nearest roadway or other development * see notes

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? ** see notes

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 35Z

Latitude 39.05937 Longitude -77.031990

Prepared by: KH, JT Date 2/25/21

Wetland Impact:
Type PEM Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			
Floodflow Alteration	Y			
Fish and Shellfish Habitat	N			
Sediment/Toxicant Retention	Y			
Nutrient Removal	Y			
Production Export	N			
Sediment/Shoreline Stabilization	N			
Wildlife Habitat	Y			Birds observed.
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes:
* 175' to Glenallan Avenue
** Drains to an unnamed tributary to Northwest Branch Anacostia River

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: SSS- 150023		**Feature ID:** 35ZZ	**Use Class:** IV
Date: 2/25/21	**State:** MD	**Photos:** SSS- 150023 -Photo 1 - 35ZZ / Photo 2 / Photo 3, Photo 4	
Crew: KHJT	**County:** Montgomery	**Last Flag Number:** ~~6A~~/7A/7B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	✓ TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: flows under glenallan road into the unnamed trib to northwest branch anacostia river

Hydrologic Connectivity –	Upstream: outside study area	Downstream: 35DDD	Adjacent/Abutting: none

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15'	✓ Silts	✓ Sands	Muck	RB: forested/ glenallan rd.
Artificial (man-made)	Depth: 3-4'	Cobbles	✓ Gravel	Other:	LB:
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other: converted at upstream/downstream	scour present				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 01 Year: 21											
✓ No rain	0-0.1	✓ 0-0.5												
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet	

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Version 2.1 - August 2019

RK&K Waters of the U.S. Data Sheet

Project: MPAO-0022		Feature ID: 35ZZZ	Use Class: I
Date: 3/11/21	State: MD	Photos: MPAO-0022-Photo 1 35ZZZ / Photo 2-4	
Crew: OT, KH	County: Montgomery	Last Flag Number: 5A/6B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	Tributary	✓ Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flowing from culvert with riprap bed and naturalizes. drains into wetland (35AAAA 35ZZZ)

Hydrologic Connectivity – Upstream: non- jurisidictional outfall Downstream: 35LLL Adjacent/Abutting: 35AAAA

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☐	Yes ✓ No	Yes ✓ No	✓ Yes No	Yes ✓ No	Yes ✓ No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	Documentation:
	Yes ✓ No	✓ Yes No	Yes ✓ No	Yes ✓ No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 2-3'	✓ Silts	Sands	Muck	RB: forested
Artificial (man-made)	Depth: 4-8"	Cobbles	✓ Gravel	Other:	LB: forested
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		Notes:
Other: outfall/riprap	stable				
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain		
During visit	Last 48hrs	Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: 2 Year: 21

-6	-5	-4	-3	-2	-1	0	1	(2)	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark			
Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36A	**Stream Order:** 1
Date: 4/13/2021	**State:** MD	**Photos:** 1(US) 2(DS)	
Crew: AC SP	**County:** Montgomery	**Last Flag Number:** 36A-12A, 36A-14B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ☑ RPW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Channel originates w culvert and flowing during site visit. Flows into main stem - 36B

Hydrologic Connectivity –	Upstream: N/A	Downstream: 36B	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 8-12'	☐ Silts	☑ Sands	☐ Muck	RB: Forest, Commerical
☐ Artificial (man-made)	Depth: 2" - 2'	☑ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Forest, Presidental
☐ Other:	Moderate erosion	Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
☑ No rain	☑ 0-0.5	○	○	○	○	☑	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☑ Sediment sorting
☐ No	☑ Changes in the character of soil	☐ Water staining	☑ Scour
	☑ Shelving	☑ Presence of flood litter/debris	☑ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☑ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36AA	**Stream Order:** 1
Date: 4/16/21	**State:** MD	**Photos:** 1(US), 2(DS)	
Crew: MN, AC	**County:** Montgomery	**Last Flag Number:** 36AA-5	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Standing water during assessment, old oxbow that likely flows seasonally & after rain

Hydrologic Connectivity –	Upstream: None	Downstream: 36B	Adjacent/Abutting: None

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4'	☐ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 1/2'	✓ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: mod. @ meanders	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Old oxbow channel.

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply; include photos for each & list photo #)*

Bed and Banks	Ordinary High Water Mark		
✓ Yes	☐ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: *(check all that apply; include photos for each & list photo #)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

F-636

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36B	**Stream Order:** 2
Date: 4/13/21	**State:** MD	**Photos:** 4 (US) 5 (DS)	
Crew: AG, SP	**County:** Montgomery	**Last Flag Number:** 4DAB	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ☑ RPW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Main Channel - Unnamed trib to New Branch Anacostia River

Hydrologic Connectivity –	Upstream: 36A, 36AA, 36CC, 36BB, 36EE, 36FF	Downstream: Outside Study Area	Adjacent/Abutting: 36J, 36K, 36BBD, 36C

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 8-20'	☐ Silts	☑ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6"-2'	☑ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Extensive	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Old oxbow in upstream portion; Bullfrog, minnows, fish head/downed

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
☑ No rain	☑ 0-0.5	○	○	○	○	☑	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply; include photos for each & list photo #)*

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☐ Sediment sorting
☐ No	☑ Changes in the character of soil	☐ Water staining	☐ Scour
	☑ Shelving	☑ Presence of flood litter/debris	☑ Observed/predicted flow events
	☑ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☑ Presence of wrack line	☐ Other:

Tidal tributary has: *(check all that apply; include photos for each & list photo #)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36 BB	**Stream Order:** 1
Date: 4/16/21	**State:** MD	**Photos:** 3(US) 4(DS)	
Crew: MJ, AC	**County:** Montgomery	**Last Flag Number:** 36BB-7	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ✓ RPW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Sig flow during assessment (water 1-12" deep)

Hydrologic Connectivity –	Upstream: Outside SA	Downstream: 36B	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate	Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4'	☐ Silts ☐ Sands ☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 1'	✓ Cobbles ✓ Gravel ☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Moderate, severe along a few stretches of raw banks.	☐ Bedrock ☐ Concrete	LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1	

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	✓ Water staining	✓ Scour
	✓ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	✓ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/13/21

Applicant/Owner: SHA State: MD Sampling Point: 36C-WET

Investigator(s): AC, SP Section, Township, Range: –

Landform (hillslope, terrace, etc.): Swale/depression Local relief (concave, convex, none): Concave Slope (%): 0-3%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.099525 Long: -77.014503 Datum: NAD83

Soil Map Unit Name: Hatboro Silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? no Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? no (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
6 NE
Swale/depression draining to 36J (forested portion of wetland).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 12" *
Water Table Present?	Yes ✓	No _____	Depth (inches): 12"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water within 10% of plot

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 36C-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	60	✓	FACU
2. Lindera benzoin	10		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		

Herb Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Microstegium vimineum	15		FAC
2. Persicaria perfoliata	20	✓	FAC
3. Rumex crispus	2		FAC
4. Lonicera japonica	15		FACU
5. Lysimachia nummularia	40	✓	FACW
6. Juncus effusus	3		FACW
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 36C-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	95	7.5YR 4/4	5	C	M/PL	SCL	w/ mica
6-12+	10YR 5/3	90	7.5YR 5/6	10	C	M	SL	w/ mica

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Institutional, Forest Distance to nearest roadway or other development Abuts. maintained property

Dominant wetland systems present PSS Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36 C

Latitude 39.099525 Longitude -77.014503

Prepared by: AC Date 4/13/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

F-642

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36CC	**Stream Order:** 1
Date: 4/16/21	**State:** MD	**Photos:** 5+7(US), 6(DS)	
Crew: MN, AC	**County:** MOCO	**Last Flag Number:** 36CC-4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Hydric soils in channel, light flow in ds section, standing water US, appears to intercept GW seasonally

Hydrologic Connectivity –	Upstream: pipe outfall / NonJD rip rap ditch	Downstream: 36B	Adjacent/Abutting: None

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☐ Natural Channel Shape	Width: 3'	☐ Silts	☐ Sands	☐ Muck	RB: scrub-shrub / forest
✓ Artificial (man-made)	Depth: 1'	✓ Cobbles	✓ Gravel	☐ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: moderate – severe originates @ headcut	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: intermittent portion of outfall channel

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php												Month: March Year: 2021
○ No rain	○ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply; include photos for each & list photo #)*

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	✓ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: *(check all that apply; include photos for each & list photo #)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36D	**Stream Order:** 2
Date: 4/15/21	**State:** MD	**Photos:** 14US 15DS	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** LiDAR	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Large unnamed trib to Sandy Branch w/ several tributaries

Hydrologic Connectivity –	Upstream: 36L, 36R, 36S, 36I, 36U, 36V, 36X	Downstream: 36N	Adjacent/Abutting: 36E, 36G, 36M, 36Z, 36Y, 36T, 36P

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 8 FT	☐ Silts	✓ Sands	✓ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6" – 1.5'	✓ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor - Moderate	☐ Bedrock	☐ Concrete		LB: Forest/Residential
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Moderate erosion at some bends

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply; include photos for each & list photo #)*

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: *(check all that apply; include photos for each & list photo #)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/16/21

Applicant/Owner: SHA State: MD Sampling Point: 360D-WET

Investigator(s): MN, AC Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope seep Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.09685511 Long: -77.0142691 Datum: NAD83

Soil Map Unit Name: Hatboro silt loam, 0-3% slopes, frequently flooded NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Photo 8 (E) Hillslope seep abutting 36B

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): —
Water Table Present?	Yes ✓	No ___	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 36 DD WET

Tree Stratum (Plot size: Irregular)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: Irregular)	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	10	✓	FACU
2. Lindera benzoin	1		FAC
3. Fraxinus pennsylvanica	2		FACW
4.			
5.			
6.			
7.			
8.			
9.			
	13 = Total Cover		
50% of total cover: 6.5	20% of total cover: 2.6		

Herb Stratum (Plot size: Irregular)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juncus effusus	2		FACW
2. Scirpus polyphyllus	8	✓	OBL
3. Cinna arundinacea	20	✓	FACW
4. Glechoma hederacea	4		FACU
5. Potentilla indica	6	✓	FACU
6. Impatiens capensis	3		FACW
7. Fraxinus pennsylvanica	6	✓	FACW
8. Parathelypteris noveboracensis	4		FAC
9. Lonicera japonica	5		FACU
10. Rosa multiflora	4		FACU
11.			
	62 = Total Cover		
50% of total cover: 31	20% of total cover: 12.4		

Woody Vine Stratum (Plot size: Irregular)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

* Plot entire wetland 5' wide x 30' long.

SOIL

Sampling Point: 3600 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	80	7.5 YR 4/6	15	C	M,PL	SiCL	w/ Mica schist
			5 YR 3/4	5	C	M,PL		
4-9	2.5 Y 3/2	45	10YR 3/6	3	C	M	SiCL	w/ Mica schist
	2.5 Y 4/2	52						
9-12+	10YR 4/3	45	7.5 YR 4/6	10	C	M	SiCL	
	10YR 4/2	45						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 ac Human made? No Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Residential, Forest Distance to nearest roadway or other development 60'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present 60'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36 DD

Latitude 39.09168511 Longitude -77.01426911

Prepared by: AC Date 4/16/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/13/21

Applicant/Owner: SHA State: MD Sampling Point: 36E-WET

Investigator(s): EB KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain/Swale Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0707598 Long: -77.2602032 Datum: NAD83

Soil Map Unit Name: Baile silt loam, 0-3% Slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Ph1-NW
Abuts 36D

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5 *
Water Table Present?	Yes ✓	No _____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water covers approx. 10% of plot

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 316E-WET

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	20	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4.0		

Sapling/Shrub Stratum (Plot size: 30')			
1. Asimina triloba	5	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1.0		

Herb Stratum (Plot size: 15')			
1. Cinna arundinacea	5		FACW
2. Microstegium vimineum	90	✓	FAC
3. Carex sp.	3		
4. Impatiens capensis	10		FACW
5. Boehmeria cylindrica	8		FACW
6.			
7.			
8.			
9.			
10.			
11.			
	116 = Total Cover		
50% of total cover: 58	20% of total cover: 23.2		

Woody Vine Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Most trees rooted along wetland boundary, approx. 75% canopy cover dominated by ACRU+PLOC

SOIL

Sampling Point: 36E-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/2	90	5YR4/6	10	C	M/PL	SiCL	
4-7	10YR3/2	60					CL	
	2.5Y 4/2	40						
7-12+	2.5Y 5/2	95	2.5Y5/6	5	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.08ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, Developed Distance to nearest roadway or other development 250'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 250'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36E

Latitude 39.0707598 Longitude -77.2602032

Prepared by: KS Date 4/13/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-652

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36EF	**Stream Order:**
Date: 4/20/2021	**State:** MD	**Photos:** 1(US) 2(DS)	
Crew: EB, SP	**County:** Montgomery	**Last Flag Number:** Generated using LIDAR	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	✓ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Originates at SWM pond outfall. Trickle flow in bed/banks during assessment			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: SWM	Downstream: 36PB	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 8'	✓ Silts	✓ Sands	☐ Muck	RB: Fo ntal
☐ Artificial (man-made)	Depth: 6"	☐ Cobbles	☐ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		
☐ Other:	Minor	Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1			LB: Fo e
Notes: Bulking observed					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year:												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

✓ Yes	✓ Clear, natural line impressed on the bank	☐ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	✓ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

F-653

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36F	**Stream Order:** 1
Date: 4/13/21	**State:** MD	**Photos:** 2US 3DS	
Crew: EB KS	**County:** Montgomery	**Last Flag Number:** 36F-5	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, begins at headcut, hydric soils			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 36G	Adjacent/Abutting: 36G

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3 FT	☐ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 3-6"	☐ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor, few moderate	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Stream dissappates into wetland 36G.

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

F-654

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36FF	**Stream Order:** 1
Date: 4/20/2021	**State:** MD	**Photos:** 3(US) 4(DS)	
Crew: EB, SP	**County:** Montgomery	**Last Flag Number:** 36FF-5	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Originates @ culvert w/ concrete apron. trickle flow observed w/ beds/banks during assessment			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: none	Downstream: 36B	Adjacent/Abutting: none

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 6'	✓ Silts	✓ Sands	☐ Muck	RB: Residential
☐ Artificial (man-made)	Depth: 6" - 1'	✓ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:	Moderate, Bare banks	Side slope: ☐ ≥1:1	✓ 2:1	☐ 3:1 ☐ ≤4:1	
Notes:	and exposed roots in areas				

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	✓ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

F-655

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/13/21

Applicant/Owner: SHA State: MD Sampling Point: 36G-WET

Investigator(s): EB KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0703740 Long: -77.2596564 Datum: NAD83

Soil Map Unit Name: Baile silt loam, 0-3% slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Ph 4 - NW
Abuts/DS of 36F, Abuts/drains to 36D

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-3 **

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water in approx. 5% of plot
** Recent rain, saturation most likely surface driven due to clay soils preventing movement of GW w/in profile.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 366-WET

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	45	✓	FAC
2. Platanus occidentalis	20	✓	FACW
3. Juniperus virginiana	2		FACU
4. Ulmus americana	3		FACW
5. Diospyros virginiana	2		FAC
6.			
7.			
	72 = Total Cover		
50% of total cover: 36	20% of total cover: 14.4		

Sapling/Shrub Stratum (Plot size: 30')			
1. Rosa multiflora	15	✓	FACU
2. Berberis thunbergii	5	✓	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Herb Stratum (Plot size: 15')			
1. Cinna arundinacea	30	✓	FACW
2. Dichanthelium clandestinum	8		FAC
3. Lonicera japonica	10		FACU
4. Microstegium vimineum	15	✓	FAC
5. Impatiens capensis	3		FACW
6. Geum canadense	5		FACU
7.			
8.			
9.			
10.			
11.			
	71 = Total Cover		
50% of total cover: 35.5	20% of total cover: 14.2		

Woody Vine Stratum (Plot size: 30')			
1. Vitis sp.	8	✓	N/A
2.			
3.			
4.			
5.			
	8 = Total Cover		
50% of total cover: 4	20% of total cover: 1.6		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Unable to ID vitis sp. due to time of year. However, even if it is FACU or UPL, the dominance test would still be met @ 57% FAC or wetter.

SOIL

Sampling Point: 316G-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR5/2	60	7.5YR4/6	3	C	M/PL	SiCL	
	10YR5/3	37						
8-10	10YR5/2.5	95	7.5YR4/6	5	C	M	SiC	some gravel
10-12+	2.5Y 5/2	60	7.5YR5/6	20	C	M	SiC	
	2.5Y 5/1	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.1 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, Developed Distance to nearest roadway or other development 325'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 825'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36G

Latitude 39.070374 Longitude -77.2546564

Prepared by: KS Date 4/13/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-659

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36H	**Stream Order:** 1
Date: 4/13/21	**State:** MD	**Photos:** 5 US 6 DS	
Crew: EB KS	**County:** Montgomery	**Last Flag Number:** 36H-3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, begins at headcut, hydric soil			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: None	Downstream: 36D	Adjacent/Abutting: 36G

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1 FT	☐ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 3-6"	☐ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Wetland 36G adjacent to stream but separated by small upland berm

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

F-660

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36I	**Stream Order:** 1
Date: 4/13/21	**State:** MD	**Photos:** 7US 8DS	
Crew: EB KS	**County:** Montgomery	**Last Flag Number:** 36I-5	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Observed flow, begins at headcut, hydric soils

Hydrologic Connectivity –	Upstream: None	Downstream: 36D	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2 FT	✓ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6"	☐ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	○ 0-0.5	○	○	○	○	✓	●	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

F-661

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/13/21

Applicant/Owner: SHA State: MD Sampling Point: 36J-WET

Investigator(s): AC SP Section, Township, Range: —

Landform (hillslope, terrace, etc.): floodplain depression Local relief (concave, convex, none): Concave Slope (%): 0-3%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.099541 Long: -77.0142767 Datum: NAD83

Soil Map Unit Name: Hatboro silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

7 SE

Depression draining to 36eB and abutting 36eC

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 12" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

* Surface water within drainage channel covering 10% of plot.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 365- Wet

Tree Stratum (Plot size: 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	30	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 7		

Sapling/Shrub Stratum (Plot size: 20')			
1. Lindera benzoin	15	✓	FAC
2. Rosa multiflora	5	✓	FACU
3. Viburnum dentatum	7	✓	FAC
4.			
5.			
6.			
7.			
8.			
9.			
	27 = Total Cover		
50% of total cover: 13.5	20% of total cover: 5.4		

Herb Stratum (Plot size: 20')			
1. Lindera benzoin	25	✓	FAC
2. Lonicera japonica	35	✓	FACU
3. Cinna arundinacea	12		FACW
4. Rosa multiflora	10		FACU
5. Juncus effusus	3		FACW
6. Carex sp.	15		N/A
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		

Woody Vine Stratum (Plot size: 20')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 36J-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/1	90	7.5YR4/4	10	C	M/PL	SL	w/ rootlets
3-12+	10YR4/1	85	2.5Y5/6	15	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest Distance to nearest roadway or other development ~50'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36J

Latitude 39.0993471 Longitude -77.0142767

Prepared by: AC Date 4/13/21

Wetland Impact:
Type ~ Area ~

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-665

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/18/01

Applicant/Owner: SHA State: MD Sampling Point: 36K-WET

Investigator(s): MN, LN Section, Township, Range:

Landform (hillslope, terrace, etc.): Floodplain depression Local relief (concave, convex, none): Concave Slope (%): <3

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0987295 Long: -77.014362 Datum: NAD83

Soil Map Unit Name: Hatboro Silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Adjacent to Waters 36B

Photo 11 (S) PSS wetland in a forested setting

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 1/2" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* 1/2" water in drainage patterns

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 36K-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Lindera benzoin	30	✓	FAC
2. Rosa multiflora	30	✓	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Herb Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Glechoma hederacea	15	✓	FACU
2. Smilax rotundifolia	15	✓	FAC
3. Bycona striata	15	✓	OBL
4. Viburnum dentatum	10		FAC
5. Cinna arundinacea	8		FACW
6. Lonicera japonica	10		FACU
7. Onoclea sensibilis	10		FACW
8.			
9.			
10.			
11.			
	83 = Total Cover		
50% of total cover: 41.5	20% of total cover: 16.6		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Smilax rotundifolia	20	✓	FAC
2. Lonicera japonica	5	✓	FACU
3.			
4.			
5.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Approx 65% cover of trees rooted outside of wetland boundary (ACRU)

SOIL

Sampling Point: 36K-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 3/1	98	7.5YR 4/4	2	C	M/PL	SiCL	with Mica
3-10	5Y 4/1	90	7.5YR 4/6	10	C	M/PL	CL	with Mica
10-14	2.5Y 5/2	50	10YR 4/6	50	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ✓ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.05ac Human made? NO Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Forest, Institutional Distance to nearest roadway or other development >100'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y (fence present)

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36K

Latitude 39.098 7295 Longitude -77.014362

Prepared by: MN Date 4/13/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓	✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-669

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36L	**Stream Order:**
Date: 4/14/21	**State:** MD	**Photos:** US 2DS	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** 36L-5A ; 36L-2B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Observed flow, receives hydrology from wetland hydric soils

Hydrologic Connectivity	Upstream: 36P	Downstream: 36D	Adjacent/Abutting: 36P

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2 ft	✓ Silts	✓ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 3-6"	☐ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:	Minor US, Moderate DS	Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

F-670

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/13/21

Applicant/Owner: SHA State: MD Sampling Point: 36M-WET

Investigator(s): EB KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Seep Local relief (concave, convex, none): Concave Slope (%): 2-8%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0684059 Long: -77.2570103 Datum: NAD83

Soil Map Unit Name: Baile silt loam, 0-3% slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Abuts 36D
Pn 10N

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No _____	Depth (inches): 3"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
*Surface water in approx. 10% of plot

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 36M-WET

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	50	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		

Sapling/Shrub Stratum (Plot size: 30')			
1. Asimina triloba	5	✓	FAC
2. Berberis thunbergii	2	✓	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	7 = Total Cover		
50% of total cover: 3.5	20% of total cover: 1.4		

Herb Stratum (Plot size: 15')			
1. Cinna arundinacea	70	✓	FACW
2. Rosa multiflora	10		FACU
3. Microstegium vimineum	15		FAC
4. Lonicera japonica	3		FACU
5. Impatiens capensis	3		FACW
6. Boehmeria cylindrica	2		FACW
7.			
8.			
9.			
10.			
11.			
	108 = Total Cover		
50% of total cover: 54	20% of total cover: 21.6		

Woody Vine Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 36M-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/2	85	5YR 3/4	15	C	M/PL	SiL	
4-10	2.5Y 4/2	90	7.5YR 4/6	10	C	M/PL	SiL	
10-12+	2.5Y 5/2	75	7.5YR 4/4	25	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.06 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, Developed Distance to nearest roadway or other development 250'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 250'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36M

Latitude 39.0684059 Longitude -77.2570103

Prepared by: KS Date 4/13/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export	✓				
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-674

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 360N	**Stream Order:** 3
Date: 4/15/21	**State:** MD	**Photos:** 12DS 13US	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** LIDAR	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	○ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	☑ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Named stream – Sandy Branch			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 36D	Downstream: Outside Study Area	Adjacent/Abutting: 360, 36Z

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 20'	☑ Silts	☑ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 1'	☑ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Minor	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
☑ No rain	☑ 0-0.5	○	○	○	○	☑	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☑ Sediment sorting
☐ No	☐ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☑ Presence of flood litter/debris	☑ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☑ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☑ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/13/21

Applicant/Owner: SHA State: MD Sampling Point: 360-WET

Investigator(s): EB KS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0664970 Long: -77.25454 65 Datum: NAD83

Soil Map Unit Name: Hatboro silt loam, 0-3% slopes, frequently flooded NWI classification: PFO1A/B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Abuts 36N
Ph II W

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 8"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 360-WET

Tree Stratum (Plot size: 5'x40')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	25	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5.0		

Sapling/Shrub Stratum (Plot size: 5'x40')			
1. Asimina triloba	15	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3.0		

Herb Stratum (Plot size: 5'x20')			
1. Symplocarpus foetidus	5		OBL
2. Cinna arundinacea	5		FACW
3. Microstegium vimineum	70	✓	FAC
4. Rosa multiflora	2		FACU
5. Phalaris arundinacea	20		FACW
6.			
7.			
8.			
9.			
10.			
11.			
	102 = Total Cover		
50% of total cover: 51	20% of total cover: 20.4		

Woody Vine Stratum (Plot size: 5'x40')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Majority of trees rooted outside wetland edge, approx. 50% canopy cover dominated by ACRUFACNE

SOIL Sampling Point: 360 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	85	7.5YR 3/4	5	C	M/PL	SiCL	
	10YR 3/2	10						
2-6	2.5Y 4/2	85	7.5YR 3/4	15	C	M	SiCL	
6-12+	2.5Y 4/2	90	10YR 4/3	10	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.02ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, Developed Distance to nearest roadway or other development 140'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 140'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 360

Latitude 39.0664970 Longitude -77.2545465

Prepared by: KS Date 4/13/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

F-679

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/14/2021

Applicant/Owner: SHA State: MD Sampling Point: 36P-WET

Investigator(s): EB, SP Section, Township, Range: —

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5-8%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0706495 Long: -77.2605138 Datum: NAD83

Soil Map Unit Name: Baile silt loam, 0 to 3 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

Ph3-S

Swale wetland abutting waters 36D, 36L, 36R, 36Q

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No ____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-3"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

*Surface water in approx. 20% of plot

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 36P-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	50	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		

Sapling/Shrub Stratum (Plot size: 30')			
1. Berberis thunbergii	10	✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Herb Stratum (Plot size: 30')			
1. Microstegium vimineum	80	✓	FAC
2. Allium vineale	3		FACU
3. Carex Sp.	5		N/A
4. Cinna arundinacea	10		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	98 = Total Cover		
50% of total cover: 49	20% of total cover: 19.6		

Woody Vine Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 36P-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	97	7.5YR 4/4	3	C	M	SiC	
4-6	2.5Y 4/2	80	7.5YR 5/6	20	C	M,PL	SiCL	Gravel
6-12+	2.5Y 4/1	88	7.5YR 5/6	12	C	M,PL	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.10ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, Residential Distance to nearest roadway or other development >100'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36P

Latitude 39.0706495 Longitude -77.2605138

Prepared by: EB SP Date 4/14/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-683

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36Q	**Stream Order:** 1
Date: 4/14/21	**State:** MD	**Photos:** 4US 5DS	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** 36Q-6	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, hydric soils			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: Outside Study Area	Downstream: 36P	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1-6'	✓ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6"	☐ Cobbles	☐ Gravel	✓ Other:	
✓ Manipulated (man-altered)	Bank Erosion/stability: Stable	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	☐ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

F-684

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36R	**Stream Order:** 1
Date: 4/14/2021	**State:** MD	**Photos:** 6 (US) 7 (DS)	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** 36R-5	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	☑ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Trickle flow observed at headcut within wetland 36P. Bed/banks and substrate present. Hydric soils present

Hydrologic Connectivity –	Upstream: 36P	Downstream: 36D	Adjacent/Abutting: 36P

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
☑ Natural Channel Shape	Width: 1'	☑ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 3-6"	☑ Cobbles	☑ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		
☐ Other:	Minor	Side slope: ☐ ≥1:1 ☐ 2:1 ☑ 3:1 ☐ ≤4:1			LB: Forest

Notes: Few spots with moderate erosion. Unknown frog species observed

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week		Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
○ No rain	○	0-0.5	○	○	○	○	☑	○	○	○	○	○	○	○	○
☑ Light rain	○	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply; include photos for each & list photo #)*

Bed and Banks	Ordinary High Water Mark		
☑ Yes	☑ Clear, natural line impressed on the bank	☑ Sediment deposition	☑ Sediment sorting
☐ No	☑ Changes in the character of soil	☐ Water staining	☑ Scour
	☐ Shelving	☐ Presence of flood litter/debris	☑ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☑ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: *(check all that apply; include photos for each & list photo #)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

F-685

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36S	**Stream Order:** 1
Date: 4/15/21	**State:** MD	**Photos:** IUS 2DS	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** 36S-7	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, most likely dries out during dry season. Hydric soils present			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)
Hydrologic Connectivity –	Upstream: 36T	Downstream: 36D	Adjacent/Abutting: 36T

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1 FT	✓ Silts	☐ Sands	☐ Muck	RB: Forest, Old field
☐ Artificial (man-made)	Depth: 6"	☐ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Stable, minor in few areas	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☑ 3:1 ☐ ≤4:1			
Notes:					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

F-686

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/15/21

Applicant/Owner: SHA State: MD Sampling Point: 36T-WET

Investigator(s): EB SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0703919 Long: -77.2600598 Datum: NAD83

Soil Map Unit Name: Beile Silt loam, 0 to 3 Percent Slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Ph3 - E

Rain in past 12 hrs.

Abuts 36S + 36D

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No _____	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-2"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

* Surface water in approx. 10% of plot

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 36T-WET

Tree Stratum (Plot size: 20x40')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	40	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 20x40')			
1. Berberis Thunbergii	10	✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Herb Stratum (Plot size: 10x20')			
1. Rosa multiflora	5		FACU
2. Cinna arundinacea	45	✓	FACW
3. Carex sp.	2		N/A
4. Microstegium vimineum	20	✓	FAC
5. Poaceae sp.	8		N/A
6. Boehmeria cylindrica	3		FACW
7. Impatiens capensis	2		FACW
8. Lonicera japonica	8		FACU
9.			
10.			
11.			
	93 = Total Cover		
50% of total cover: 46.5	20% of total cover: 18.6		

Woody Vine Stratum (Plot size: 20x40')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 36T-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR5/2	80	5YR4/6	20	C	M,PL	SiCL	
2-12+	10YR4/2	75	7.5YR5/6	25	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.08ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, Residential Distance to nearest roadway or other development ~100'

Dominant wetland systems present Forest Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36T

Latitude 39.0103419 Longitude -77.2660598

Prepared by: EB SP Date 4/15/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

F-690

Notes:

* Refer to backup list of numbered considerations.

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36U	**Stream Order:** 1
Date: 4/15/21	**State:** MD	**Photos:** 4US	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** 36U-2	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Observed flow, begins at headcut, hydric soils			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity –	Upstream: None	Downstream: 36D	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2 Ft	✓ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6"	☐ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Moderate	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes: Head cut, incised					

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	☐ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

F-691

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36W	**Stream Order:** 1
Date: 4/15/2021	**State:** MD	**Photos:** 5 US 6 DS	
Crew: EB, SP	**County:** Montgomery	**Last Flag Number:** 36W-3	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round) ○ RPW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands ○ Non-RPW erosional feature ○ Non-RPW with abutting wetland ○ Non-RPW with adjacent wetland ○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: Bed/banks and hydric soil present. Trickle flow observed during assessment

Hydrologic Connectivity –	Upstream: 36W	Downstream: 36D	Adjacent/Abutting: 36W

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3'	✓ Silts	✓ Sands	Muck	RB: Forest
Artificial (man-made)	Depth: 3-6"	✓ Cobbles	✓ Gravel	Other:	
Manipulated (man-altered)	Bank Erosion/stability: Stable	Bedrock	Concrete		LB: Forest
Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1			

Notes:

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	Sediment deposition	Sediment sorting
No	✓ Changes in the character of soil	✓ Water staining	Scour
	Shelving	Presence of flood litter/debris	✓ Observed/predicted flow events
	Vegetation matted down, bent, or absent	Destruction of terrestrial veg.	✓ Abrupt change in plant community
	Leaf litter disturbed	Presence of wrack line	Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

Notes:

F-692

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/15/2021

Applicant/Owner: SHA State: MD Sampling Point: 36W-WET

Investigator(s): EB, SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope seep Local relief (concave, convex, none): Concave Slope (%): 5-8%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.0684561 Long: -77.2514392 Datum: NAD83

Soil Map Unit Name: Dekalb Silt loam, 0 to 3 percent Slopes NWI classification: PFO1B/C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Ph 7 NE

Rain in past 12 hrs.

Groundwater Seep wetland draining to/abutting 36W

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No _____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

*Surface water in approx. 25% of plot

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3AN-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	80	✓	FAC
2. Platanus occidentalis	15		FACW
3.			
4.			
5.			
6.			
7.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		

Sapling/Shrub Stratum (Plot size: 30')			
1. Berberis thunbergii	15	✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Herb Stratum (Plot size: 30')			
1. Cinna arundinacea	25	✓	FACW
2. Carex sp.	5		N/A
3. Microstegium vimineum	12	✓	FAC
4. Poacea sp.	30	✓	N/A
5. Impatiens capensis	3		FACW
6. Leersia japonica	5		FACU
7. Mosa multiflora	5		FACU
8. Vitis sp	3		N/A
9.			
10.			
11.			
	88 = Total Cover		
50% of total cover: 44	20% of total cover: 17.6		

Woody Vine Stratum (Plot size: 30')			
1. none			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: (Include photo numbers here or on a separate sheet.)

Poacea Sp. could not be identified to species level due to time of year and the early period of the growing season. However it is assumed the Poacea Sp. is FAC or wetter based on wetland hydrology, hydric soils, and other hydrophytic vegetation. Based on this assumption, vegetation within the plot would meet the Dominance test.

SOIL

Sampling Point: 36W-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2	98	7.5YR4/3	2	C	M	SCL	Gravel
3-8	10YR5/1	85	7.5YR4/6	15	C	M	SCL	"
8-12	10YR4/3	85	7.5YR4/6	15	C	M	SCL	"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.07ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest Distance to nearest roadway or other development 140'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 140'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36W

Latitude 39.068481 Longitude -77.2574392

Prepared by: EBSP Date 4/15/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-696

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 36X	**Stream Order:**
Date: 4/15/21	**State:** MD	**Photos:** 8US 9DS	
Crew: EB SP	**County:** Montgomery	**Last Flag Number:** 36X-4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
Describe rational for hydrologic class: Receives hydrology from wetland, observed flow, hydric soils			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Hydrologic Connectivity	Upstream: 36Y	Downstream: 36D	Adjacent/Abutting: none

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4 FT	✓ Silts	☐ Sands	☐ Muck	RB: Forest
☐ Artificial (man-made)	Depth: 6"	☐ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability:	☐ Bedrock	☐ Concrete		LB: Forest
☐ Other:	Minor @ headcut	Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			
Notes: Originates @ head cut	Stable otherwise				

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.5	○	○	○	○	✓	○	○	○	○	○	○	○	○
○ Light rain	○ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○ Heavy Rain	○ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	☐ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	☐ Presence of flood litter/debris	✓ Observed/predicted flow events
	☐ Vegetation matted down, bent, or absent	☐ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	☐ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:
Notes:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/15/21

Applicant/Owner: SHA State: MD Sampling Point: 36Y-WET

Investigator(s): EB SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.06756883 Long: -77.2567262 Datum: NAD83

Soil Map Unit Name: Baile Silt loam, 0 to 3 percent Slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Rain in past 12 hrs Ph 10 – NW
US from 36X

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0.5" *
Water Table Present?	Yes ✓	No _____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Surface water in approx 5% of plot

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 36Y-WET

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	80	✓	FAC
2. Platanus occidentalis	15		FACW
3.			
4.			
5.			
6.			
7.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		

Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Aronia triloba	15	✓	FAC
2. Berberis thunbergii	2		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	17 = Total Cover		
50% of total cover: 8.5	20% of total cover: 3.4		

Herb Stratum (Plot size: 15' radius)			
1. Rosa multiflora	5		FACU
2. Cinna arundinacea	30	✓	FACW
3. Carex sp.	3		N/A
4. Microstegium vimineum	40	✓	FAC
5. Impatiens capensis	10		FACW
6. Lonicera japonica	5		FACU
7. Juncus effusus	2		FACW
8. Onoclea sensibilis	2		FACW
9. Boehmeria cylindrica	2		FACW
10.			
11.			
	99 = Total Cover		
50% of total cover: 49.5	20% of total cover: 19.8		

Woody Vine Stratum (Plot size: 30' radius)			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 36Y-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/2	95	7.5YR 3/4	5	C	M	SiL	
1-5	2.5Y 4/2	93	7.5YR 4/6	7	C	M/PL	SiCL	
5-8	2.5Y 4/1	85	10YR 4/6	15	C	M/PL	SiC	
8-12+	2.5Y 4/2	98	10YR 5/8	2	C	M/PL	SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.05 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest Distance to nearest roadway or other development 200'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 200'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 36Y

Latitude 39.0675888 Longitude -77.2567762

Prepared by: BBSP Date 4/15/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

F-701

Notes:

* Refer to backup list of numbered considerations.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/15/21

Applicant/Owner: SHA State: MD Sampling Point: 367-WET

Investigator(s): EB SP Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR or MLRA): MLRA 148 Lat: 39.066 1941 Long: -77.254914 Datum: NAD83

Soil Map Unit Name: Hatboro Silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Ph11-S
Abuts 36N outside study area
Rain w/in past 12 hrs

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 3"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-4"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 367-WET

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	90	✓	FAC
2. Platanus occidentalis	5		FACW
3.			
4.			
5.			
6.			
7.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		

Sapling/Shrub Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 15')			
1. Cinna arundinacea	50	✓	FACW
2. Microstegium vimineum	45	✓	FAC
3. Symplocarpus foetidus	5		OBL
4. Boehmeria cylindrica	2		FACW
5. Rosa multiflora	3		FACU
6. Juncus effusus	5		FACW
7. Carex sp.	2		N/A
8. Berberis thunbergii	3		FACU
9.			
10.			
11.			
	115 = Total Cover		
50% of total cover: 57.5	20% of total cover: 23		

Woody Vine Stratum (Plot size: 30')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 362 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	2.5Y 5/1	85	7.5YR 4/6	15	C	M, PL	SiCL	Rootlets
4 - 10	2.5Y 5/1	90	7.5YR 4/6	10	C	M	SiC	
10-12+	2.5Y 5/2	75	7.5YR 4/6	25	C	M	SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.16ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest Distance to nearest roadway or other development 70'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present 70'

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 367

Latitude 39.066141 Longitude -77.2549114

Prepared by: EB SP Date 4/15/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		✓			
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-705

RK&K Waters of the U.S. Data Sheet upstream culvert *Version 2.1 - August 2019*

Project: MLS Compensatory SWM		**Feature ID:** 37A	**Use Class:**
Date: 4/15/21	**State:** MD	**Photos:** 9739-40, 43-44, 55-56, 57-58, 59-60 to S. Gun. Br.	
Crew: SJK/AGA	**County:** Mo.	**Last Flag Number:** Lidar to 37A-7a/b to lidar to 56: where channel deviates - flagged	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Trickle of flow & high erosion upstream end, low flow to end

Hydrologic Connectivity – Upstream: non-jurisdictional rd. culvert MD 119 Downstream: S. Gunners Branch (37F) Adjacent/Abutting: 37C wetland

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☑	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3-8'	✓ Silts	✓ Sands	Muck	RB: forest & skunk cabbage
✓ Artificial (man-made) Culvert	Depth: 1-4"	✓ Cobbles	✓ Gravel	Other:	LB: lower left
Manipulated (man-altered)	Bank Erosion/stability: Mod. stable to mod. unstable	✓ Bedrock	Concrete		*Notes:*
Other:		more			
		Side slope: ☑ >1:1 ☑ 2:1 ☐ 3:1 ☑ <4:1			

General Notes: Small side seep(s) in stream adding to flow - still low (ph. 9743); banks: ½'-6' (flat to incised) Ph. 9753-54 backwater where channel used to go, Ph 57-58 / flags 37A-1c to -3c oxbow connected on both ends to main channels (right bank: 1-4' wide)

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI												
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Year:												
✓ No rain	0-0.1	0-0.5													
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)* stream pink - flagged by others

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving minor	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	✓ Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events low
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory Sh/m		**Feature ID:** 37B	**Use Class:**
Date: 4/15/21	**State:** MD	**Photos:** 9741-42 (up & downstream → 37A)	
Crew: SJK/AGA	**County:** Mo.	**Last Flag Number:** 37B - 3a/3b	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: observed trickle flow following rain the night before, during time of field visit

Hydrologic Connectivity – Upstream: none/headcut Downstream: 37A Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 2-4'	✓ Silts / Sands / Muck		RB: Forest
Artificial (man-made)	Depth: <0.1'	Cobbles / Gravel / ✓ Other:		LB: Forest
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock / Concrete / woody debris		*Notes:*
Other: straight, short	moderately stable			
		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes: Already flagged, we added SHA flagging, headcut → 37A

F-707

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	0.5-1
Heavy Rain	> 0.5	X >1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** March **Year:**

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
				X								
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events low
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Mo. Co. Sampling Date: 4/15/21
Applicant/Owner: SHA State: MD Sampling Point: 37C
Investigator(s): SJK/AGA Section, Township, Range: _____
Landform (hillslope, terrace, etc.): high terrace by stream 37A Local relief (concave, convex, none): convex Slope (%): 2-3%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.151926 Long: -77.2750379 Datum: NAD83
Soil Map Unit Name: 116E Blocktown channery silt loam, 25-45% slopes, very rocky NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Photos: 9745-46 (NW & SE to 37A stream)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0-1"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Base of slope between town houses & 37A stream
Wetland - trickle of flow to stream after rain last night

Wetland 37C has a narrow surface connection to downstream 37A
(surface connection included in wetland area)

Some trash in wetland & surrounding slope

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 37C

Tree Stratum (Plot size: full wetland area)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6. (Sycamore on bank outside)			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: full wetland)

1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: full wetland)

1. N/A			
2.			
3.			
4.			
5. (Overhanging Russian Olive			
6. & Spicebush outside area)			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5' diam.)

1. Woodreed	65	Y	FACW
2. Cinna arundinacea			
3. Jewelweed	10		FACW
4. Impatiens sp.			
5.			
6. (Bare ground	30%)		
7.			
8.			
9.			
10.			
11.			
	75 = Total Cover		

50% of total cover: 37.5 20% of total cover: 15

Woody Vine Stratum (Plot size: full wetland)

1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)
Trees/shrubs overhang wetland

SOIL

Sampling Point: 37C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Silt loam	leaves, roots
2-8	10YR 4/1	98	10YR 4/8	2	C	M	Sandy loam	gravelly, weathered rock-flakes
8-12+	2.5Y 4/3	95	2.5YR 4/6	5	C	M	Sandy loam	" "

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 203SF Human made? No Is wetland part of a wildlife corridor? yes or a "habitat island"? N

Adjacent land use Forest, near Townhomes 100ft away Distance to nearest roadway or other development ~100 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present YES

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 37C

Latitude -77.27499 Longitude 39.15192

Prepared by: STK/AGA Date 4/15/21

Wetland Impact:
Type PFO Area

Evaluation based on:
Office Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				minor influence on GW discharge/recharge
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention		✓			
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS		**Feature ID:** 37D	**Use Class:**
Date: 9/15/21	**State:** MD	**Photos:** 9749 (culvert above stream), 50 down	
Crew: STK/AGA	**County:** Mo.	**Last Flag Number:** Lidar / no flags	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: low flow from SWM culvert to intermittent 37A after rainy night

Hydrologic Connectivity –	Upstream: riprap & SWM outfall	Downstream: 37A	Adjacent/Abutting: N/A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ☑	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 4-6'	✓ Silts	✓ Sands	Muck	RB: forest
Artificial (man-made)	Depth: 1-4"	✓ Cobbles	✓ Gravel	Other:	LB:
✓ Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		*Notes:*
Other:	Mod. unstable				
		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: banks incised 4-6', some very high erosional features → stream LB

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	X 0.1-0.5	0.5-1
Heavy Rain	> 0.5	X >1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** March **Year:** 2021

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
				X								
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events low flow
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS		**Feature ID:** 37E	**Use Class:**
Date: 4/15/21	**State:** MD	**Photos:** 9761-62 (up & down to 37A)	
Crew: SJK/AGA	**County:** Mo	**Last Flag Number:** Lidar/no flags	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	✓ Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Stagnant upper reach w/ tadpoles, trickle flow lower reach of short trib.

Hydrologic Connectivity –	Upstream: None	Downstream: 37A	Adjacent/Abutting: none

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 1-4'	✓ Silts	Sands	✓ Muck	RB: Skunk cabbage/ forest
Artificial (man-made)	Depth: 1-3"	Cobbles	Gravel	Other:	LB: " "
Manipulated (man-altered)	Bank Erosion/stability: Mod. stable	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☐ ≥1:1 ✓ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: 4' wide pool at top; skunk cabbage mixed w/ upland plants & no hydrology outside channel; "sink to your ankles" muck

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week
✓ No rain	0-0.1	0-0.5
Light rain	0.1-0.5	0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** **Year:**

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	Presence of wrack line	Shelving	✓ Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events low
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 37F	**Use Class:**
Date: 4/16/21	**State:** MD	**Photos:** 3747, 3749 (US) 3748, 3750 (DS)	
Crew: RK, EYG	**County:** Montgomery	**Last Flag Number:** 37F - 6A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	X Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flowing during visit (South Gunners Branch)

Hydrologic Connectivity –	Upstream: outside S.A.	Downstream: outside S.A.	Adjacent/Abutting: 37A

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 15 ft.	✓ Silts	✓ Sands	Muck	RB: forested floodplain
Artificial (man-made)	Depth: 3in - 12in.	Cobbles	✓ Gravel	Other:	LB:
Manipulated (man-altered)	Bank Erosion/stability: moderately stable	Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ☒ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes:

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI													
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** March **Year:** 2021													
✓ No rain	0-0.1	0-0.5									X					
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	
Heavy Rain	> 0.5	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet			

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	✓ Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
Presence of flood litter/debris	Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS SWM City/County: MoCo Sampling Date: 4/16/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 379- WET
Investigator(s): KR, EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): MLRA 148 Lat: 39.152585 Long: -77.273818 Datum: NAD83
Soil Map Unit Name: 54A, Hatboro silt loam, 0-3% NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:
Wetland potentially formed due to compaction from construction of manhole

Photos: 3754 – 3757

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): ½
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 37G-WET

Tree Stratum (Plot size: 15' R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	80	Y	FAC
2.			
3.			
4.			
5.			
6.			
	80 = Total Cover		

50% of total cover: 40 20% of total cover: 16

Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: 20% of total cover:

Shrub Stratum (Plot size: 15' R)			
1. Lindera benzoin	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: 2.5 20% of total cover: 1

Herb Stratum (Plot size: 15' R)			
1. Ranunculus arborvitus	5	N	FACW
2. Symplocarpus foetidus	25	Y	OBL
3. Boehmeria cylindrica	3	N	FACW
4. Onoclea sensibilis	10	Y	FACW
5. Impatiens capensis	3	N	FACW
6. Onoclea sensibilis	3	N	FACW
7.			
8.			
9.			
10.			
11.			
	49 = Total Cover		

50% of total cover: 24.5 20% of total cover: 9.8

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: 20% of total cover:

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: (Include photo numbers here or on a separate sheet.)
Dead green ash trees within / in vicinity of plot

SOIL

Sampling Point: 37G-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/2	80	5YR 4/6	20	C	M	warm	
8-12	7.5YR 4/6	100					warm	A lot of gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.18ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use FOREST, RESIDENTIAL Distance to nearest roadway or other development 130'

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? LOW

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 37G-WET

Latitude 39.152584 Longitude -77.273814

Prepared by: KRI EVG Date 4/16/21

Wetland Impact: Type PFO Area 0.18 ac

Evaluation based on: Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-718

RK&K Waters of the U.S. Data Sheet *Version 2.1 - August 2019*

Project: MLS Compensatory SWM			**Feature ID:** 37H	**Use Class:**	
Date: 4/16/21	**State:** MD		**Photos:** 3759 - 3761		
Crew: ICR, EYG	**County:** MoCo		**Last Flag Number:** 37H-5A&B		

Feature Hydrologic Class (check one):

Tidal		Perennial		Intermittent		Ephemeral		Other	
	TNW		TNW	✓	Tributary		Tributary		Impoundment
			Tributary		Ditch		Ditch		POW

Describe rationale for hydrologic class, including flow: Appears to be old oxbow of S. Gunners Branch, artificially separated by constructed dam (photo 3758) (37F)

Hydrologic Connectivity –	Upstream: uplands	Downstream: S. Gunners Br.	Adjacent/Abutting: 37G

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 0" - 10 ft.	✓ Silts	✓ Sands	✓ Muck	RB: forested floodplain
Artificial (man-made)	Depth: 1in - 8 in.	Cobbles	✓ Gravel	✓ Other:	LB:
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
Other:	mod. unstable				
		Side slope: ☐ ≥1:1 ☒ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: dam separates channel from mainstem, but appears to have groundwater input

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
During visit	Last 48hrs	Last week													
✓ No rain	0-0.1	0-0.5									X				
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark							
✓	Clear, natural line impressed on the bank		Sediment deposition	✓	Water staining		Abrupt change in plant community
	Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.
	Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting	✓	Observed/predicted flow events
	Vegetation matted down, bent, or absent		Scour		Other:		

Tidal tributary has: ***(check all that apply)***

High Tide Line		Mean High Water Mark indicated by:		Chemical Characteristics	
	Oil or scum line along shore objects		Survey to available datum		Water is clear
	Fine shell or debris deposits (foreshore)		Physical markings		Water is discolored
	Physical markings/characteristics		Vegetation lines/changes in types		Oily film
	Tidal gauges				Other:

F-719

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS compensatory SWM City/County: Germantown/Montgomery Sampling Date: 4/16/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 37 I-WET
Investigator(s): KR, EJG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): MLRA 148 Lat: 39.153092 Long: -77.273602 Datum: NAD83
Soil Map Unit Name: 54A - Hatboro silt loam, 0-3% NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes** ✓ **No** ____
Hydric Soil Present?	Yes ✓ No ____		
Wetland Hydrology Present?	Yes ✓ No ____		

Remarks:
wetland receives hydrology - through groundwater

PMOD-3767 - 68

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0"

Wetland Hydrology Present? **Yes** ✓ **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 37I-WET

Tree Stratum (Plot size: whole wetland)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Sapling Stratum (Plot size: whole wetland)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: whole wetland)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: whole wetland)			
1. Cinna arundinacea	50	Y	FACW
2. Carex sp	15	N	
3. Microstegium vimineum	40	Y	FAC
4. Rosa multiflora	10	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	115 = Total Cover		
50% of total cover: 57.5	20% of total cover: 23		

Woody Vine Stratum (Plot size: whole wetland)			
1. Lonicera japonica	10	Y	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Inflorescence not present yet.

SOIL

Sampling Point: 371-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	95	5YR 4/6	5	C	M	Silt loam	
2-12	10YR 4/1	80	5YR 5/8	20	C	M	"	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.01AC Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Residential Distance to nearest roadway or other development 160'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? Mid.

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 37I-WET

Latitude 39.153092 Longitude -77.273602

Prepared by: KR Date 4/16/21

Wetland Impact:
Type PEM Area 0.01 AC

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

*Refer to backup list of numbered considerations.

F-723

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory SWM		**Feature ID:** 37J	**Use Class:**
Date: 4/16/21	**State:** MD	**Photos:** 3769 - 3774	
Crew: KR, EYG	**County:** MoCo	**Last Flag Number:** LiDar	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: flowing during visit

Hydrologic Connectivity –	Upstream: SWM feature	Downstream: S. Gunners Br. (37F)	Adjacent/Abutting: 37L

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 1-6 ft.	✓ Silts	✓ Sands	Muck	RB: upper reach - forest
Artificial (man-made)	Depth: 0.5in - 5in.	✓ Cobbles	✓ Gravel	✓ Other:	LB: lower reach - PEM
X Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete	riprap	*Notes:*
Other:	Moderately stable				
		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Natural channel starting - [illegible]

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI												
During visit	Last 48hrs	Last week	http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** March **Year:** 2021												
✓ No rain	0-0.1	0-0.5								X					
Light rain	✓ 0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	✓ >1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	✓ Leaf litter disturbed	✓ Sediment sorting	✓ Observed/predicted flow events
Vegetation matted down, bent, or absent	✓ Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWM		**Feature ID:** 37K	**Use Class:**
Date: 4/23/21	**State:** MD	**Photos:** 3778-3781	
Crew: KR, ETG	**County:** MoCo	**Last Flag Number:** 37K-3A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	X Tributary	Tributary	Impoundment
	Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow: Flowing during 2 field visits - appears to intercept groundwater. upper reach (not flagged) is ephemeral!

Hydrologic Connectivity – Upstream: Storm drain culvert Downstream: S. Gunners Br. (37F) Adjacent/Abutting: None

Ditch Information:	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
N/A ✓	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate		Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 3-5 ft.	✓ Silts / Sands / Muck		RB: mowed lawn &
Artificial (man-made)	Depth: 1 in.	Cobbles / ✓ Gravel / ✓ Other:		LB: forest
✓ Manipulated (man-altered)	Bank Erosion/stability: stabilized w/ riprap	Bedrock / Concrete / riprap		*Notes:*
Other:		Side slope: ☐ ≥1:1 ☑ 2:1 ☐ 3:1 ☐ ≤4:1		

General Notes: receives hydro from storm drain mostly, but observed contribution of ground water on 4/23/21.

Weather/Precipitation Conditions:

Rain: During visit	Rain: Last 48hrs	Rain: Last week	Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: March Year: 2021												
✓ No rain	✓ 0-0.1	✓ 0-0.5									X				
Light rain	0.1-0.5	0.5-1	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply)***

Ordinary High Water Mark			
✓ Clear, natural line impressed on the bank	Sediment deposition	Water staining	Abrupt change in plant community
Changes in the character of soil	✓ Presence of wrack line	Shelving	Destruction of terrestrial veg.
✓ Presence of flood litter/debris	✓ Leaf litter disturbed	Sediment sorting	✓ Observed/predicted flow events
✓ Vegetation matted down, bent, or absent	Scour	Other:	

Tidal tributary has: ***(check all that apply)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

F-725

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown, Montgomery Sampling Date: 4/16/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 37L-WET
Investigator(s): KR, EYG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 3
Subregion (LRR or MLRA): MLRA 148 Lat: 39.153183 Long: -77.2741062 Datum: NAD83
Soil Map Unit Name: 57A - Hatboro silt loam, 0-3% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:
PEM receives hydrology through groundwater, drains into 37F (South Gunner's Branch)
Photo numbers: 3782 - 3785

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No ___	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water and drainage patterns present outside plot.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 37L-WET

Tree Stratum (Plot size: 15'R)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15'R)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15'R)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 15'R)			
1. Cinna arundinacea	80	Y	FACW
2. Ranunculus bulbosus	10	N	FAC
3. Buchnera cylindrica	3	N	FACW
4. Cardamine pensylvanica	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	98 = Total Cover		

50% of total cover: 49 20% of total cover: 19.6

Woody Vine Stratum (Plot size: 15'R)			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 37L-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 2.5/1	80	7.5YR 3/4	20	C	M	loam	
3-8	2.5Y 4/1	90	10YR 5/3	10	C	M	silty loam	
8-12	2.5Y 4/2	95	10YR 3/2	5	D	M	"	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.07AC. Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Park Property / Residential Distance to nearest roadway or other development 206'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? mid

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 37 L.

Latitude 39.153183 Longitude -77.274662

Prepared by: KR Date 4/16/21

Wetland Impact:
Type PEM Area 0.07 ac.

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration	✓				
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-729

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Germantown / Montgomery Sampling Date: 4/23/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 37M-WET
Investigator(s): KR, ETG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 3%
Subregion (LRR or MLRA): MLRA 148 Lat: 39.154111 Long: -77.275941 Datum: NAD83
Soil Map Unit Name: 54A - Hatboro silt loam, 0-3% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes** ✓ **No** ____
Hydric Soil Present? Yes ✓ No ____		
Wetland Hydrology Present? Yes ✓ No ____		

Remarks:
Groundwater seep that flows into 37F; in sewer access path – disturbed
Photo # 3795-3797

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ____ Depth (inches): 1/2"
Water Table Present? Yes ____ No ✓ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? **Yes** ✓ **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 37M-WET

Tree Stratum (Plot size: entire wetland)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: entire wetland)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: entire wetland)			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: entire wetland)			
1. Onoclea sensibilis	10	N	FACW
2. Persicaria sagittata	15	N	OBL
3. Ranunculus ficaria	2	N	FAC
4. Persicaria pensylvanica	70	Y	FACW
5. Cardamine pensylvanica	5	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	102 = Total Cover		

50% of total cover: 51 20% of total cover: 20.4

Woody Vine Stratum (Plot size: entire wetland)			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 37N-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 3/1	95	7.5YR 4/4	5	C	M	Wam	
4-6	2.5Y 5/2	90	10YR 5/8	10	C	M	Wam	Fill material, gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 6"

Hydric Soil Present? Yes ✓ No ___

Remarks:

restrictive layer - sewer access path

Wetland Function-Value Evaluation Form

Total area of wetland 0.01 AC. Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Residential / Park Prop Distance to nearest roadway or other development 150'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 37M

Latitude 39.154111 Longitude -77.215941

Prepared by: KR Date 4/23/21

Wetland Impact:
Type PEM Area 0.01 AC.

Evaluation based on:
Office ____ Field ✓

Corps manual wetland delineation completed? Y ✓ N ____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat		✓			
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-733

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM City/County: Montgomery Sampling Date: 4/23/21
Applicant/Owner: MDOT SHA State: MD Sampling Point: 37 N-WET
Investigator(s): KR, EJG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): MLRA 148 Lat: 39.15365 Long: -77.27497 Datum: NAD83
Soil Map Unit Name: 54A - Hatboro silt loam, 0-3% slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:
wetland in sewer access; appears to receive hydro. from culvert at base of hillslope

Photo #: 3798-99

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- X Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 4"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
depression w/ pocket of saturated soil & iron deposits

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 37N-WET

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 15')			
1. Cinna arundinacea	40	Y	FACW
2. Cardamine pensylvanica	15	Y	OBL
3. Impatiens capensis	5	N	FACW
4. Ranunculus bulbosus	5	N	FAC
5. Juncus effusus	2	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	67 = Total Cover		

50% of total cover: 33.5 20% of total cover: 13.4

Woody Vine Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 37N-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					silt loam	
1-3	2.5Y 5/3	80	10YR 6/6	20	C	M	silt loam	
3-12	2.5Y 5/2	90	10YR 6/6	10	C	M	silty clay loam	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland_____ Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Residential / Park property Distance to nearest roadway or other development 200'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin?_____

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 37N

Latitude 39.15365 Longitude -77.27497

Prepared by: KK Date 4/23/21

Wetland Impact:
Type PEM Area 0.01 AC.

Evaluation based on:
Office_____ Field ✓

Corps manual wetland delineation completed? Y ✓ N_____

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓	✓			
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

F-737

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MLS Compensatory SWM - MO_00029 City/County: Kensington/Montgomery Sampling Date: 5/24/2021

Applicant/Owner: Maryland Department of Transportation State Highway Administration State: MD Sampling Point: 38L

Investigator(s): MM, KH Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR S Lat: 39.019039 Long: -77.074499 Datum: NAD 83

Soil Map Unit Name: 53A - Codorus silt loam, 0 to 3 percent slopes, occassionally flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

Small depression where hydrology collects before flowing into an a short ephemeral creek which drains into the 35E
Photos: MO_00029_Photo 24_38L

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 38L

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	30	yes	FAC
2. *Ulmus rubra*	15	yes	FAC
3. *Catalpa bignonioides*	10	no	FACU
4.			
5.			
6.			
7.			
8.			
	55 = Total Cover		

Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Lonicera tatarica*	20	yes	FACU
2. *Ulmus rubra*	10	yes	FAC
3. *Acer rubrum*	10	yes	FAC
4. *Catalpa bignonioides*	5	no	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	45 = Total Cover		

Herb Stratum (Plot size: 30 ft)			
1. *Hedera helix*	40	yes	FACU
2. *Glechoma hederacea*	20	yes	FACU
3. *Toxicodendron radicans*	20	yes	FAC
4. *Parthenocissus quinquefolia*	10	no	FACU
5. *Impatiens capensis*	5	no	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)			
1. *Vitis labrusca*	5	yes	FACU
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 56 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 38L

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5 YR 4/1	100					Silty Clay Loam	
4-8	7.5 YR 5/2	70	7.5 YR 5/4	20	C	M	Silty Clay Loam	
			7.5 YR 3/1	10	D	M		
8-20	7.5 YR 5/1	60	7.5 YR 5/4	25	C	M	Clay Loam	Saturated
			7.5 YR 3/2	15	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

Wetland Function-Value Evaluation Form

Total area of wetland 0.03ac Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? N

Adjacent land use Greenway/Residential Development Distance to nearest roadway or other development 20 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present Y

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Low

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 38 L

Latitude 39.019039 Longitude -77.074499

Prepared by: MM Date 5/24/21

Wetland Impact:
Type — Area —

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓				
Floodflow Alteration		✓			
Fish and Shellfish Habitat		✓			
Sediment/Toxicant Retention	✓				
Nutrient Removal	✓				
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓				
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

ATTACHMENT D: PHOTO DOCUMENTATION

Sub-Segment 30

Waters 30AAAA – Perennial

Waters 30AAAA – Perennial

Wetland 30BB – PEM

Wetland 30BB – PEM

Wetland 30BBB – PEM

Waters 30C – Perennial

Waters 30C – Perennial

Waters 30CCC – Intermittent

Waters 30CCC – Intermittent

Waters 30E – Perennial

Waters 30E – Perennial

Wetland 30EE – PEM

Wetland 30EE – PEM

Waters 30FFFF – Perennial

Waters 30FFFF – Perennial

Wetland 30G – PEM

Waters 30GG – Perennial

Waters 30GG – Perennial

Wetland 30GGGG – PEM

Wetland 30GGGG – PEM

Waters 30HH – Perennial

Waters 30HH – Perennial

Waters 30HHHH – Intermittent

Waters 30HHHH – Intermittent

Waters 30I – Intermittent

Waters 30I – Intermittent

Waters 30III – Intermittent

Waters 30III – Intermittent

Wetland 30JJ – PSS

Wetland 30JJJ – PEM

Waters 30JJJJ – Perennial

Waters 30JJJJ – Perennial

Waters 30KK – Perennial

Waters 30KK – Perennial

Waters 30KKK – Perennial

Wetland 30LLL – PEM

Waters 30NNN – Perennial

Wetland 30P – PEM

Wetland 30P – PEM

Waters 30PPPP – Perennial

Waters 30RR – Intermittent

Waters 30RRR – POW

Waters 30S – Perennial

Waters 30S – Perennial

Waters 30SS – Perennial

Waters 30SS – Perennial

Wetland 30TT – PEM

Wetland 30TT – PEM

Waters 30W – Intermittent

Waters 30W – Intermittent

Wetland 30WW – PEM

Wetland 30XX – PEM

Sub-Segment 31

Waters 31A – Intermittent

Waters 31AAAA – Intermittent

Wetland 31BBB – PEM

Waters 31BBBB – Intermittent

Wetland 31C – PEM

Wetland 31CCC – PEM

Wetland 31CCCC – PFO

Wetland 31D – PEM

Wetland 31DDD – PFO

Waters 31DDDD – Perennial

Waters 31EE – Intermittent

Wetland 31EEE – PEM

Waters 31EEEE – Perennial

Waters 31FFF – Perennial

Wetland 31FFFF – PEM

Wetland 31G – PFO

Waters 31GGG – Intermittent

Wetland 31GGGG – PSS

Waters 31H – Perennial

Waters 31HHH – Intermittent

Waters 31HHHH – Intermittent

Waters 31I – Intermittent

Wetland 31III – PFO

Waters 31IIII – Perennial

Waters 31J – Perennial

Waters 31JJ – Perennial

Waters 31JJJ – Intermittent

Waters 31JJJJ – Perennial

Waters 31JJJJ – Perennial

Waters 31K – Perennial

Waters 31KK – Intermittent

Wetland 31KKK – PSS

Waters 31KKKK – Intermittent

Waters 31LLL – Intermittent

Waters 31LLLL – Perennial

Waters 31MMM – Intermittent

Wetland 31MMMM – PSS

Waters 31NN – Perennial

Waters 31NNN – Perennial

Wetland 31NNNN – PFO

Waters 31OO – Intermittent

Waters 31OOO – Intermittent

Waters 31PP – Intermittent

Waters 31QQ – Intermittent

Waters 31QQQ – Intermittent

Waters 31QQQQ – Intermittent

Waters 31RR – Perennial

Wetland 31RRR – PEM

Waters 31SS – Intermittent

Wetland 31SSS – PEM

Waters 31T – Intermittent

Waters 31TT – Perennial

Waters 31U – Intermittent

Wetland 31UU – PFO

Wetland 31VV – PFO

Waters 31VVV – Intermittent

Waters 31WW – Intermittent

Waters 31XX – Intermittent

Waters 31XXX – Intermittent

Wetland 31YY – PFO

Wetland 31YYY – PEM

Waters 31Z – Perennial

Waters 31ZZ – Perennial

Wetland 31ZZZ – PFO

Sub-Segment 32

Wetland 32A – PEM

Wetland 32A – PEM

Wetland 32AAA – PSS

Wetland 32AAAA – PEM

Waters 32BBB – Perennial

Waters 32CCC – Perennial

Waters 32DDD – Intermittent

Wetland 32DDDD – PEM

Wetland 32E – PEM

Waters 32EEEE – Perennial

Waters 32H – Perennial

Waters 32H – Perennial

Waters 32HHH – Perennial

Wetland 32HHHH – PEM

Waters 32III – Intermittent

Waters 32IIII – Perennial

Wetland 32JJJ – PFO

Wetland 32JJJJ – PEM

Waters 32KKK – Perennial

Wetland 32KKKK – PEM

Waters 32L – Perennial

Waters 32M – Perennial

Wetland 32MMM – PEM

Wetland 32O – PEM

Wetland 32OO – PEM

Wetland 32OOO – PEM

Waters 32OOOO – Perennial

Wetland 32P – PEM

Wetland 32PPPP – PEM

Waters 32Q – Intermittent

Wetland 32QQ – PEM

Wetland 32RR – PFO

Waters 32RRR – Perennial

Wetland 32SS – PFO

Waters 32SSS – Perennial

Waters 32TTTT – Perennial

Wetland 32UU – PFO

Waters 32UUUU – Perennial

Waters 32VVVV – PFO

Waters 32WWWW – Perennial

Wetland 32XX – PEM

Waters 32XXX – Perennial

Wetland 32XXXX – PSS

Waters 32YY – Perennial

Wetland 32YYYY – PEM

Waters 32ZZZ – Perennial

Sub-Segment 33

Waters 33AA – Perennial

Wetland 33BB – PFO

Wetland 33CC – PEM

Waters 33DD – Intermittent

Wetland 33EE – PEM

Waters 33G – Perennial

Wetland 33H – PFO

Wetland 33K – PEM

Waters 33L – Perennial

Wetland 33M – PEM

Waters 33O – Intermittent

Waters 33P – Perennial

Wetland 33Q – PEM

Waters 33R – Intermittent

Wetland 33S – PEM

Wetland 33T – PEM

Waters 33U – Perennial

Waters 33V – Intermittent

Wetland 33Z – PEM

Sub-Segment 34

Waters 34A – Perennial

Wetland 34AA – PEM

Wetland 34B – PFO

Wetland 34BB – PFO

Waters 34C – Intermittent

Wetland 34CC – PFO

Waters 34D – Intermittent

Wetland 34DD – PFO

Waters 34E – Intermittent

Wetland 34F – PFO

Waters 34G – Intermittent

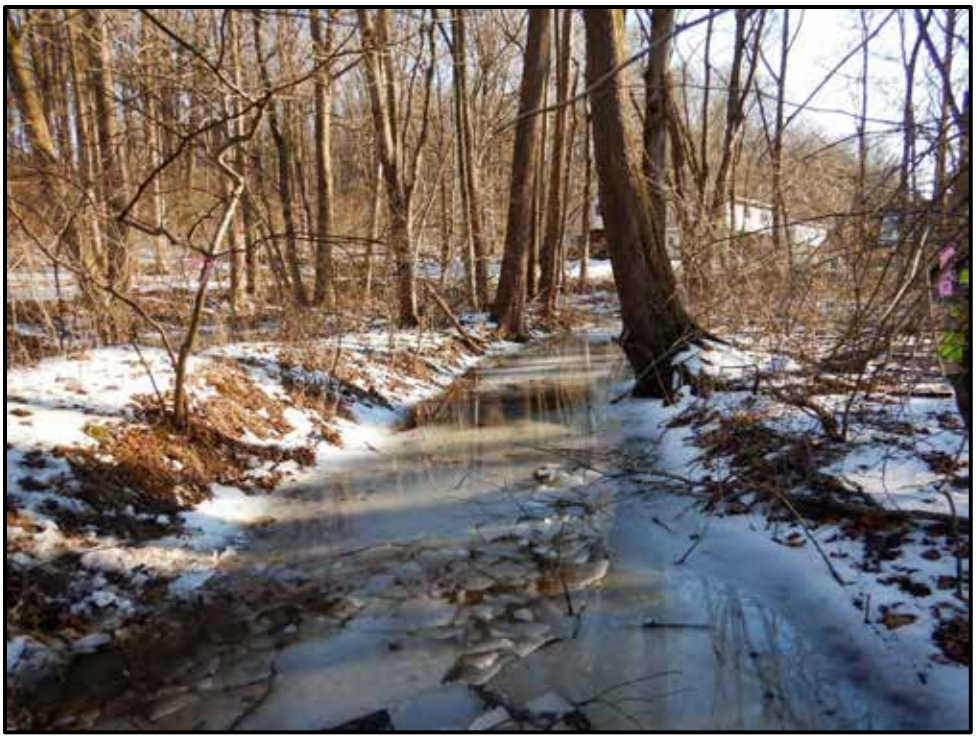
Waters 34H – Perennial

Waters 34I – Intermittent

Waters 34J – Perennial

Wetland 34K – PFO

Waters 34L – Intermittent



Wetland 34M – PFO

Waters 34N – Perennial

Waters 34O – Intermittent

Wetland 34P – PEM

Wetland 34Q – PFO

Waters 34R – Perennial

Wetland 34S – PFO

Waters 34T – Intermittent

Wetland 34U – PFO

Waters 34V – Intermittent

Wetland 34W – PFO

Wetland 34X – PEM

Waters 34Y – Perennial

Wetland 34Z – PFO

Sub-Segment 35

Wetland 35A – PEM

Waters 35AA – Perennial

Wetland 35AAA – PFO

Wetland 35AAAA – PEM

Wetland 35B – PEM

Waters 35BBB – Perennial

Waters 35BBBB – Intermittent

Wetland 35CCC – PSS

Waters 35D – Perennial

Waters 35DD – Perennial

Waters 35DDD – Perennial

Waters 35E – Perennial

Waters 35EE – Perennial

Waters 35EEE – Perennial

Waters 35F – Intermittent

Waters 35FF – Perennial

Wetland 35FFF – PEM

Wetland 35G – PFO

Waters 35GG – Perennial

Wetland 35GGG – PFO

Waters 35GGGG – Perennial

Wetland 35H – PEM

Waters 35HH – Perennial

Wetland 35HHHH – PEM

Waters 35I – Perennial

Wetland 35II – PFO

Waters 35III – Intermittent

Waters 35IIII – Perennial

Wetland 35J – PEM

Wetland 35JJ – PEM

Wetland 35JJJ – PEM

Waters 35K – Perennial

Waters 35KKK – Intermittent

Waters 35L – Intermittent

Waters 35LLL – Perennial

Wetland 35M – PEM

Waters 35MM – Perennial

Wetland 35MMM – PFO

Wetland 35N – PFO

Waters 35NN – Perennial

Waters 35NNN – Intermittent

Waters 35O – Perennial

Waters 35OO – Perennial

Waters 35OOO – Perennial

Wetland 35P – PEM

Wetland 35PPP – PFO

Waters 35PPPP – Intermittent

Wetland 35Q – PFO

Wetland 35QQ – PFO

Wetland 35QQQ – PEM

Wetland 35R – PFO

Wetland 35RR – PEM

Waters 35RRR – Intermittent

Waters 35S – Perennial

Waters 35SS – Perennial

Waters 35T – Perennial

Waters 35TTT – Intermittent

Wetland 35UUU – PFO

Wetland 35UUUU – PFO

Wetland 35V – PSS

Wetland 35VVV – PFO

Waters 35VVVV – Perennial

Waters 35W – Intermittent

Wetland 35WWWW – PFO

Waters 35X – Perennial

Waters 35XXXX – Intermittent

Wetland 35Y – PEM

Waters 35YY – Perennial

Wetland 35YYY – PEM

Wetland 35Z – PEM

Waters 35ZZ – Perennial

Waters 35ZZZ – Intermittent

Sub-Segment 36

Waters 36A – Perennial

Waters 36AA – Intermittent

Waters 36B – Perennial

Waters 36BB – Perennial

Wetland 36C – PSS

Waters 36CC – Intermittent

Waters 36D – Perennial

Wetland 36DD – PEM

Wetland 36E – PFO

Waters 36EE – Perennial

Waters 36F – Intermittent

Waters 36FF – Intermittent

Wetland 36G – PFO

Waters 36H – Intermittent

Waters 36I – Intermittent

Wetland 36J – PFO

Wetland 36K – PFO

Waters 36L – Intermittent

Wetland 36M – PFO

Waters 36N – Perennial

Wetland 36O – PFO

Wetland 36P – PFO

Waters 36Q – Intermittent

Waters 36R – Intermittent

Waters 36S – Intermittent

Wetland 36T – PFO

Waters 36U – Intermittent

Waters 36V – Intermittent

Wetland 36W – PFO

Waters 36X – Intermittent

Wetland 36Y – PFO

Wetland 36Z – PFO

Sub-Segment 37

Waters 37A – Intermittent

Waters 37B – Intermittent

Wetland 37C – PFO

Waters 37D – Intermittent

Waters 37E – Intermittent

Waters 37F – Perennial

Wetland 37G – PFO

Waters 37H – Intermittent

Wetland 37I – PEM

Waters 37J – Perennial

Waters 37K – Intermittent

Wetland 37L – PEM

Wetland 37M – PEM

Wetland 37N – PEM

Sub-Segment 38

Wetland 38L – PFO

APPENDIX G – RIGHT-OF-WAY EVALUATION

Compensatory Stormwater Management Sites
for the I-495 and I-270 Managed Lanes Study

APPENDIX G: Right-of-Way Desktop Evaluations

1. Background

The I-495 and I-270 Managed Lanes Study (MLS) Compensatory Stormwater Management (SWM) Sites review requires a conceptual level review from a MDOT SHA Right-of Way (ROW) perspective. The purpose of this review is to determine the difficulty to obtain potential easements, permanent and temporary, and ROW based on the Limit of Disturbance (LOD) for each site.

2. Methodology and Assumptions

MDOT SHA P3 ROW conducted preliminary evaluation for approximately 754 potential SWM sites, SWM facility (739) and Stream Restoration (15) sites, for the MLS. The report focused on identifying the property owner based on the limits of disturbance and then defining the type of property interest required to secure property rights for design, construction and final project. The evaluation was based on preliminary site areas provided by the Water Resources Team. Because no design work has been done on the individual SWM sites at the time of this review, this effort constitutes only a preliminary review of potential sites to identify possible property rights based on private or public property ownership.

Because the potential SWM sites occur along major roadways, additional property rights may not be required although additional research is recommended as design work begins. While many locations are within MDOT SHA ROWs, many are shown adjacent to private property and temporary and/or permanent rights may be required in some situations. If the case, then plats are required with the Developer procuring appraisals and making offers to acquire.

At this time, no field visits have been made, but site visits to determine property impacts will be required for sites to define acquisition areas. MDOT SHA P3 ROW based its evaluations on data found within KMZ files and desktop GIS, including the following sources:

- Maryland Property View including tax parcel data; and
- Maryland Department of Assessment & Taxation;
- MERLIN – Maryland Environmental Resource & Land Information Network.

Right-of-Way Terminology:

Acquisition Type – Three categories are contained for Acquisition (temporary or permanent), Memorandum of Understanding (MOU) or Right of Entry (ROE). If the planned improvements were shown on private property, then Acquisition was selected. An acquisition can take between 9 months to one-year with additional time if the property interests need to be condemned. If the planned improvements are on MDOT SHA ROW, then ROE was selected because no other property right maybe required. Additional research is required to define property rights.

Typically, MOUs are developed with public agencies to gain access with an easement or fee conveyance after completion of the improvements. MOUs can take between 6 to 18 months depending on the property owner and what type of funding was used during the original acquisition. If with federal funding, the applicable federal agency may need to concur with the transaction because the use is different from the original intent.

Right-of-Way Determination Definitions:

Difficulty – Based on the Acquisition Type developed the level of Difficulty for the property rights. If the potential SWM sites were completely located within MDOT SHA ROW, the sites were marked as

1. Minor. Without knowing the level of acquisition, for sites which were partially located outside the MDOT SHA ROW, but do not impact parkland or rail properties, were marked as

2. Medium. If the property right potentially required was from parkland, rail properties or significantly impact the adjacent property, those sites were marked as

3. Hard. If property is owned by parklands and/or National Park Service or if relocations of access points are required.

3. Conclusion

The following is a summary of the findings with respect to the MOT desktop evaluation of the site.

Table G-1. Summary of ROW Determinations

ROW Determinations	No. of SWM Sites	No. of Stream Restoration Sites
Minor	480	0
Medium	171	0
Hard	88	15

The ROW determinations for the potential compensatory SWM locations were developed with aerial mapping and tax map information without the use of MDOT SHA plats. Additional research is needed along with discussions with MDOT SHA on future highway capital plans and inventory needs for the subject areas.

APPENDIX H – SECTION 4(F)/PARKS EVALUATION

Compensatory Stormwater Management Sites
for the I-495 and I-270 Managed Lanes Study

APPENDIX H: Section 4(f) Desktop Evaluations

1. Background

The I-495 and I-270 Managed Lanes Study (MLS), as a United States Department of Transportation (USDOT) action, is required to evaluate properties protected by Section 4(f) of the USDOT Act (23 CFR 774) which protects parks, recreation areas, wildlife and waterfowl refuges and historic sites. Although they qualify for protection under Section 4(f), historic sites were previously addressed in Appendix B of this report. Therefore, the assessment of historic site is not repeated in this Appendix. This Appendix identifies the remainder of the Section 4(f) resources and where present, makes an initial assessment of the severity of potential impacts.

2. Methodology and Assumptions

A total of 739 potential Stormwater Management (SWM) facility sites and 15 SWM stream restoration sites, collectively called compensatory SWM sites, were reviewed in GIS utilizing layers for parks and public spaces, along with general aerial photography review.

The goal of the review was twofold. First, to identify which of the proposed sites involved Section 4(f) park property and, second, to make an initial assessment of the severity of potential impacts. The nature and severity of the impact must ultimately be coordinated with the official with jurisdiction over the Section 4(f) property, but this review provided a rough assessment of the anticipated Section 4(f) outcome and the level of coordination that might be required.

Severity of potential impacts was assessed based on the following classifications:

None (N) – indicates no Section 4(f) property is involved

Low (L) – indicates a fringe impact on Section 4(f) property <u>may</u> be involved but would likely result in a *de minimis* Section 4(f) use

Moderate (M) – indicates an impact likely to be greater than *de minimis,* resulting in an Individual Section 4(f) Evaluation.

Severe (S) – indicates a potentially substantial impact relative to the size of the resource.

Some of the SWM sites that would result in "Severe" impacts to Section 4(f) properties, especially the stream restoration sites, may qualify as exceptions under Section 4(f) as they could be viewed as solely for the purpose of preserving or enhancing an activity, feature, or attribute that qualifies the property for Section 4(f) protection. To qualify as an exception, the official with jurisdiction would be required to agree in writing that the SWM sites meet the criteria stated above. However, since that coordination has not been completed, it is not possible to determine at this time whether the Section 4(f) exception would apply. Therefore, these SWM sites are considered to result in "severe" impacts to Section 4(f) properties. It is also important to note that SWM sites where the Section 4(f) impacts are not viewed as beneficial could be extremely difficult to mitigate.

3. Results

The following summarizes the SWM sites based on the severity of the anticipated impacts to Section 4(f) parks. (Note: There are no wildlife or waterfowl refuges present within the LOD and historic properties

are addressed in Appendix B.) All SWM sites identified with anticipated Section 4(f) impacts, including those anticipated to be *de minimis* (low, moderate or severe) with the exception of the stream restoration sites were eliminated from consideration. Additionally, all sites with impacts to National Park Service (NPS) properties were removed, at the request of NPS.

For the SWM facility sites there were:

0 with severe 4(f) impacts

0 with moderate 4(f) impacts

0 with low 4(f) impacts

739 with no 4(f) impacts

For the SWM stream restoration sites there were:

15 with potentially severe 4(f) impacts

0 with moderate 4(f) impacts

0 with low 4(f) impacts

0 with no 4(f) impacts

Tables detailing each site's impact is included at the end of this Appendix.

4. Conclusions

The scope of this effort was to screen for Section 4(f) parks and wildlife and waterfowl refuges only, not historic properties, which are also protected by Section 4(f).

If the P3 Developer would choose to modify the SWM sites recommended in this report or utilize any new SWM sites not identified in this report such that Section 4(f) properties would be impacted, it should be noted that those sites should be considered for Compensatory SWM Plan only if no other option for meeting the minimum SWM water quality requirements are available. If it is determined that no other option is available, the "Low" impact sites may be considered first, as the Section 4(f) uses resulting from the "Low" sites may be considered *de minimis* and use of these sites would minimize the use of Section 4(f) properties in comparison to sites with "Moderate" or "Severe" impacts.

The "Moderate" and "Severe" impact sites should be evaluated by the NEPA team in coordination with the officials with jurisdiction over the Section 4(f) properties to determine if the impacts are viewed as beneficial or result in additional cost and mitigation. If the impact is viewed as greater than *de minimis*, then these sites should be avoided if it is feasible to do so.

Table H-1 – Compensatory SWM Stream Restoration Sites

Site Name	Section 4(f) Severity	Section 4(f) Comments
MPOC-0009	S	Cabin Branch Stream Valley Park
MO_00047A	S	Gunners Branch Park, Strider WMA
SSS-150023	S	Northwest Branch Park
MPOC-0008	S	Greenbriar Park
MO_00018	S	Heritage Farm Neighborhood Park
MPOC0006_0010_0011	S	Little Falls Branch Park

Site Name	Section 4(f) Severity	Section 4(f) Comments
MO_00051	S	Little Falls Branch Park
SSS-160065_160066	S	Indian Creek Stream Valley Park
PG-00079-Backup	S	J. Franklin Bourne Aquatic Center
SSS-160023-Backup	S	Bald Hill Stream Valley Park
MPAO_0022-Backup	S	Sligo Creek Park
MO_00029	S	Rock Creek Park
MPAO_0015	S	Rock Creek Stream Valley Park
MPAO_0014	S	Northwest Branch Park
MO_1540045	S	South Gunners Branch Park

Table H-2 – Compensatory SWM Facility Sites

Site Name	Section 4(F) Severity	Comment
PAX-0034	N	Not a 4(f) Park or Wildlife Refuge
PAX-0016	N	Not a 4(f) Park or Wildlife Refuge
PAX-0017	N	Not a 4(f) Park or Wildlife Refuge
WAS-0312	N	Not a 4(f) Park or Wildlife Refuge
WAS-0922	N	Not a 4(f) Park or Wildlife Refuge
WAS-0929	N	Not a 4(f) Park or Wildlife Refuge
WAS-0933	N	Not a 4(f) Park or Wildlife Refuge
PAX-0951	N	Not a 4(f) Park or Wildlife Refuge
PAX-1205	N	Not a 4(f) Park or Wildlife Refuge
PAX-1209	N	Not a 4(f) Park or Wildlife Refuge
WAS-4619	N	Not a 4(f) Park or Wildlife Refuge
PAX-0046	N	Not a 4(f) Park or Wildlife Refuge
WAS-0624	N	Not a 4(f) Park or Wildlife Refuge
WAS-0627	N	Not a 4(f) Park or Wildlife Refuge
WAS-0634	N	Not a 4(f) Park or Wildlife Refuge
WAS-0318	N	Not a 4(f) Park or Wildlife Refuge
WAS-0319	N	Not a 4(f) Park or Wildlife Refuge
WAS-3604	N	Not a 4(f) Park or Wildlife Refuge
WAS-3603	N	Not a 4(f) Park or Wildlife Refuge
WAS-4006	N	Not a 4(f) Park or Wildlife Refuge
WAS-0320	N	Not a 4(f) Park or Wildlife Refuge
WAS-3601	N	Not a 4(f) Park or Wildlife Refuge
WAS-3301	N	Not a 4(f) Park or Wildlife Refuge
WAS-3302	N	Not a 4(f) Park or Wildlife Refuge
WAS-3303	N	Not a 4(f) Park or Wildlife Refuge
PAX-3002	N	Not a 4(f) Park or Wildlife Refuge
PAX-3003	N	Not a 4(f) Park or Wildlife Refuge
PAX-3004	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
PAX-3005	N	Not a 4(f) Park or Wildlife Refuge
PAX-3006	N	Not a 4(f) Park or Wildlife Refuge
PAX-3007	N	Not a 4(f) Park or Wildlife Refuge
PAX-3008	N	Not a 4(f) Park or Wildlife Refuge
PAX-3009	N	Not a 4(f) Park or Wildlife Refuge
PAX-3011	N	Not a 4(f) Park or Wildlife Refuge
WAS-3307	N	Not a 4(f) Park or Wildlife Refuge
WAS-3606	N	Not a 4(f) Park or Wildlife Refuge
WAS-3608	N	Not a 4(f) Park or Wildlife Refuge
PAX-0641	N	Close but not touching Rosaryville State Park, therefore no 4(f)
PAX-3017	N	Not a 4(f) Park or Wildlife Refuge
PAX-3018	N	Not a 4(f) Park or Wildlife Refuge
PAX-3012	N	Not a 4(f) Park or Wildlife Refuge
PAX-3014	N	Not a 4(f) Park or Wildlife Refuge
PAX-3016	N	Not a 4(f) Park or Wildlife Refuge
PAX-3024	N	Not a 4(f) Park or Wildlife Refuge
PAX-3025	N	Not a 4(f) Park or Wildlife Refuge
PAX-3026	N	Not a 4(f) Park or Wildlife Refuge
WAS-3308	N	Not a 4(f) Park or Wildlife Refuge
WAS-3615	N	Not a 4(f) Park or Wildlife Refuge
WAS-3612	N	Not a 4(f) Park or Wildlife Refuge
WAS-3613	N	Not a 4(f) Park or Wildlife Refuge
WAS-3614	N	Not a 4(f) Park or Wildlife Refuge
PAX-3802	N	Not a 4(f) Park or Wildlife Refuge
PAX-0062	N	Not a 4(f) Park or Wildlife Refuge
WAS-0070	N	No impact to BW Parkway
WAS-3616	N	Not a 4(f) Park or Wildlife Refuge
WAS-3619	N	Not a 4(f) Park or Wildlife Refuge
WAS-3617	N	Not a 4(f) Park or Wildlife Refuge
WAS-3623	N	Not a 4(f) Park or Wildlife Refuge
WAS-3625	N	Not a 4(f) Park or Wildlife Refuge
WAS-0012	N	Not a 4(f) Park or Wildlife Refuge
PAX-0018	N	Not a 4(f) Park or Wildlife Refuge
PAX-0019	N	Not a 4(f) Park or Wildlife Refuge
PAX-0022	N	Not a 4(f) Park or Wildlife Refuge
PAX-0030	N	Not a 4(f) Park or Wildlife Refuge
WAS-0901	N	Not a 4(f) Park or Wildlife Refuge
WAS-0905	N	Not a 4(f) Park or Wildlife Refuge
WAS-0906	N	Not a 4(f) Park or Wildlife Refuge
WAS-0911	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-0913	N	Not a 4(f) Park or Wildlife Refuge
WAS-0918	N	Not a 4(f) Park or Wildlife Refuge
WAS-0923	N	Not a 4(f) Park or Wildlife Refuge
WAS-0932	N	Not a 4(f) Park or Wildlife Refuge
WAS-0937	N	Not a 4(f) Park or Wildlife Refuge
PAX-0961	N	Not a 4(f) Park or Wildlife Refuge
PAX-0965	N	Not a 4(f) Park or Wildlife Refuge
WAS-0971	N	Not a 4(f) Park or Wildlife Refuge
WAS-0975	N	Not a 4(f) Park or Wildlife Refuge
WAS-0979	N	Not a 4(f) Park or Wildlife Refuge
WAS-0980	N	Not a 4(f) Park or Wildlife Refuge
WAS-0321	N	Not a 4(f) Park or Wildlife Refuge
WAS-4022	N	Not a 4(f) Park or Wildlife Refuge
WAS-4023	N	Not a 4(f) Park or Wildlife Refuge
WAS-4024	N	Not a 4(f) Park or Wildlife Refuge
WAS-4026	N	Not a 4(f) Park or Wildlife Refuge
WAS-4029	N	Not a 4(f) Park or Wildlife Refuge
WAS-4030	N	Not a 4(f) Park or Wildlife Refuge
WAS-4032	N	Not a 4(f) Park or Wildlife Refuge
WAS-4304	N	Not a 4(f) Park or Wildlife Refuge
WAS-4324	N	Not a 4(f) Park or Wildlife Refuge
WAS-0072	N	Not a 4(f) Park or Wildlife Refuge
PAX-0076	N	Not a 4(f) Park or Wildlife Refuge
PAX-0080	N	Not a 4(f) Park or Wildlife Refuge
WAS-0081	N	Not a 4(f) Park or Wildlife Refuge
WAS-0084	N	Not a 4(f) Park or Wildlife Refuge
WAS-0085	N	Not a 4(f) Park or Wildlife Refuge
WAS-0086	N	Not a 4(f) Park or Wildlife Refuge
WAS-0345	N	Not a 4(f) Park or Wildlife Refuge
WAS-0326	N	Not a 4(f) Park or Wildlife Refuge
WAS-0342	N	Not a 4(f) Park or Wildlife Refuge
PAX-0301	N	Not a 4(f) Park or Wildlife Refuge
PAX-0302	N	Not a 4(f) Park or Wildlife Refuge
PAX-0305	N	Not a 4(f) Park or Wildlife Refuge
PAX-0308	N	Not a 4(f) Park or Wildlife Refuge
PAX-0312	N	Not a 4(f) Park or Wildlife Refuge
PAX-0315	N	Not a 4(f) Park or Wildlife Refuge
WAS-0984	N	Not a 4(f) Park or Wildlife Refuge
WAS-0985	N	Not a 4(f) Park or Wildlife Refuge
WAS-0987	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-0988	N	Not a 4(f) Park or Wildlife Refuge
WAS-2012	N	Not a 4(f) Park or Wildlife Refuge
PAX-3021	N	Not a 4(f) Park or Wildlife Refuge
WAS-4002	N	Not a 4(f) Park or Wildlife Refuge
WAS-4014	N	Not a 4(f) Park or Wildlife Refuge
WAS-4015	N	Not a 4(f) Park or Wildlife Refuge
WAS-4016	N	Not a 4(f) Park or Wildlife Refuge
WAS-4017	N	Not a 4(f) Park or Wildlife Refuge
WAS-0302	N	Not a 4(f) Park or Wildlife Refuge
WAS-0304	N	Not a 4(f) Park or Wildlife Refuge
WAS-0317	N	Washington National Cemetery Not a 4(f) Park or Wildlife Refuge
WAS-0315	N	Not a 4(f) Park or Wildlife Refuge
WAS-4000	N	Not a 4(f) Park or Wildlife Refuge
WAS-3995	N	Not a 4(f) Park or Wildlife Refuge
WAS-3999	N	Not a 4(f) Park or Wildlife Refuge
WAS-3655	N	Not a 4(f) Park or Wildlife Refuge
WAS-3635	N	Not a 4(f) Park or Wildlife Refuge
WAS-3636	N	Not a 4(f) Park or Wildlife Refuge
WAS-3641	N	Not a 4(f) Park or Wildlife Refuge
WAS-3644	N	Not a 4(f) Park or Wildlife Refuge
WAS-3645	N	Not a 4(f) Park or Wildlife Refuge
WAS-3646	N	Not a 4(f) Park or Wildlife Refuge
WAS-3648	N	Not a 4(f) Park or Wildlife Refuge
WAS-3649	N	Not a 4(f) Park or Wildlife Refuge
WAS-3650	N	work appears to be in median therefore Not a 4(f) Park or Wildlife Refuge
WAS-4037	N	Not a 4(f) Park or Wildlife Refuge
WAS-4040	N	Not a 4(f) Park or Wildlife Refuge
WAS-4045	N	Not a 4(f) Park or Wildlife Refuge
WAS-4052	N	Not a 4(f) Park or Wildlife Refuge
WAS-4053	N	Not a 4(f) Park or Wildlife Refuge
WAS-4058	N	Not a 4(f) Park or Wildlife Refuge
WAS-4059	N	Not a 4(f) Park or Wildlife Refuge
WAS-4063	N	Not a 4(f) Park or Wildlife Refuge
WAS-4064	N	Not a 4(f) Park or Wildlife Refuge
WAS-4065	N	Not a 4(f) Park or Wildlife Refuge
WAS-4068	N	Not a 4(f) Park or Wildlife Refuge
WAS-4072	N	Not a 4(f) Park or Wildlife Refuge
WAS-4075	N	Not a 4(f) Park or Wildlife Refuge
WAS-4078	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-4079	N	Not a 4(f) Park or Wildlife Refuge
WAS-4083	N	Not a 4(f) Park or Wildlife Refuge
WAS-4084	N	Not a 4(f) Park or Wildlife Refuge
WAS-4086	N	Not a 4(f) Park or Wildlife Refuge
WAS-4087	N	Not a 4(f) Park or Wildlife Refuge
WAS-4091	N	Not a 4(f) Park or Wildlife Refuge
WAS-4093	N	Not a 4(f) Park or Wildlife Refuge
WAS-4096	N	Not a 4(f) Park or Wildlife Refuge
WAS-4098	N	Not a 4(f) Park or Wildlife Refuge
WAS-4099	N	Not a 4(f) Park or Wildlife Refuge
WAS-4489	N	Not a 4(f) Park or Wildlife Refuge
WAS-4200	N	Not a 4(f) Park or Wildlife Refuge
WAS-4201	N	Not a 4(f) Park or Wildlife Refuge
WAS-4206	N	Not a 4(f) Park or Wildlife Refuge
WAS-4205	N	Not a 4(f) Park or Wildlife Refuge
WAS-4212	N	Not a 4(f) Park or Wildlife Refuge
WAS-4214	N	Not a 4(f) Park or Wildlife Refuge
WAS-4216	N	Not a 4(f) Park or Wildlife Refuge
WAS-4100	N	Not a 4(f) Park or Wildlife Refuge
WAS-4111	N	Not a 4(f) Park or Wildlife Refuge
WAS-4112	N	Not a 4(f) Park or Wildlife Refuge
WAS-4119	N	Not a 4(f) Park or Wildlife Refuge
WAS-4121	N	Not a 4(f) Park or Wildlife Refuge
WAS-4125	N	Not a 4(f) Park or Wildlife Refuge
WAS-4127	N	Not a 4(f) Park or Wildlife Refuge
WAS-4131	N	Not a 4(f) Park or Wildlife Refuge
WAS-4134	N	Not a 4(f) Park or Wildlife Refuge
WAS-4135	N	Not a 4(f) Park or Wildlife Refuge
WAS-4137	N	Not a 4(f) Park or Wildlife Refuge
WAS-2073	N	Not a 4(f) Park or Wildlife Refuge
WAS-2075	N	Not a 4(f) Park or Wildlife Refuge
WAS-4163	N	Not a 4(f) Park or Wildlife Refuge
WAS-4153	N	Not a 4(f) Park or Wildlife Refuge
WAS-4154	N	Not a 4(f) Park or Wildlife Refuge
WAS-4155	N	Not a 4(f) Park or Wildlife Refuge
WAS-4156	N	Not a 4(f) Park or Wildlife Refuge
WAS-4158	N	Not a 4(f) Park or Wildlife Refuge
WAS-4157	N	Not a 4(f) Park or Wildlife Refuge
WAS-4159	N	Not a 4(f) Park or Wildlife Refuge
WAS-4160	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-4161	N	Not a 4(f) Park or Wildlife Refuge
WAS-4162	N	Not a 4(f) Park or Wildlife Refuge
WAS-2078	N	Not a 4(f) Park or Wildlife Refuge
WAS-2079	N	Not a 4(f) Park or Wildlife Refuge
WAS-2004	N	Not a 4(f) Park or Wildlife Refuge
WAS-2010	N	Not a 4(f) Park or Wildlife Refuge
WAS-2016	N	This work is in median and therefore appears not to touch Greenbelt Park
WAS-2022	N	Not a 4(f) Park or Wildlife Refuge
WAS-2023	N	Not a 4(f) Park or Wildlife Refuge
WAS-2025	N	Not a 4(f) Park or Wildlife Refuge
WAS-2026	N	Not a 4(f) Park or Wildlife Refuge
WAS-2027	N	Not a 4(f) Park or Wildlife Refuge
WAS-2028	N	Not a 4(f) Park or Wildlife Refuge
WAS-2029	N	Not a 4(f) Park or Wildlife Refuge
WAS-2030	N	Not a 4(f) Park or Wildlife Refuge
WAS-2032	N	Not a 4(f) Park or Wildlife Refuge
WAS-2033	N	Not a 4(f) Park or Wildlife Refuge
WAS-2035	N	Not a 4(f) Park or Wildlife Refuge
WAS-2036	N	Not a 4(f) Park or Wildlife Refuge
WAS-2037	N	Not a 4(f) Park or Wildlife Refuge
WAS-3305	N	Not a 4(f) Park or Wildlife Refuge
WAS-3618	N	Not a 4(f) Park or Wildlife Refuge
WAS-0346	N	Not a 4(f) Park or Wildlife Refuge
WAS-0347	N	Not a 4(f) Park or Wildlife Refuge
WAS-0348	N	Not a 4(f) Park or Wildlife Refuge
WAS-0322	N	Not a 4(f) Park or Wildlife Refuge
WAS-4164	N	Not a 4(f) Park or Wildlife Refuge
WAS-4165	N	Not a 4(f) Park or Wildlife Refuge
WAS-4218	N	Not a 4(f) Park or Wildlife Refuge
WAS-4141	N	Not a 4(f) Park or Wildlife Refuge
WAS-4138	N	Not a 4(f) Park or Wildlife Refuge
WAS-4140	N	Not a 4(f) Park or Wildlife Refuge
PAX-2021	N	Not a 4(f) Park or Wildlife Refuge
WAS-4322	N	Not a 4(f) Park or Wildlife Refuge
WAS-4321	N	Not a 4(f) Park or Wildlife Refuge
WAS-4323	N	Not a 4(f) Park or Wildlife Refuge
WAS-4310	N	Not a 4(f) Park or Wildlife Refuge
WAS-4333	N	Not a 4(f) Park or Wildlife Refuge
WAS-4334	N	Not a 4(f) Park or Wildlife Refuge
WAS-4336	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-4339	N	Not a 4(f) Park or Wildlife Refuge
WAS-4342	N	Not a 4(f) Park or Wildlife Refuge
WAS-4345	N	Not a 4(f) Park or Wildlife Refuge
WAS-4347	N	Impacts appear to be on opposite side of road from park
WAS-4349	N	appears to be on side of road opposite Rickman Farm Horse Park
WAS-4362	N	Not a 4(f) Park or Wildlife Refuge
WAS-4363	N	Not a 4(f) Park or Wildlife Refuge
WAS-4364	N	Not a 4(f) Park or Wildlife Refuge
WAS-4366	N	Not a 4(f) Park or Wildlife Refuge
WAS-4352	N	Not a 4(f) Park or Wildlife Refuge
WAS-4353	N	Not a 4(f) Park or Wildlife Refuge
WAS-4355	N	Not a 4(f) Park or Wildlife Refuge
WAS-4373	N	Not a 4(f) Park or Wildlife Refuge
WAS-4375	N	Not a 4(f) Park or Wildlife Refuge
WAS-4376	N	Not a 4(f) Park or Wildlife Refuge
WAS-4377	N	Not a 4(f) Park or Wildlife Refuge
WAS-4378	N	Not a 4(f) Park or Wildlife Refuge
WAS-4383	N	Not a 4(f) Park or Wildlife Refuge
WAS-4385	N	Not a 4(f) Park or Wildlife Refuge
WAS-4391	N	Not a 4(f) Park or Wildlife Refuge
WAS-4392	N	Not a 4(f) Park or Wildlife Refuge
WAS-4393	N	Not a 4(f) Park or Wildlife Refuge
WAS-4394	N	Not a 4(f) Park or Wildlife Refuge
WAS-4397	N	Not a 4(f) Park or Wildlife Refuge
WAS-4402	N	Not a 4(f) Park or Wildlife Refuge
WAS-4404	N	Not a 4(f) Park or Wildlife Refuge
WAS-4405	N	Not a 4(f) Park or Wildlife Refuge
WAS-4406	N	Not a 4(f) Park or Wildlife Refuge
WAS-4407	N	Not a 4(f) Park or Wildlife Refuge
WAS-4411	N	Not a 4(f) Park or Wildlife Refuge
WAS-4413	N	Not a 4(f) Park or Wildlife Refuge
WAS-4414	N	Not a 4(f) Park or Wildlife Refuge
WAS-4423	N	Not a 4(f) Park or Wildlife Refuge
WAS-4426	N	Not a 4(f) Park or Wildlife Refuge
WAS-4427	N	Not a 4(f) Park or Wildlife Refuge
WAS-4428	N	Not a 4(f) Park or Wildlife Refuge
WAS-4429	N	Not a 4(f) Park or Wildlife Refuge
WAS-4431	N	Not a 4(f) Park or Wildlife Refuge
WAS-4432	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-4433	N	Not a 4(f) Park or Wildlife Refuge
WAS-4442	N	Not a 4(f) Park or Wildlife Refuge
WAS-4443	N	Not a 4(f) Park or Wildlife Refuge
WAS-4444	N	Not a 4(f) Park or Wildlife Refuge
WAS-4445	N	Not a 4(f) Park or Wildlife Refuge
WAS-4446	N	Not a 4(f) Park or Wildlife Refuge
WAS-4447	N	Not a 4(f) Park or Wildlife Refuge
WAS-4448	N	Not a 4(f) Park or Wildlife Refuge
WAS-4449	N	Not a 4(f) Park or Wildlife Refuge
WAS-4451	N	Not a 4(f) Park or Wildlife Refuge
WAS-4452	N	Not a 4(f) Park or Wildlife Refuge
WAS-4453	N	Not a 4(f) Park or Wildlife Refuge
WAS-4454	N	Not a 4(f) Park or Wildlife Refuge
WAS-4455	N	Not a 4(f) Park or Wildlife Refuge
WAS-4457	N	Not a 4(f) Park or Wildlife Refuge
WAS-4450	N	Not a 4(f) Park or Wildlife Refuge
WAS-4456	N	Not a 4(f) Park or Wildlife Refuge
WAS-4459	N	Not a 4(f) Park or Wildlife Refuge
WAS-4462	N	Not a 4(f) Park or Wildlife Refuge
WAS-4463	N	Not a 4(f) Park or Wildlife Refuge
WAS-4464	N	Not a 4(f) Park or Wildlife Refuge
WAS-4475	N	Not a 4(f) Park or Wildlife Refuge
WAS-4474	N	Not a 4(f) Park or Wildlife Refuge
WAS-4476	N	Not a 4(f) Park or Wildlife Refuge
WAS-4477	N	Not a 4(f) Park or Wildlife Refuge
WAS-4478	N	Not a 4(f) Park or Wildlife Refuge
WAS-4479	N	Not a 4(f) Park or Wildlife Refuge
WAS-4481	N	Not a 4(f) Park or Wildlife Refuge
WAS-4482	N	Not a 4(f) Park or Wildlife Refuge
WAS-4483	N	Not a 4(f) Park or Wildlife Refuge
WAS-4484	N	Not a 4(f) Park or Wildlife Refuge
WAS-4513	N	Not a 4(f) Park or Wildlife Refuge
WAS-4516	N	Not a 4(f) Park or Wildlife Refuge
WAS-4517	N	Not a 4(f) Park or Wildlife Refuge
WAS-4518	N	Not a 4(f) Park or Wildlife Refuge
WAS-4519	N	Not a 4(f) Park or Wildlife Refuge
WAS-4521	N	Not a 4(f) Park or Wildlife Refuge
WAS-4523	N	Not a 4(f) Park or Wildlife Refuge
WAS-4532	N	Not a 4(f) Park or Wildlife Refuge
WAS-4533	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-4534	N	Not a 4(f) Park or Wildlife Refuge
WAS-4606	N	Not a 4(f) Park or Wildlife Refuge
WAS-4610	N	Not a 4(f) Park or Wildlife Refuge
WAS-4603	N	Not a 4(f) Park or Wildlife Refuge
WAS-4604	N	Not a 4(f) Park or Wildlife Refuge
WAS-4601	N	Not a 4(f) Park or Wildlife Refuge
WAS-4602	N	Not a 4(f) Park or Wildlife Refuge
WAS-4609	N	Not a 4(f) Park or Wildlife Refuge
WAS-4607	N	Not a 4(f) Park or Wildlife Refuge
WAS-4614	N	Not a 4(f) Park or Wildlife Refuge
WAS-4615	N	Not a 4(f) Park or Wildlife Refuge
WAS-4613	N	Not a 4(f) Park or Wildlife Refuge
WAS-4622	N	Not a 4(f) Park or Wildlife Refuge
WAS-4623	N	Not a 4(f) Park or Wildlife Refuge
WAS-4624	N	Not a 4(f) Park or Wildlife Refuge
WAS-4625	N	Not a 4(f) Park or Wildlife Refuge
WAS-4626	N	Not a 4(f) Park or Wildlife Refuge
WAS-4627	N	Not a 4(f) Park or Wildlife Refuge
WAS-4628	N	Not a 4(f) Park or Wildlife Refuge
WAS-4635	N	Not a 4(f) Park or Wildlife Refuge
WAS-4633	N	Not a 4(f) Park or Wildlife Refuge
WAS-4636	N	Not a 4(f) Park or Wildlife Refuge
WAS-4629	N	Not a 4(f) Park or Wildlife Refuge
WAS-4630	N	Not a 4(f) Park or Wildlife Refuge
WAS-4631	N	Not a 4(f) Park or Wildlife Refuge
WAS-4637	N	Not a 4(f) Park or Wildlife Refuge
WAS-4638	N	Not a 4(f) Park or Wildlife Refuge
WAS-4640	N	Not a 4(f) Park or Wildlife Refuge
WAS-4639	N	Not a 4(f) Park or Wildlife Refuge
WAS-4641	N	Not a 4(f) Park or Wildlife Refuge
WAS-4642	N	Not a 4(f) Park or Wildlife Refuge
WAS-4644	N	Not a 4(f) Park or Wildlife Refuge
WAS-4645	N	Not a 4(f) Park or Wildlife Refuge
WAS-4646	N	Not a 4(f) Park or Wildlife Refuge
WAS-4647	N	Not a 4(f) Park or Wildlife Refuge
WAS-4651	N	Not a 4(f) Park or Wildlife Refuge
WAS-4652	N	Not a 4(f) Park or Wildlife Refuge
WAS-4653	N	Not a 4(f) Park or Wildlife Refuge
WAS-4655	N	Not a 4(f) Park or Wildlife Refuge
WAS-4656	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-4657	N	Not a 4(f) Park or Wildlife Refuge
WAS-4658	N	Not a 4(f) Park or Wildlife Refuge
WAS-4659	N	Not a 4(f) Park or Wildlife Refuge
WAS-4660	N	Not a 4(f) Park or Wildlife Refuge
WAS-5301	N	Not a 4(f) Park or Wildlife Refuge
WAS-5302	N	Not a 4(f) Park or Wildlife Refuge
WAS-5304	N	Not a 4(f) Park or Wildlife Refuge
WAS-5306	N	Not a 4(f) Park or Wildlife Refuge
WAS-5307	N	Not a 4(f) Park or Wildlife Refuge
WAS-5308	N	Not a 4(f) Park or Wildlife Refuge
WAS-5310	N	Not a 4(f) Park or Wildlife Refuge
WAS-5311	N	Not a 4(f) Park or Wildlife Refuge
WAS-5312	N	Not a 4(f) Park or Wildlife Refuge
WAS-5313	N	Not a 4(f) Park or Wildlife Refuge
WAS-5314	N	Not a 4(f) Park or Wildlife Refuge
WAS-5315	N	Not a 4(f) Park or Wildlife Refuge
WAS-5316	N	Not a 4(f) Park or Wildlife Refuge
WAS-5317	N	border impact to Senaca Creek State Park
WAS-4486	N	Not a 4(f) Park or Wildlife Refuge
WAS-4487	N	Not a 4(f) Park or Wildlife Refuge
WAS-4488	N	Not a 4(f) Park or Wildlife Refuge
WAS-4491	N	Not a 4(f) Park or Wildlife Refuge
WAS-4493	N	Not a 4(f) Park or Wildlife Refuge
WAS-4494	N	Not a 4(f) Park or Wildlife Refuge
WAS-4495	N	Not a 4(f) Park or Wildlife Refuge
WAS-4497	N	Not a 4(f) Park or Wildlife Refuge
WAS-4498	N	Not a 4(f) Park or Wildlife Refuge
WAS-4499	N	Not a 4(f) Park or Wildlife Refuge
WAS-4502	N	Not a 4(f) Park or Wildlife Refuge
WAS-4506	N	Not a 4(f) Park or Wildlife Refuge
WAS-4509	N	Not a 4(f) Park or Wildlife Refuge - this is a conservation area and may have restrictions
WAS-5601	N	Not a 4(f) Park or Wildlife Refuge
WAS-5602	N	Not a 4(f) Park or Wildlife Refuge
WAS-4101	N	Not a 4(f) Park or Wildlife Refuge
PAX-4007	N	Not a 4(f) Park or Wildlife Refuge
WAS-4122	N	Not a 4(f) Park or Wildlife Refuge
WAS-4123	N	Not a 4(f) Park or Wildlife Refuge
WAS-4124	N	Not a 4(f) Park or Wildlife Refuge
WAS-4132	N	Not a 4(f) Park or Wildlife Refuge
PAX-0014	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
PAX-0020	N	Not a 4(f) Park or Wildlife Refuge
PAX-0029	N	Not a 4(f) Park or Wildlife Refuge
PAX-0026	N	Not a 4(f) Park or Wildlife Refuge
PAX-0039	N	Not a 4(f) Park or Wildlife Refuge
PAX-0041	N	Not a 4(f) Park or Wildlife Refuge
PAX-0042	N	Project in median, not a 4(f) resource
PAX-0047	N	Not a 4(f) Park or Wildlife Refuge
PAX-0048	N	Not a 4(f) Park or Wildlife Refuge
PAX-0049	N	Project in median, not 4(f) property
PAX-0051	N	Not a 4(f) Park or Wildlife Refuge
PAX-0059	N	Not a 4(f) Park or Wildlife Refuge
PAX-0061	N	Not a 4(f) Park or Wildlife Refuge
PAX-0063	N	Not a 4(f) Park or Wildlife Refuge
PAX-0064	N	Not a 4(f) Park or Wildlife Refuge
PAX-0045	N	Not a 4(f) Park or Wildlife Refuge
WAS-0073	N	Not a 4(f) Park or Wildlife Refuge
WAS-0076	N	Not a 4(f) Park or Wildlife Refuge
WAS-0077	N	Not a 4(f) Park or Wildlife Refuge
WAS-0078	N	Not a 4(f) Park or Wildlife Refuge
WAS-0075	N	Not a 4(f) Park or Wildlife Refuge
WAS-0082	N	Not a 4(f) Park or Wildlife Refuge
WAS-0083	N	Not a 4(f) Park or Wildlife Refuge
WAS-0333	N	Not a 4(f) Park or Wildlife Refuge
PAX-0304	N	Not a 4(f) Park or Wildlife Refuge
PAX-0310	N	Not a 4(f) Park or Wildlife Refuge
PAX-0311	N	Not a 4(f) Park or Wildlife Refuge
PAX-0313	N	Not a 4(f) Park or Wildlife Refuge
WAS-0614	N	Not a 4(f) Park or Wildlife Refuge
WAS-0617	N	Not a 4(f) Park or Wildlife Refuge
WAS-0623	N	Not a 4(f) Park or Wildlife Refuge
WAS-0625	N	Not a 4(f) Park or Wildlife Refuge
WAS-0628	N	Not a 4(f) Park or Wildlife Refuge
WAS-0606	N	Not a 4(f) Park or Wildlife Refuge
WAS-0615	N	Not a 4(f) Park or Wildlife Refuge
WAS-0616	N	Not a 4(f) Park or Wildlife Refuge
WAS-0626	N	Not a 4(f) Park or Wildlife Refuge
PAX-0601	N	Close to but not touching MNCPPC Windsor Park, therefore no 4(f)
PAX-0602	N	Not a 4(f) Park or Wildlife Refuge
PAX-0608	N	Not a 4(f) Park or Wildlife Refuge
WAS-0638	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-0641	N	Not a 4(f) Park or Wildlife Refuge
PAX-0610	N	Not a 4(f) Park or Wildlife Refuge
WAS-0644	N	Not a 4(f) Park or Wildlife Refuge
WAS-0647	N	Not a 4(f) Park or Wildlife Refuge
WAS-0649	N	Not a 4(f) Park or Wildlife Refuge
WAS-0651	N	Not a 4(f) Park or Wildlife Refuge
WAS-0652	N	Not a 4(f) Park or Wildlife Refuge
PAX-0618	N	Not a 4(f) Park or Wildlife Refuge
PAX-0620	N	Not a 4(f) Park or Wildlife Refuge
PAX-0621	N	Not a 4(f) Park or Wildlife Refuge
PAX-0622	N	Not a 4(f) Park or Wildlife Refuge
PAX-0624	N	Not a 4(f) Park or Wildlife Refuge
PAX-0625	N	Not a 4(f) Park or Wildlife Refuge
PAX-0626	N	Not a 4(f) Park or Wildlife Refuge
WAS-0938	N	Potomac Ridge Golf is privately owned, not a 4(f) Park or Wildlife Refuge
WAS-0939	N	Potomac Golf Course is not publicly owned and therefore not 4(f)
WAS-0972	N	Not a 4(f) Park or Wildlife Refuge
WAS-0989	N	Not a 4(f) Park or Wildlife Refuge
WAS-0990	N	Not a 4(f) Park or Wildlife Refuge
WAS-0992	N	Not a 4(f) Park or Wildlife Refuge
WAS-0995	N	Not a 4(f) Park or Wildlife Refuge
WAS-0996	N	Not a 4(f) Park or Wildlife Refuge
WAS-0999	N	Not a 4(f) Park or Wildlife Refuge
WAS-1000	N	Not a 4(f) Park or Wildlife Refuge
WAS-1001	N	Not a 4(f) Park or Wildlife Refuge
WAS-1002	N	Not a 4(f) Park or Wildlife Refuge
WAS-1003	N	Not a 4(f) Park or Wildlife Refuge
WAS-1004	N	Not a 4(f) Park or Wildlife Refuge
WAS-1005	N	Not a 4(f) Park or Wildlife Refuge
WAS-1006	N	Not a 4(f) Park or Wildlife Refuge
WAS-1007	N	Not a 4(f) Park or Wildlife Refuge
WAS-1009	N	Not a 4(f) Park or Wildlife Refuge
WAS-1010	N	Not a 4(f) Park or Wildlife Refuge
WAS-1011	N	Not a 4(f) Park or Wildlife Refuge
PAX-1204	N	Not a 4(f) Park or Wildlife Refuge
PAX-1211	N	Not a 4(f) Park or Wildlife Refuge
PAX-1210	N	Not a 4(f) Park or Wildlife Refuge
PAX-1213	N	Not a 4(f) Park or Wildlife Refuge
PAX-1504	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
PAX-1509	N	Not a 4(f) Park or Wildlife Refuge
PAX-1510	N	Not a 4(f) Park or Wildlife Refuge
PAX-2501	N	Not a 4(f) Park or Wildlife Refuge
PAX-2502	N	Not a 4(f) Park or Wildlife Refuge
PAX-2503	N	Not a 4(f) Park or Wildlife Refuge
PAX-2504	N	Not a 4(f) Park or Wildlife Refuge
PAX-2505	N	Not a 4(f) Park or Wildlife Refuge
PAX-2506	N	Not a 4(f) Park or Wildlife Refuge
PAX-2507	N	Not a 4(f) Park or Wildlife Refuge
PAX-2508	N	Not a 4(f) Park or Wildlife Refuge
PAX-2509	N	Not a 4(f) Park or Wildlife Refuge
PAX-2510	N	Not a 4(f) Park or Wildlife Refuge
PAX-2511	N	Not a 4(f) Park or Wildlife Refuge
WAS-2514	N	Not a 4(f) Park or Wildlife Refuge
WAS-2515	N	Not a 4(f) Park or Wildlife Refuge
WAS-2518	N	Not a 4(f) Park or Wildlife Refuge
WAS-2519	N	Not a 4(f) Park or Wildlife Refuge
WAS-2520	N	Not a 4(f) Park or Wildlife Refuge
WAS-2522	N	Not a 4(f) Park or Wildlife Refuge
WAS-2525	N	Not a 4(f) Park or Wildlife Refuge
PAX-2529	N	Not a 4(f) Park or Wildlife Refuge
PAX-2530	N	Not a 4(f) Park or Wildlife Refuge
PAX-2531	N	Not a 4(f) Park or Wildlife Refuge
PAX-2537	N	Not a 4(f) Park or Wildlife Refuge
PAX-2538	N	Not a 4(f) Park or Wildlife Refuge
PAX-2539	N	Not a 4(f) Park or Wildlife Refuge
WAS-2540	N	Not a 4(f) Park or Wildlife Refuge
WAS-2541	N	Not a 4(f) Park or Wildlife Refuge
WAS-2542	N	Not a 4(f) Park or Wildlife Refuge
WAS-2543	N	Not a 4(f) Park or Wildlife Refuge
WAS-2548	N	Not a 4(f) Park or Wildlife Refuge
WAS-2549	N	Not a 4(f) Park or Wildlife Refuge
WAS-2551	N	Not a 4(f) Park or Wildlife Refuge
WAS-2553	N	Not a 4(f) Park or Wildlife Refuge
WAS-2554	N	Not a 4(f) Park or Wildlife Refuge
WAS-2555	N	Not a 4(f) Park or Wildlife Refuge
WAS-2556	N	Not a 4(f) Park or Wildlife Refuge
WAS-2557	N	Not a 4(f) Park or Wildlife Refuge
PAX-2559	N	Not a 4(f) Park or Wildlife Refuge
PAX-2560	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
PAX-2561	N	Not a 4(f) Park or Wildlife Refuge
WAS-2562	N	Not a 4(f) Park or Wildlife Refuge
WAS-2501	N	Not a 4(f) Park or Wildlife Refuge
WAS-2502	N	Not a 4(f) Park or Wildlife Refuge
WAS-2503	N	Not a 4(f) Park or Wildlife Refuge
WAS-2504	N	Not a 4(f) Park or Wildlife Refuge
WAS-2506	N	borders Hillandale Park, could be de minimis or no impact
WAS-2507	N	Not a 4(f) Park or Wildlife Refuge
WAS-2508	N	Not a 4(f) Park or Wildlife Refuge
WAS-2511	N	Not a 4(f) Park or Wildlife Refuge
WAS-2510	N	Not a 4(f) Park or Wildlife Refuge
WAS-2512	N	Not a 4(f) Park or Wildlife Refuge
WAS-2527	N	Not a 4(f) Park or Wildlife Refuge
WAS-2528	N	Not a 4(f) Park or Wildlife Refuge
WAS-2530	N	Not a 4(f) Park or Wildlife Refuge
WAS-2529	N	Not a 4(f) Park or Wildlife Refuge
WAS-2531	N	Not a 4(f) Park or Wildlife Refuge
WAS-2532	N	Not a 4(f) Park or Wildlife Refuge
WAS-2533	N	Not a 4(f) Park or Wildlife Refuge
WAS-2509	N	Not a 4(f) Park or Wildlife Refuge
WAS-2534	N	Not a 4(f) Park or Wildlife Refuge
WAS-2535	N	Not a 4(f) Park or Wildlife Refuge
WAS-2538	N	Not a 4(f) Park or Wildlife Refuge
PAX-2514	N	Not a 4(f) Park or Wildlife Refuge
PAX-2515	N	Not a 4(f) Park or Wildlife Refuge
PAX-2516	N	Not a 4(f) Park or Wildlife Refuge
PAX-2518	N	Not a 4(f) Park or Wildlife Refuge
PAX-2519	N	Not a 4(f) Park or Wildlife Refuge
PAX-2520	N	Not a 4(f) Park or Wildlife Refuge
PAX-2521	N	Not a 4(f) Park or Wildlife Refuge
PAX-2522	N	Not a 4(f) Park or Wildlife Refuge
PAX-2523	N	Not a 4(f) Park or Wildlife Refuge
PAX-2524	N	Not a 4(f) Park or Wildlife Refuge
PAX-2525	N	Not a 4(f) Park or Wildlife Refuge
PAX-2540	N	Not a 4(f) Park or Wildlife Refuge
PAX-2541	N	Not a 4(f) Park or Wildlife Refuge
PAX-2542	N	Not a 4(f) Park or Wildlife Refuge
WAS-2559	N	Not a 4(f) Park or Wildlife Refuge
WAS-2560	N	Not a 4(f) Park or Wildlife Refuge
WAS-2539	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-2564	N	Not a 4(f) Park or Wildlife Refuge
WAS-2565	N	Not a 4(f) Park or Wildlife Refuge
WAS-2567	N	Not a 4(f) Park or Wildlife Refuge
WAS-2568	N	Not a 4(f) Park or Wildlife Refuge
WAS-2569	N	Not a 4(f) Park or Wildlife Refuge
WAS-2571	N	Not a 4(f) Park or Wildlife Refuge
WAS-2572	N	Not a 4(f) Park or Wildlife Refuge
WAS-2573	N	Not a 4(f) Park or Wildlife Refuge
WAS-2574	N	Not a 4(f) Park or Wildlife Refuge
WAS-2575	N	Not a 4(f) Park or Wildlife Refuge
WAS-2576	N	Not a 4(f) Park or Wildlife Refuge
WAS-2577	N	Not a 4(f) Park or Wildlife Refuge
WAS-2578	N	Not a 4(f) Park or Wildlife Refuge
WAS-2579	N	Not a 4(f) Park or Wildlife Refuge
WAS-2580	N	Not a 4(f) Park or Wildlife Refuge
WAS-2581	N	Not a 4(f) Park or Wildlife Refuge
WAS-2582	N	Not a 4(f) Park or Wildlife Refuge
WAS-2583	N	Not a 4(f) Park or Wildlife Refuge
WAS-2584	N	Not a 4(f) Park or Wildlife Refuge
WAS-2585	N	Not a 4(f) Park or Wildlife Refuge
WAS-2586	N	Not a 4(f) Park or Wildlife Refuge
WAS-2587	N	Not a 4(f) Park or Wildlife Refuge
WAS-2588	N	Not a 4(f) Park or Wildlife Refuge
WAS-2589	N	Not a 4(f) Park or Wildlife Refuge
WAS-2590	N	Not a 4(f) Park or Wildlife Refuge
WAS-2591	N	Not a 4(f) Park or Wildlife Refuge
WAS-2592	N	Not a 4(f) Park or Wildlife Refuge
WAS-2593	N	Not a 4(f) Park or Wildlife Refuge
WAS-2594	N	Not a 4(f) Park or Wildlife Refuge
WAS-2595	N	Not a 4(f) Park or Wildlife Refuge
WAS-2596	N	Not a 4(f) Park or Wildlife Refuge
WAS-2599	N	Not a 4(f) Park or Wildlife Refuge
WAS-2600	N	Not a 4(f) Park or Wildlife Refuge
WAS-2601	N	Not a 4(f) Park or Wildlife Refuge
WAS-2602	N	Not a 4(f) Park or Wildlife Refuge
WAS-2603	N	Not a 4(f) Park or Wildlife Refuge
WAS-2604	N	Close to Riderwood Park, worst case is de minimis
WAS-2605	N	Not a 4(f) Park or Wildlife Refuge
WAS-2606	N	Not a 4(f) Park or Wildlife Refuge
WAS-2615	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-2608	N	Not a 4(f) Park or Wildlife Refuge
WAS-2609	N	Not a 4(f) Park or Wildlife Refuge
WAS-2610	N	Not a 4(f) Park or Wildlife Refuge
WAS-2611	N	Not a 4(f) Park or Wildlife Refuge
WAS-2612	N	Not a 4(f) Park or Wildlife Refuge
WAS-2613	N	Close to Riderwood Park
WAS-2614	N	Not a 4(f) Park or Wildlife Refuge
WAS-3609	N	Not a 4(f) Park or Wildlife Refuge
WAS-3611	N	Not a 4(f) Park or Wildlife Refuge
WAS-3607	N	Not a 4(f) Park or Wildlife Refuge
WAS-3621	N	Not a 4(f) Park or Wildlife Refuge
WAS-3622	N	Not a 4(f) Park or Wildlife Refuge
PAX-3801	N	Not a 4(f) Park or Wildlife Refuge
WAS-3996	N	Not a 4(f) Park or Wildlife Refuge
WAS-2558	N	Not a 4(f) Park or Wildlife Refuge
WAS-2513	N	Not a 4(f) Park or Wildlife Refuge
WAS-2526	N	Not a 4(f) Park or Wildlife Refuge
WAS-3637	N	Not a 4(f) Park or Wildlife Refuge
WAS-3638	N	Not a 4(f) Park or Wildlife Refuge
WAS-4441	N	Not a 4(f) Park or Wildlife Refuge
PAX-4004	N	Not a 4(f) Park or Wildlife Refuge
PAX-4006	N	Not a 4(f) Park or Wildlife Refuge
PAX-2005	N	Not a 4(f) Park or Wildlife Refuge
WAS-3306	N	Not a 4(f) Park or Wildlife Refuge
WAS-2056	N	Not a 4(f) Park or Wildlife Refuge
WAS-2072	N	Not a 4(f) Park or Wildlife Refuge
WAS-2536	N	Directly adjacent to M-NCPPC McKnew Conservation Park. Ensure impacts do not occur to M-NCPPC parcel to avoid 4f use.
WAS-3658	N	Not a 4(f) Park or Wildlife Refuge
WAS-4215	N	Bioswale and outlet in existing cross culvert. Not a 4(f) Park or Wildlife Refuge
WAS-0328	N	Overhead utility poles, gas marker, sewer and telecom found. There are gas stations adjacent to the drainage area but they do not appear to drain to the site. The site is adjacent to an existing bus stop and in front of a commercial business.
WAS-4010	N	Not a 4(f) Park or Wildlife Refuge
WAS-4150	N	Not a 4(f) Park or Wildlife Refuge
WAS-4011	N	Not a 4(f) Park or Wildlife Refuge
WAS-4013	N	Not a 4(f) Park or Wildlife Refuge
PAX-4001	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-4018	N	Not a 4(f) Park or Wildlife Refuge
WAS-4019	N	Not a 4(f) Park or Wildlife Refuge
WAS-4020	N	Not a 4(f) Park or Wildlife Refuge
WAS-4021	N	Not a 4(f) Park or Wildlife Refuge
PAX-4003	N	Not a 4(f) Park or Wildlife Refuge
WAS-4027	N	Not a 4(f) Park or Wildlife Refuge
WAS-4031	N	Not a 4(f) Park or Wildlife Refuge
WAS-4047	N	Not a 4(f) Park or Wildlife Refuge
WAS-4048	N	Not a 4(f) Park or Wildlife Refuge
WAS-4060	N	Not a 4(f) Park or Wildlife Refuge
WAS-4061	N	Not a 4(f) Park or Wildlife Refuge
WAS-4067	N	Not a 4(f) Park or Wildlife Refuge
WAS-4325	N	Not a 4(f) Park or Wildlife Refuge
WAS-4204	N	Not a 4(f) Park or Wildlife Refuge
WAS-4208	N	Not a 4(f) Park or Wildlife Refuge
WAS-0010	N	Not a 4(f) Park or Wildlife Refuge
WAS-0013	N	Not a 4(f) Park or Wildlife Refuge
WAS-0301	N	Not a 4(f) Park or Wildlife Refuge
WAS-0307	N	Not a 4(f) Park or Wildlife Refuge
WAS-0303	N	Not a 4(f) Park or Wildlife Refuge
WAS-0313	N	Not a 4(f) Park or Wildlife Refuge
WAS-0610	N	Not a 4(f) Park or Wildlife Refuge
WAS-0903	N	Not a 4(f) Park or Wildlife Refuge
WAS-0925	N	Not a 4(f) Park or Wildlife Refuge
WAS-0934	N	Not a 4(f) Park or Wildlife Refuge
WAS-0957	N	Not a 4(f) Park or Wildlife Refuge
WAS-0968	N	Not a 4(f) Park or Wildlife Refuge
WAS-0969	N	Not a 4(f) Park or Wildlife Refuge
WAS-0946	N	Not a 4(f) Park or Wildlife Refuge
PAX-1206	N	Not a 4(f) Park or Wildlife Refuge
WAS-2537	N	Not a 4(f) Park or Wildlife Refuge
WAS-2003	N	Not a 4(f) Park or Wildlife Refuge
PAX-2001	N	Not a 4(f) Park or Wildlife Refuge
WAS-2018	N	Not a 4(f) Park or Wildlife Refuge
WAS-2019	N	Not a 4(f) Park or Wildlife Refuge
WAS-2024	N	Not a 4(f) Park or Wildlife Refuge
WAS-2034	N	Borders along Magruder Park
WAS-2038	N	Not a 4(f) Park or Wildlife Refuge
WAS-2039	N	Not a 4(f) Park or Wildlife Refuge
WAS-2040	N	Not a 4(f) Park or Wildlife Refuge

Site Name	Section 4(F) Severity	Comment
WAS-2041	N	Not a 4(f) Park or Wildlife Refuge
WAS-2042	N	Not a 4(f) Park or Wildlife Refuge
WAS-2043	N	Not a 4(f) Park or Wildlife Refuge
WAS-2044	N	Not a 4(f) Park or Wildlife Refuge
WAS-2048	N	Not a 4(f) Park or Wildlife Refuge
WAS-2050	N	Not a 4(f) Park or Wildlife Refuge
WAS-2051	N	Not a 4(f) Park or Wildlife Refuge
PAX-2006	N	Not a 4(f) Park or Wildlife Refuge
PAX-2007	N	Not a 4(f) Park or Wildlife Refuge
PAX-2008	N	Not a 4(f) Park or Wildlife Refuge
PAX-2009	N	Not a 4(f) Park or Wildlife Refuge
PAX-2010	N	Not a 4(f) Park or Wildlife Refuge
PAX-2012	N	Not a 4(f) Park or Wildlife Refuge
PAX-2013	N	Not a 4(f) Park or Wildlife Refuge
PAX-2015	N	Not a 4(f) Park or Wildlife Refuge
PAX-2016	N	Not a 4(f) Park or Wildlife Refuge
WAS-2057	N	Not a Section 4(f) park property
PAX-2017	N	Not a Section 4(f) park property
PAX-2018	N	Not a Section 4(f) park property
PAX-2019	N	Not a Section 4(f) park property
PAX-2020	N	Not a Section 4(f) park property
WAS-2059	N	Not a Section 4(f) park property
WAS-2062	N	Not a Section 4(f) park property
WAS-2063	N	Not a Section 4(f) park property
WAS-2064	N	Not a Section 4(f) park property
WAS-2066	N	Not a Section 4(f) park property
WAS-2067	N	Not a Section 4(f) park property
WAS-2068	N	Not a Section 4(f) park property
WAS-2069	N	Not a Section 4(f) park property
WAS-2070	N	Not a Section 4(f) park property
WAS-2071	N	Not a Section 4(f) park property
WAS-3602	N	Not a Section 4(f) park property
WAS-3652	N	Not a Section 4(f) park property
WAS-3653	N	Not a Section 4(f) park property
WAS-3656	N	Not a Section 4(f) park property
WAS-3657	N	Not a Section 4(f) park property
WAS-3626	N	Not a Section 4(f) park property
WAS-3628	N	Not a Section 4(f) park property
WAS-3629	N	Not a Section 4(f) park property
WAS-3631	N	Not a Section 4(f) park property

Site Name	Section 4(F) Severity	Comment
WAS-3633	N	Not a Section 4(f) park property
WAS-3634	N	Not a Section 4(f) park property
WAS-3639	N	Not a Section 4(f) park property
WAS-3640	N	Not a Section 4(f) park property
WAS-3647	N	Not a Section 4(f) park property
WAS-2074	N	Not a Section 4(f) park property
WAS-3632	N	Not a Section 4(f) park property
WAS-4025	N	Not a Section 4(f) park property
WAS-4038	N	Not a Section 4(f) park property
WAS-4331	N	Not a Section 4(f) park property
WAS-4361	N	Not a Section 4(f) park property
WAS-4371	N	Not a Section 4(f) park property
WAS-4386	N	Not a Section 4(f) park property
WAS-4412	N	Not a Section 4(f) park property
WAS-4424	N	Not a Section 4(f) park property
WAS-4425	N	Not a Section 4(f) park property
WAS-4370	N	Not a Section 4(f) park property
WAS-4632	N	Not a Section 4(f) park property
WAS-4202	N	Not a Section 4(f) park property
WAS-2505	N	Not a Section 4(f) park property
WAS-4050	N	Not a Section 4(f) park property
WAS-4335	N	Not a Section 4(f) park property
WAS-4337	N	Not a Section 4(f) park property
WAS-4338	N	Not a Section 4(f) park property
WAS-4354	N	Not a Section 4(f) park property
WAS-4356	N	Not a Section 4(f) park property
WAS-4382	N	Not a Section 4(f) park property
WAS-4415	N	Not a Section 4(f) park property
WAS-4203	N	Not a Section 4(f) park property
WAS-0074	N	Not a Section 4(f) park property
WAS-0334	N	Not a Section 4(f) park property
WAS-0340	N	Not a Section 4(f) park property
WAS-0343	N	Not a Section 4(f) park property
WAS-0650	N	Not a Section 4(f) park property
PAX-0616	N	Not a Section 4(f) park property
PAX-1502	N	Not a Section 4(f) park property
WAS-2076	N	Not a Section 4(f) park property
WAS-3994	N	Not a Section 4(f) park property
WAS-3997	N	Not a Section 4(f) park property

APPENDIX I – STRUCTURES EVALUATION

Compensatory Stormwater Management Sites
for the I-495 and I-270 Managed Lanes Study

APPENDIX I: Structural Desktop Evaluations

1. Background

The I-495 and I-270 Managed Lanes Study (MLS) Compensatory Stormwater Management Sites review includes numerous sites requiring structural elements, such as underground structures and retaining walls. These structural elements must comply with all Maryland Department of Transportation State Highway Administration (MDOT SHA) structural design requirements, as well as national design standards. In addition, construction of the structures must be feasible and reasonable within the specified Limit of Disturbance (LOD) for each site.

2. Methodology and Assumptions

MDOT SHA conducted preliminary structural evaluations of constructability and LOD at each of the potential SWM sites that contain a structural element for the MLS. The evaluation was based on preliminary site areas provided by the Water Resources Team. Because no design work has been done on the individual SWM sites at the time of this review, this effort constitutes only a preliminary review of potential sites to identify potential constructability issues with the recommended structure dimensions provided. The goal of the review was to identify any potential issues or concerns and to identify sites that are not feasible from a structural standpoint.

Because the structural evaluations were based on preliminary information, additional review will be required for all sites as design information is developed.

In addition to the information provided by the Water Resources Team, MDOT SHA based its structural site evaluations on imagery available from Google Earth and Google Street View. At this time, no structural team field visits have been made. Other disciplines provided field feedback, which was available for structural review.

Structural Review Considerations:

The elements taken into consideration at each site with respect to the constructability of an underground structure include:

Structure Type and Size – The preliminary information provided by the site identification team included a potential structure width and length, as well as the type of facility (underground detention, underground sand filter, retaining wall, etc.). The structure size influences the type of construction that may be used by the Developer, whether precast or cast-in-place (CIP) concrete. A series of precast units delivered to the site and connected together requires a location for a crane to be set up and space to stage the units as they are delivered. A structure to be cast-in-place on site requires staging room for forming materials to be stored, reinforcement bars to be assembled, and concrete trucks to deliver the concrete.

Adequacy of LOD – The size of the LOD was evaluated to determine if space is available within it to install the potential structure. The structure type and size were used determine the approximate footprint of the potential structure. For potential median installations, the site was reviewed to confirm that the width of the median is sufficient for the structure and that space is provided within the LOD outside of the structure footprint to provide space for excavation and construction equipment, such as a crane or truck. For structures adjacent to the outside edge of roadway, the site was reviewed to ensure that the structure

footprint fits between the edge of roadway and the LOD with space for excavation on the backside and that there is space on the roadway side for excavation and construction equipment.

Overhead Utilities – The presence of overhead utilities at each site was determined using available imagery from Google Earth and Google Street View. In many locations, the overhead utilities parallel the roadway and therefore parallel the length of the potential structure. In some locations, the utilities also cross the roadway and the LOD transversely. There are several concerns when overhead utilities are present; the first of which is needing to maintain clearances to the wires in accordance with the utility company during installation of the potential structure. This may require that small cranes be used for precast structures, or it may preclude the use of a crane and require that CIP construction be used. In addition, the clearance requirements may make the installation of support of excavation difficult. If equipment cannot drive sheet piling into the ground to support the excavation, it may be feasible to vibrate the sheet piling into place, or the excavation may need to be laid back, requiring additional LOD. In some locations, it may be feasible to temporarily disconnect the utility to permit installation activities. The utility poles are another concern when planning to install underground structures. The utility owners set a limit as to how close excavation operations can be adjacent to the utility poles; depending on the available spacing within the LOD, achieving this offset may be challenging.

Underground Utilities – Underground utilities were assumed based on a review of the available imagery. If the imagery indicates that utilities are present in close vicinity of the LOD, such as visible access panels, manholes, utility boxes, lighting, fire hydrants, etc., then the site is assumed to have underground utilities within it. Utility owners have required clearances that must be maintained to their facilities and excavating or constructing within that clearance envelope is not permitted. Constructing new concrete structures over existing utilities is also not ideal, even if clearances are met.

Slope Severity/Stability – Sites that appear to have a slope either within the LOD or adjacent to the LOD were flagged as a potential slope concern due to the severity of the slope and/or the potential instability of the slope. These were individually reviewed to determine if the slope presented a concern for the construction of the potential structure. Many of these sites can be accessed from the roadway side of the LOD to install the structure, eliminating the need to locate equipment on the slope itself. In some locations, the slope appears that it may require more significant support of excavation due to the depth of the slope and the structure, but this was not considered a reason to exclude the site. There are no sites that present a major concern with respect to slope severity or slope stability. However, note that given the limited information available for review, all sites initially identified as having potential slope issues remain flagged, even if the concern was low.

Existing Structures – The presence of existing structures adjacent to the potential stormwater management underground structures was reviewed. Note that drainage inlet boxes and stormwater pipes were not included in this review as "existing structures", as many of these facilities will be retrofitted as part of the potential site modifications. Retaining walls are present within the potential LOD at a few of the sites; excavation adjacent to the existing retaining wall is a concern due to wall stability and additional pressure that may be applied to the wall during construction and in the final condition. Although there may be minimal reason for concern, without existing plans to review and site-specific information to study, the presence of existing retaining walls remains a concern. Similarly, many of the sites recommend tying the potential structure into an existing culvert or storm drain. While this is likely a feasible proposal, without additional information regarding the existing structure's condition and construction details, this remains a concern.

3. Results

Table I-1, presented at the end of this appendix, summarizes the assessment of each of the sites that were identified as potential locations for underground structures. The table summarizes (1) known presence of utilities, (2) concern for slope stability, (3) other potential structural concerns, and (4) level of concern associated with constructing a structure at the site. All site evaluations are preliminary and are subject to change as new information becomes available.

Level of Concern Definitions:

Major Concern defines a site where a structure is not recommended without further study and investigation. It may also include sites with existing structures that would be negatively impacted by the construction.

Moderate Concern covers the sites where concerns associated with utilities, slope severity/stability or potential modifications to existing underground structures may be feasible with engineering and/or innovative solutions. Note that utility relocation may be an option but the feasibility of doing so at each individual site was not considered as part of this review.

Minimal Concern is used when there are no structural issues. This category may include sites where the LOD is within the existing MDOT SHA right-of-way and is not anticipated to have significant impacts.

4. Conclusion

MDOT SHA completed a preliminary structural review of 191 sites that were identified as potential compensatory stormwater management facility locations that required underground structures or retaining walls. The following is a summary of the level of concern findings with respect to the structural component of the site.

Table I-1 – Summary of Structural Level of Concern

Level of Concern	Number of Sites
Major	5
Moderate	148
Minimal	38

From this summary, which shows that over 75% of the sites are rated with a moderate level of concern, it is evident that additional information and coordination may result in a feasible designation from a structural standpoint for the majority of the sites reviewed.

Table I-2. Preliminary Structural Evaluations

Site Name	Level of Concern	Presence of Existing Utilities	Potential Slope Stability Issues	Other Structural Concerns
PAX-4007	Minimal	No	No	None
WAS-0074	Moderate	Yes	No	None
WAS-0081	Minimal	No	No	None
WAS-0082	Moderate	Yes	No	None
WAS-0083	Moderate	Yes	No	None
WAS-0086	Minimal	No	No	None
WAS-0647	Moderate	No	No	Unknown existing conditions
WAS-0649	Moderate	No	No	Unknown existing conditions
WAS-0650	Moderate	No	No	Unknown existing conditions
WAS-0651	Minimal	No	No	None
WAS-0989	Minimal	No	No	Potential additional retaining wall
WAS-0990	Moderate	No	Yes	None
WAS-1003	Moderate	Yes	No	None
WAS-1004	Moderate	No	No	Unknown existing conditions
WAS-1005	Moderate	No	No	Unknown existing conditions
WAS-1006	Moderate	No	No	Unknown existing conditions
WAS-1007	Moderate	No	No	Unknown existing conditions
WAS-1009	Moderate	No	Yes	None
WAS-1010	Moderate	No	No	Unknown existing conditions
WAS-1011	Moderate	No	No	Unknown existing conditions
WAS-2059	Moderate	Yes	No	None
WAS-2062	Moderate	Yes	No	None
WAS-2063	Major	Yes	No	Tight excavation adjacent to houses
WAS-2064	Moderate	Yes	No	None
WAS-2072	Moderate	Yes	No	Significant impact of staged construction on community and businesses
WAS-2073	Moderate	Yes	Yes	None
WAS-2074	Moderate	Yes	No	None
WAS-2078	Moderate	Yes	No	None
WAS-2513	Moderate	Yes	No	None
WAS-2526	Moderate	Yes	No	None
WAS-2596	Moderate	Yes	No	None
WAS-2604	Moderate	Yes	No	None
WAS-2610	Moderate	Yes	No	Unknown existing conditions
WAS-2613	Moderate	Yes	No	None
WAS-2614	Moderate	Yes	No	None
WAS-3626	Minimal	No	No	None
WAS-3628	Moderate	Yes	No	None

Site Name	Level of Concern	Presence of Existing Utilities	Potential Slope Stability Issues	Other Structural Concerns
WAS-3629	Moderate	Yes	No	None
WAS-3631	Minimal	No	No	None
WAS-3632	Moderate	No	No	None
WAS-3633	Moderate	No	No	None
WAS-3634	Moderate	No	No	None
WAS-3635	Moderate	No	No	None
WAS-3636	Moderate	No	No	None
WAS-3637	Moderate	No	No	None
WAS-3638	Moderate	No	No	None
WAS-3639	Moderate	Yes	No	None
WAS-3640	Minimal	No	No	None
WAS-3641	Minimal	No	No	None
WAS-3644	Minimal	No	No	None
WAS-3645	Minimal	No	No	None
WAS-3646	Moderate	Yes	No	None
WAS-3647	Minimal	No	No	None
WAS-3648	Minimal	No	No	None
WAS-3649	Moderate	Yes	No	None
WAS-3650	Minimal	No	No	None
WAS-3652	Moderate	Yes	Yes	None
WAS-3653	Minimal	Yes	No	None
WAS-3655	Moderate	Yes	No	None
WAS-3656	Moderate	Yes	No	None
WAS-3657	Minimal	No	No	None
WAS-4015	Moderate	Yes	No	None
WAS-4016	Moderate	Yes	Yes	None
WAS-4017	Moderate	Yes	No	None
WAS-4027	Moderate	Yes	No	None
WAS-4029	Moderate	Yes	No	None
WAS-4030	Moderate	Yes	Yes	None
WAS-4031	Minimal	No	No	None
WAS-4032	Moderate	Yes	No	None
WAS-4037	Moderate	Yes	Yes	None
WAS-4038	Moderate	Yes	No	None
WAS-4040	Moderate	Yes	No	None
WAS-4045	Major	Yes	No	Existing Retaining Wall
WAS-4047	Moderate	Yes	No	None
WAS-4050	Moderate	Yes	No	None
WAS-4052	Moderate	Yes	No	None

Site Name	Level of Concern	Presence of Existing Utilities	Potential Slope Stability Issues	Other Structural Concerns
WAS-4053	Moderate	Yes	No	None
WAS-4059	Moderate	Yes	No	None
WAS-4063	Moderate	Yes	No	None
WAS-4065	Moderate	Yes	No	None
WAS-4067	Moderate	Yes	No	None
WAS-4072	Minimal	No	No	None
WAS-4075	Moderate	Yes	No	None
WAS-4079	Major	Yes	No	Existing Retaining Wall
WAS-4083	Moderate	Yes	No	None
WAS-4084	Moderate	Yes	No	None
WAS-4086	Minimal	No	No	None
WAS-4098	Moderate	Yes	No	None
WAS-4119	Moderate	Yes	No	None
WAS-4131	Moderate	Yes	No	None
WAS-4132	Moderate	Yes	No	None
WAS-4141	Moderate	Yes	No	None
WAS-4156	Moderate	Yes	Yes	None
WAS-4157	Minimal	No	No	None
WAS-4158	Minimal	No	No	None
WAS-4159	Moderate	Yes	No	None
WAS-4160	Moderate	Yes	Yes	None
WAS-4161	Moderate	Yes	Yes	None
WAS-4162	Moderate	Yes	Yes	None
WAS-4163	Moderate	Yes	Yes	None
WAS-4164	Moderate	Yes	No	None
WAS-4165	Moderate	Yes	No	None
WAS-4201	Moderate	Yes	No	None
WAS-4203	Moderate	Yes	No	None
WAS-4310	Moderate	Yes	No	None
WAS-4322	Moderate	Yes	No	None
WAS-4323	Moderate	Yes	No	None
WAS-4324	Moderate	Yes	No	None
WAS-4325	Moderate	Yes	No	None
WAS-4334	Moderate	Yes	No	None
WAS-4355	Minimal	No	No	None
WAS-4362	Moderate	No	Yes	None
WAS-4370	Moderate	Yes	Yes	None
WAS-4371	Moderate	No	Yes	None
WAS-4373	Moderate	Yes	No	None

Site Name	Level of Concern	Presence of Existing Utilities	Potential Slope Stability Issues	Other Structural Concerns
WAS-4376	Moderate	Yes	Yes	None
WAS-4382	Moderate	Yes	No	None
WAS-4383	Moderate	No	Yes	None
WAS-4385	Moderate	Yes	No	None
WAS-4386	Moderate	Yes	No	None
WAS-4393	Moderate	Yes	No	None
WAS-4394	Moderate	Yes	No	None
WAS-4402	Moderate	Yes	No	None
WAS-4411	Moderate	Yes	No	None
WAS-4413	Moderate	Yes	No	None
WAS-4414	Moderate	Yes	No	None
WAS-4423	Moderate	Yes	No	None
WAS-4425	Moderate	Yes	No	None
WAS-4427	Moderate	Yes	Yes	None
WAS-4428	Moderate	Yes	Yes	None
WAS-4429	Moderate	Yes	Yes	None
WAS-4433	Moderate	Yes	Yes	None
WAS-4443	Moderate	Yes	No	None
WAS-4445	Moderate	Yes	No	None
WAS-4446	Moderate	Yes	No	None
WAS-4447	Moderate	Yes	No	None
WAS-4448	Moderate	Yes	No	None
WAS-4450	Minimal	No	No	None
WAS-4451	Moderate	Yes	No	None
WAS-4452	Moderate	Yes	No	None
WAS-4453	Moderate	Yes	No	None
WAS-4454	Moderate	Yes	No	None
WAS-4455	Moderate	Yes	No	None
WAS-4456	Minimal	No	No	None
WAS-4457	Moderate	No	Yes	None
WAS-4464	Moderate	Yes	No	None
WAS-4474	Moderate	Yes	No	None
WAS-4475	Major	Yes	No	Existing Retaining Wall
WAS-4476	Moderate	Yes	No	None
WAS-4477	Moderate	Yes	No	None
WAS-4478	Moderate	Yes	No	None
WAS-4479	Major	Yes	No	Existing Retaining Wall
WAS-4481	Moderate	Yes	Yes	None

Site Name	Level of Concern	Presence of Existing Utilities	Potential Slope Stability Issues	Other Structural Concerns
WAS-4482	Minimal	No	No	None
WAS-4483	Minimal	No	No	None
WAS-4484	Moderate	Yes	No	None
WAS-4486	Minimal	Yes	No	None
WAS-4487	Minimal	Yes	No	None
WAS-4488	Minimal	No	No	None
WAS-4491	Minimal	No	No	None
WAS-4493	Moderate	Yes	No	None
WAS-4494	Minimal	No	No	None
WAS-4497	Moderate	Yes	Yes	None
WAS-4498	Moderate	Yes	No	None
WAS-4499	Moderate	Yes	Yes	None
WAS-4502	Moderate	No	Yes	None
WAS-4506	Minimal	No	No	None
WAS-4509	Moderate	No	Yes	None
WAS-4513	Moderate	No	Yes	None
WAS-4516	Minimal	No	No	None
WAS-4517	Minimal	No	No	None
WAS-4518	Moderate	No	Yes	None
WAS-4519	Moderate	No	Yes	None
WAS-4521	Minimal	No	No	None
WAS-4523	Minimal	No	No	None
WAS-4532	Moderate	Yes	No	None
WAS-4533	Moderate	Yes	No	None
WAS-4534	Moderate	Yes	No	None
WAS-4613	Minimal	No	No	None
WAS-4640	Moderate	Yes	Yes	None
WAS-4641	Moderate	Yes	Yes	None
WAS-4644	Moderate	Yes	No	None
WAS-4647	Moderate	Yes	No	None
WAS-4651	Moderate	Yes	No	None
WAS-4653	Moderate	Yes	No	None
WAS-5310	Minimal	No	No	None
WAS-5313	Moderate	Yes	No	None
WAS-5314	Moderate	Yes	No	None
WAS-5315	Moderate	Yes	No	None
WAS-5601	Moderate	Yes	Yes	None
WAS-5602	Moderate	Yes	No	None

APPENDIX J – UTILITIES EVALUATION

Compensatory Stormwater Management Sites
for the I-495 and I-270 Managed Lanes Study

APPENDIX J: Utility Desktop Evaluations

1. Background

The I-495 and I-270 Managed Lanes Study (MLS) Compensatory Stormwater Management Sites review requires a high-level review from the utilities' perspective. The purpose of this review is to identify the potential utility conflict and severity of the impact within the Limit of Disturbance (LOD) for each site.

2. Methodology and Assumptions

The compensatory stormwater management (SWM) sites were evaluated for potential utility impacts by visual inspection of existing above-ground utility features using online resources such as Google Earth. The evaluation was done without the benefit of utility records or archives or consulting with Utility Owners. Where there was a clear presence of utilities on or near the site, it was noted for each site. The extent to which a utility would prohibit or hinder the ability to utilize a site will depend on various factors including the location, type, size, existing easements, and utility owner restrictions to work in proximity to the utility.

Visual indicators of utilities include utility poles, overhead lines, manholes, vaults, utility markers or signs, as well ground contours which may indicate the presence of a gravity utility (e.g., a sanitary sewer following a stream).

Indicators for Utilities and Evaluation:

<u>Overhead Utilities</u>
Overhead utilities include power transmission, distribution, and secondary electrical lines. Typically, poles associated with the overhead lines are owned by the local power company and attachments from other party's area made by agreements with the pole owner. Attachments are typically telecommunications companies such as Verizon, Comcast, Fiberlight, etc. as well as governmental organizations. In addition to the overhead lines themselves, there may be equipment, such as switches or transformers, affixed to poles.

If an overhead utility installation is located on or near a site, it may prohibit or hinder the ability to utilize the site. The complexity of the relocation would depend on the type, number, and height of overhead utility lines and equipment on the utility poles. The clearance to the overhead line may also impact the ability to operate equipment with height requirements that exceed the necessary clear distance (as indicated by MDOT SHA Utility Manual, MD High Voltage Act, National Electric Code, etc.) and further restrict feasibility of construction at the site. Additionally, utility poles are often braced by guying systems which may interfere with construction.

<u>Underground Utilities</u>
Evidence of underground utilities is based primarily on observation of surface features. This includes sanitary sewer manholes, electrical and telecommunications vaults and handholes, water meters and valve vaults, gas meters and valve vaults. Additionally, underground utilities may be identified with markers, posts,, or signs indicating the presence of a utility. While this approach may identify the possible presence of a utility on the site being considered, there are several limitations: the size, orientation, depth, and actual location are not known to be able to determine the extent of impacts. In some cases, recent Miss Utility markings may provide information concerning the presence of underground utilities

Traffic and Streetlight
The infrastructure for traffic signals, streetlighting, and ITS systems were also evaluated as part of the utility investigation. Typically, these systems will include power and signal conduit, handboxes, as well as the signal poles, streetlights and CCTV cameras that they operate. If any of these systems were near a site, it was noted as a possible utility impact or obstruction. As with the other utilities, the precise location of the subsurface lines could not be determined.

Utility Owners in Project Area:

As the compensatory SWM site investigation covers a wide area, there are several utilities that may exist at these sites. The typical utilities encountered include water, sanitary sewers, electrical, natural gas, telecommunications. There are also limited areas where petroleum pipelines and transmission level natural gas pipelines (such as Transcontinental Pipeline) are present in the study area.

Utility Owners that may be present in the study area include (but not limited to):
Water and Sewer
- Washington Suburban Sanitary Commission (WSSC)
- City of Rockville
- DC Water
- US Army Corps of Engineers (Washington Aqueduct)

Electric
- Potomac Electric Power Company (PEPCO)
- Baltimore Gas and Electric (BGE)

Gas
- Washington Gas
- Williams Companies (Transco pipeline)
- TC Energy (formerly Columbia Gas)
- Colonial Pipeline (petroleum)

Telecommunications
- AT&T (local and long distance)
- CenturyLink Communications
- Comcast
- Crown Castle
- FiberLight
- Montgomery County Fiber
- Qwest Government Services
- RCN Telecom Services
- Verizon
- Verizon Business
- Zayo Group

3. Conclusions
The presence of utilities at or near any of the SWM sites may prohibit the use of the site. The limited preliminary investigation yielded some useful information; however, many of the utilities cannot be identified by only visual evaluation. To further the evaluation of the SWM sites with respect to utility disposition and potential impacts the following activities should be considered:

- Request utility records from Utility Owners
- Identify all surface features on site by field survey
- Quality Level 'B' utility designation of all utilities
- Select Quality Level 'A' utility location by test holes
- Determine extent of impact based on a selected design and minimize impacts, to the extent possible.
- Coordinate with Utility Owners

Additionally, as utility relocations and adjustments are identified, the design will need to conform to Utility Owner and MDOT SHA requirements. This may require agreements and permits with Utility Owners, Utility Permits from SHA and/or local municipalities, and other requirements identified for specific utilities. There were total of 754 compensatory SWM sites, 739 SWM facility sites and 15 stream restoration sites, that were investigated for potential utility conflict on a preliminary level. Please see Table J-1 below for summary of preliminary utility findings.

Table J-1. Summary of Preliminary Utility Findings

Preliminary Utility Findings	No. of SWM Facility Sites	No. of Stream Restoration Sites
None Observed on Google Earth	198	4
Overhead (OH) Utilities	180	9
Overhead and Underground (UG) Utilities	258	2
UG Utilities	100	0
Utilities Relocation Not Feasible	3	0

APPENDIX K – CONSTRUCTABILITY EVALUATION

Compensatory Stormwater Management Sites
for the I-495 and I-270 Managed Lanes Study

APPENDIX K: Constructability Desktop Evaluations

1. Background

The I-495 and I-270 Managed Lanes Study (MLS) compensatory Stormwater management (SWM) sites review required a conceptual level review from a constructability perspective. The purpose of this review was to verify that constructability of each SWM facility is feasible and reasonable in its proposed location and within the Limit of Disturbance (LOD) shown. Constructability issues include maintenance of traffic, construction access, and site conflicts.

2. Methodology and Assumptions

The Maryland Department of Transportation, State Highway Administration (MDOT SHA) conducted preliminary evaluations of constructability at each of the potential SWM facility sites for the MLS. Potential stream restoration were not included in the constructability desktop evaluation since generally there is adequate access and area available during construction. The evaluations were based on preliminary site areas provided by the Water Resources Team. All reviews were based on Geographic Information Systems (GIS) imagery and other material including plans and site photos as available. No constructability field visits have been made.

Because the constructability evaluations were based on preliminary information, additional review will be required for all sites as design information is developed.

Constructability Review Considerations:

- *Adequate staging and access*- Is there enough space for the required equipment, materials, and workers to complete their work? If space is more limited, this increased the difficulty of the work.
- *Obstruction and restricted property*- Is there evidence of overhead or underground utilities or other structures?
- *Impacts on neighboring area*- Will the worksite impact businesses or residences? What options are available to detour or otherwise mitigate impacts? Will alteration of the current site impact the community (i.e., removal of trees, etc.)?
- *Public and workforce safety*- While work may be possible in certain sites, can it be done safely? The more precautions needed to maintain safety increased the difficulty assigned to the review.

3. Results

Level of Concern Definitions:

<u>Minor</u>- Indicates construction should be able to proceed with normal caution. No immediate issues that would preclude construction appear.

<u>Moderate</u>- Indicates construction should be able to proceed, but with additional caution, safety equipment, alternate techniques. Expect construction durations to be longer and more costly than sites considered Minor.

<u>Significant</u>- Indicates construction is difficult. Sites may need advanced or extreme techniques and equipment, or considerable interact/remediation from third party property owners, utilities, etc.

Expect construction durations and costs to be significantly escalated above those in the moderate category.

4. Conclusion

MDOT SHA completed a preliminary constructability review of 739 sites that were identified as potential compensatory SWM facility locations. The following is a summary of the level of concern findings with respect to the constructability of the sites.

Table K-1 – Summary of Level of Concern

Level of Concern	Number of Sites
Minor	317
Moderate	315
Significant	107

From a constructability standpoint, this review shows many options available for use as compensatory SWM sites. However. the ratings were based on remote observations and other methods. Any analysis of actual construction feasibility will require a field inspection by qualified personnel.

Table K-2 – Preliminary Constructability Evaluations

Site Name	Rating	Comments
PAX-0020	Minor	Possible shoring required. May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
PAX-0039	Minor	Possible shoring required. May require protective CTB.
PAX-0041	Minor	May require protective CTB. LOD is tight. May require demo, removal, and/or repair of existing facilities. May conflict with utilities, or possible temporary support of guy wires.
PAX-0046	Minor	LOD is tight. Requires protective CTB. May require demo, removal, and/or repair of existing facilities.
PAX-0048	Minor	No significant constructability issues readily apparent.
PAX-0061	Minor	Possible conflict with utilities.
PAX-0062	Minor	May require protective CTB. Possible conflict with utilities.
PAX-0064	Minor	Likely roadway reconstruction necessary. Possible conflict with utilities.
PAX-0080	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
PAX-0304	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
PAX-0311	Minor	Possible shoring required. May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Likely conflicts with utilities.
PAX-0315	Minor	May require protective CTB. May conflict with utilities.
PAX-0610	Minor	Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-0616	Minor	Will need CTB for workzone protection.
PAX-0620	Minor	Will need CTB for workzone protection.
PAX-0621	Minor	Will need CTB for workzone protection.
PAX-0622	Minor	Will need CTB for workzone protection.
PAX-0624	Minor	Possible conflict with utilities.

Site Name	Rating	Comments
PAX-0625	Minor	Minor UGD utilities to relocate.
PAX-0641	Minor	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities.
PAX-0951	Minor	May require protective CTB. Likely demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-0961	Minor	May require protective CTB.
PAX-0965	Minor	May require protective CTB. Likely demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-1204	Minor	Will need CTB for workzone protection. Shoring likely depending on depth. OH line crossing site should not interfere with excavation, but contractor needs to be mindful of line and avoid truck traffic under wire.
PAX-1205	Minor	Will need CTB for workzone protection and storage yard, especially if done independent of PAX-1206
PAX-1209	Minor	Will need CTB for workzone protection and storage yard. Verify UGD utility does not impact site.
PAX-1211	Minor	Will need CTB for workzone protection and storage yard.
PAX-1213	Minor	Will need CTB for workzone protection.
PAX-1504	Minor	May require protective CTB. Likely demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-2010	Minor	Possible conflict with utilities.
PAX-2012	Minor	Possible conflict with utilities.
PAX-2013	Minor	Possible need for CTB for shoulder protection.
PAX-2020	Minor	May require protective CTB. Possible shoring required.
PAX-2501	Minor	May require protective CTB.
PAX-2502	Minor	May require protective CTB. Possible conflict with utilities.
PAX-2503	Minor	May require protective CTB.
PAX-2504	Minor	May require protective CTB.
PAX-2505	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2506	Minor	May require protective CTB.
PAX-2507	Minor	May require protective CTB.
PAX-2508	Minor	May require protective CTB.
PAX-2509	Minor	May require protective CTB.
PAX-2510	Minor	May require protective CTB.
PAX-2511	Minor	May require protective CTB. Possible conflict with utilities.
PAX-2516	Minor	May require protective CTB. Requires lots of clearing of trees and undergrowth in median.
PAX-2518	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2519	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2520	Minor	May require protective CTB.
PAX-2521	Minor	May require protective CTB.
PAX-2522	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing sign.

Site Name	Rating	Comments
PAX-2525	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-2529	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2530	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2531	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-2537	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2538	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2539	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2540	Minor	Possible conflict with utilities.
PAX-2541	Minor	May require protective CTB.
PAX-2542	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
PAX-2560	Minor	May require protective CTB.
PAX-2561	Minor	May require protective CTB.
PAX-3006	Minor	Will need CTB for workzone protection and storage yard. Possibly relocate SHA lighting cables.
PAX-3007	Minor	Will need CTB for workzone protection and storage yard.
PAX-3008	Minor	Will need CTB for workzone protection and storage yard. Possibly relocate SHA lighting cables.
PAX-3009	Minor	Will need CTB for workzone protection and storage yard.
PAX-3014	Minor	Pavement Removal. Possibly need CTB for workzone protection. May need bobcat or similar equipment to work below power line or load dump truck.
PAX-3016	Minor	Possibly need CTB for workzone protection.
PAX-3017	Minor	Will need CTB for workzone protection and storage yard.
PAX-3018	Minor	Will need CTB for workzone protection and storage yard.
PAX-3021	Minor	Will need CTB for workzone protection and storage yard. Access is only from I-70 West (located in weigh station). Need SHA to mark any utilities for over height detector and other devices.
PAX-4004	Minor	May require protective CTB. Possible conflict with utilities.
PAX-4007	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
WAS-0070	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
WAS-0307	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0312	Minor	Possible shoring required adjacent to traffic. Requires protective CTB. May require daily MOT.
WAS-0315	Minor	Possible shoring required. May require protective CTB. Possible conflict with utilities.
WAS-0317	Minor	Possible shoring required. May require protective CTB. Possible conflict with utilities.
WAS-0318	Minor	CTB for workzone protection

Site Name	Rating	Comments
WAS-0320	Minor	Requires protective CTB.
WAS-0321	Minor	Requires protective CTB.
WAS-0334	Minor	Possible shoring required. May require protective CTB. Possible demo, removal, and/or repair of existing facilities.
WAS-0340	Minor	May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0345	Minor	Possible shoring required. May require protective CTB. Possible conflict with utilities.
WAS-0346	Minor	CTB for workzone protection
WAS-0347	Minor	Possible shoring required. May require protective CTB.
WAS-0348	Minor	Possible shoring required. May require protective CTB.
WAS-0610	Minor	Possible shoring required. May require protective CTB.
WAS-0614	Minor	Possible shoring required. May require protective CTB.
WAS-0625	Minor	Possible shoring required. May require protective CTB. Possible conflict with utilities.
WAS-0626	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0627	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0634	Minor	Unable to fully analyze due to lack of defined proposed structure, but possible shoring required. May require protective CTB.
WAS-0652	Minor	Possible shoring required. May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-0905	Minor	May require protective CTB. Possible conflict with utilities.
WAS-0906	Minor	May require protective CTB. Possible conflict with utilities.
WAS-0918	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0922	Minor	Possible shoring required adjacent to traffic. May require protective CTB. Possible conflict with utilities.
WAS-0923	Minor	May require protective CTB. Possible conflict with utilities.
WAS-0929	Minor	May require protective CTB.
WAS-0932	Minor	Possible shoring required adjacent to traffic. May require protective CTB. Possible conflict with utilities.
WAS-0933	Minor	Possible shoring required adjacent to traffic. May require protective CTB. Possible conflict with utilities.
WAS-0938	Minor	CTB for workzone protection
WAS-0957	Minor	Will require protective CTB and possible flagging. Possible conflict with utilities.
WAS-0968	Minor	May require protective CTB.
WAS-0969	Minor	May require protective CTB.
WAS-0975	Minor	May require protective CTB. Possible conflict with utilities.
WAS-0979	Minor	May require protective CTB. Possible conflict with utilities.
WAS-0980	Minor	May require protective CTB. Possible conflict with utilities.
WAS-0984	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-0985	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.

Site Name	Rating	Comments
WAS-0987	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-0992	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0996	Minor	May require protective CTB. Possible conflict with utilities.
WAS-0999	Minor	May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-1000	Minor	Possible conflict with utilities.
WAS-1001	Minor	Possible conflict with utilities.
WAS-1002	Minor	Possible conflict with utilities.
WAS-2003	Minor	Caution near overhead lines.
WAS-2004	Minor	CTB for workzone protection. Possible shoring of roadway
WAS-2010	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-2012	Minor	Open site. Proposed facility away from traffic. OH lines should not impact work.
WAS-2018	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-2019	Minor	Possible shoring required adjacent to traffic. Requires protective CTB. Possible conflict with utilities.
WAS-2022	Minor	Requires significant daily/long-term MOT.
WAS-2023	Minor	Requires significant daily/long-term MOT.
WAS-2028	Minor	Requires significant daily/long-term MOT.
WAS-2029	Minor	Requires significant daily/long-term MOT.
WAS-2030	Minor	Requires significant daily/long-term MOT.
WAS-2032	Minor	Requires significant daily/long-term MOT.
WAS-2033	Minor	Requires significant daily/long-term MOT.
WAS-2035	Minor	Requires significant daily/long-term MOT.
WAS-2036	Minor	Requires significant daily/long-term MOT.
WAS-2037	Minor	Requires significant daily/long-term MOT.
WAS-2038	Minor	Requires significant daily/long-term MOT.
WAS-2039	Minor	Requires significant daily/long-term MOT.
WAS-2040	Minor	Requires significant daily/long-term MOT.
WAS-2041	Minor	Requires significant daily/long-term MOT.
WAS-2042	Minor	Requires significant daily/long-term MOT.
WAS-2043	Minor	Requires significant daily/long-term MOT.
WAS-2044	Minor	Requires significant daily/long-term MOT.
WAS-2048	Minor	Requires significant daily/long-term MOT.
WAS-2050	Minor	Possible conflict with utilities.
WAS-2051	Minor	Requires significant daily/long-term MOT.
WAS-2057	Minor	Shoring required adjacent to traffic. Caution near OH utilities
WAS-2074	Minor	Avoid OH utilities. Confirm work not on private property.
WAS-2075	Minor	May require protective CTB. Possible conflict with utilities.

Site Name	Rating	Comments
WAS-2076	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-2502	Minor	May require protective CTB. Possible conflict with utilities. Will require substantial clearing of trees.
WAS-2504	Minor	May require protective CTB. Will require substantial clearing of trees and undergrowth.
WAS-2505	Minor	Requires significant daily/long-term MOT. Possible conflict with existing utilities.
WAS-2506	Minor	Requires significant daily/long-term MOT. Possible conflict with existing utilities.
WAS-2507	Minor	Requires significant daily/long-term MOT. Possible conflict with existing utilities.
WAS-2508	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2509	Minor	Requires significant daily/long-term MOT. Possible conflict with existing utilities.
WAS-2510	Minor	Requires significant daily/long-term MOT. May require demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2514	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-2515	Minor	Possible shoring required adjacent to traffic and private property. May require protective CTB.
WAS-2518	Minor	Possible shoring required adjacent to traffic and private property. May require protective CTB.
WAS-2525	Minor	Will need CTB for workzone protection and storage yard.
WAS-2527	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2528	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Requires substantial clearing of trees and undergrowth.
WAS-2529	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2531	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2532	Minor	May require protective CTB. Possible conflict with utilities.
WAS-2533	Minor	Possible shoring required. May require protective CTB. Will require reconfiguration/replacement of sidewalk ramp structure.
WAS-2534	Minor	Requires significant daily/long-term MOT. Possible conflict with existing utilities. Requires substantial clearing of trees and undergrowth.
WAS-2536	Minor	Possible shoring required. May require protective CTB. Possible conflict with existing utilities.
WAS-2539	Minor	Requires significant daily/long-term MOT. Possible conflict with existing utilities.
WAS-2540	Minor	Will need CTB for workzone protection and storage yard.
WAS-2541	Minor	Will need CTB for workzone protection and storage yard.
WAS-2542	Minor	Will need CTB for workzone protection and storage yard.
WAS-2543	Minor	Will need CTB for workzone protection and storage yard.
WAS-2548	Minor	Will need CTB for workzone protection and storage yard.
WAS-2549	Minor	Will need CTB for workzone protection and storage yard.
WAS-2551	Minor	Will need CTB for workzone protection and storage yard.
WAS-2554	Minor	Possible shoring required. May require protective CTB.
WAS-2555	Minor	Possible shoring required. May require protective CTB.

Site Name	Rating	Comments
WAS-2556	Minor	May require protective CTB.
WAS-2557	Minor	Possible shoring required adjacent to traffic. May require protective CTB.
WAS-2558	Minor	May require protective CTB.
WAS-2559	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2560	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2564	Minor	Requires significant daily/long-term MOT. Possible conflict with existing utilities.
WAS-2565	Minor	Requires significant daily/long-term MOT.
WAS-2567	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2569	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2571	Minor	Requires significant daily/long-term MOT.
WAS-2572	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2573	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2574	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2575	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2576	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2577	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2578	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2579	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2580	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2581	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2582	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2583	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2584	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2585	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2586	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2587	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2588	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities.

Site Name	Rating	Comments
WAS-2589	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2590	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2591	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2592	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2593	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2594	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2595	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2600	Minor	CTB needed for workzone protection. Verify absence or relocate SHA lighting ducts.
WAS-2606	Minor	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2612	Minor	May require protective CTB.
WAS-2615	Minor	May require protective CTB.
WAS-3303	Minor	Clear access. Need SCE, or use agreement from homeowner.
WAS-3305	Minor	Facility layout appears to avoid UGD and OH lines. Pedestrian protection needed. CTB needed to setup workzone access, unless access is from commercial driveway.
WAS-3307	Minor	CTB needed for workzone protection. Verify absence or relocate SHA lighting ducts and other UGD.
WAS-3606	Minor	CTB needed for workzone protection. Verify absence or relocate SHA lighting ducts and other UGD.
WAS-3607	Minor	CTB needed for workzone protection. Work may impact large tree.
WAS-3613	Minor	Temp. Barrier on Curb or Backfill daily.
WAS-3614	Minor	Temp. Barrier on Curb or Backfill daily.
WAS-3615	Minor	CTB needed for workzone protection. Work may impact several trees.
WAS-3616	Minor	Minimal sideroad traffic.
WAS-3618	Minor	Temp. Barrier on Grass or backfill daily. Some is behind guardrail.
WAS-3621	Minor	Work is far from travel lane/curb. Need no parking zone on side street.
WAS-3623	Minor	Unable to fully analyze due to lack of defined proposed structure, but no significant constructability issues are readily apparent. Construction may impact, but should not prohibit access to two private home driveways.
WAS-3625	Minor	Temp. Barrier on Curb or Backfill daily.
WAS-3632	Minor	CTB needed for workzone protection. Shoring needed to support road. Access from service road.
WAS-3633	Minor	CTB needed for workzone protection. Shoring needed to support road. Access from service road.
WAS-3656	Minor	CTB needed for workzone protection. Shoring needed to support road. Access from neighborhood road.
WAS-3994	Minor	Likely conflict with utilities.
WAS-3995	Minor	May require protective CTB. Possible conflict with utilities.
WAS-3997	Minor	May require protective CTB. Possible conflict with utilities.

Site Name	Rating	Comments
WAS-4006	Minor	Unable to fully analyze due to lack of defined proposed structure. General Analysis: May require CTB. Possible shoring required. May conflict with existing utilities.
WAS-4010	Minor	Need Temp. Conc. Barrier or backfill daily. Possible Re-stripe.
WAS-4014	Minor	Set Barrier in grass or backfill daily. Existing driveway will separate the facility but alright - can connect with pipe as needed. May need some temporary tape.
WAS-4017	Minor	Need fence to keep pedestrians away. OH utility lines nearby. Grass area - need shoring. Need construction entrance.
WAS-4020	Minor	Set Temp Barrier on Curb or backfill daily. Construction entrance/access or flag daily.
WAS-4021	Minor	Set Temp Barrier on Curb or backfill daily. Construction entrance/access or flag daily.
WAS-4022	Minor	Set Temp Barrier on Curb or backfill daily. Construction entrance/access or flag daily.
WAS-4023	Minor	Set Temp Barrier on Curb or backfill daily. Construction entrance/access or flag daily.
WAS-4058	Minor	CTB needed for workzone protection. Good access from either roadway. The median is only about 23' wide where the work takes place.
WAS-4060	Minor	CTB needed for workzone protection. Good access from either roadway. The median is only about 25' wide where the work takes place. There is a roadway 2 post sign that will need to be salvaged and reinstalled.
WAS-4068	Minor	CTB need for workzone protection. Work area in the median is about25' wide with short curbs on each side.
WAS-4075	Minor	Grass field. Temp. Barrier. Need construction entrance.
WAS-4096	Minor	The work area is open. There is one scrub tree to remove. The OH wires are behind the sidewalk along Frederick Rd but may not impact the work.
WAS-4100	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-4101	Minor	Possible shoring required adjacent to traffic and private property.
WAS-4119	Minor	Possible shoring required adjacent to traffic. Likely requires protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-4121	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-4122	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-4123	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-4124	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-4125	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-4127	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-4134	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-4135	Minor	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-4138	Minor	May require protective CTB. Access and work area for construction equipment limited.

Site Name	Rating	Comments
WAS-4140	Minor	May require protective CTB.
WAS-4153	Minor	CTB needed for workzone protection. The workzone is easily accessed.
WAS-4154	Minor	CTB needed for workzone protection. The workzone is easily accessed. There are OH wires on each side of the roadway that will have to be worked around.
WAS-4155	Minor	Very clean worksite. CTB needed for workzone protection.
WAS-4159	Minor	CTB needed for workzone protection. Small site without much storage for materials.
WAS-4200	Minor	CTB needed for workzone protection. OH wires are just off the edge of the roadway. The site is right next to a farm but it has good access.
WAS-4202	Minor	CTB needed for workzone protection. OH wires are just off the edge of the roadway. There are trees that may conflict with a portion of this site but only at the north end of this site.
WAS-4203	Minor	CTB needed for workzone protection. OH wires are just off the edge of the roadway. There are trees that may conflict with a portion of this site but only at the north end of this site.
WAS-4204	Minor	CTB needed for workzone protection. OH wires are just off the edge of the roadway. Care needs to be taken near the wooden property fence.
WAS-4205	Minor	CTB needed for workzone protection. OH wires are just off the edge of the roadway. A portion of this site goes across the property owner's driveway.
WAS-4208	Minor	CTB needed for workzone protection. OH wires are just off the edge of the roadway. There is just a couple of trees to deal with on this site.
WAS-4212	Minor	CTB needed for workzone protection. OH wires a just off the edge of the roadway. There is a corn field adjacent to the roadway.
WAS-4214	Minor	CTB needed for workzone protection. OH wires a just off the edge of the roadway. There is a field adjacent to the roadway.
WAS-4215	Minor	CTB needed for workzone protection. OH wires a just off the edge of the roadway. The work crosses a property driveway.
WAS-4216	Minor	CTB needed for workzone protection. OH wires a just off the edge of the roadway. There is a field adjacent to the roadway.
WAS-4218	Minor	CTB needed for workzone protection. OH wires a just off the edge of the roadway. There is a corn field adjacent to the roadway.
WAS-4331	Minor	CTB needed for workzone protection. There is only one OH wire along roadway but there is good site access.
WAS-4333	Minor	CTB needed for workzone protection. There is only one OH wire along roadway but there is good site access.
WAS-4336	Minor	CTB needed for workzone protection. OH wire along roadway but there is good site access. Minor shrub clearing will be needed.
WAS-4337	Minor	CTB needed for workzone protection. OH wire along roadway but there is good site access. Minor shrub and tree clearing will be needed.
WAS-4338	Minor	CTB needed for workzone protection. OH wire along roadway but there is good site access. Minor shrub and tree clearing will be needed.
WAS-4352	Minor	CTB needed for workzone protection. OH wires along the workzone.
WAS-4355	Minor	CTB needed for workzone protection. Very good access to this site.
WAS-4370	Minor	Temp. Barrier on Grass. Shoring
WAS-4376	Minor	CTB needed for workzone protection. The path crosses one property owner’s driveway but this site has very good access.
WAS-4377	Minor	CTB needed for workzone protection. OH wires on the side of the road. This site has very good access.

Site Name	Rating	Comments
WAS-4378	Minor	CTB needed for workzone protection. OH wires on the side of the road along with a wooden fence. This site has very good access.
WAS-4391	Minor	May require protective CTB.
WAS-4392	Minor	May require protective CTB. Requires significant clearing of trees and undergrowth. Possible conflict with existing utilities
WAS-4397	Minor	CTB needed for workzone protection. This site has very good access.
WAS-4405	Minor	CTB needed for workzone protection. There are some trees that will have to be trimmed or removed.
WAS-4406	Minor	CTB needed for workzone protection. There is good access for this area.
WAS-4407	Minor	CTB needed for workzone protection. OH wires and a wooden fence line the entire length of this site but should not impact the proposed work.
WAS-4426	Minor	CTB needed for workzone protection. There is good access for this area.
WAS-4445	Minor	CTB needed for workzone protection. There are OH wires on both sides of the street. There is a church across the street at this location. Good access at this site.
WAS-4454	Minor	CTB needed for workzone protection. There are OH wires and trees along the entire length of this site but are far enough back from interfering with the work.
WAS-4516	Minor	Temp. Barrier on shoulder. Shoring on at least roadside.
WAS-4517	Minor	Temp. Barrier on shoulder or backfill daily.
WAS-4521	Minor	Temp. Barrier on shoulders. Shoring.
WAS-4602	Minor	Temp. Barrier on Grass or backfill daily.
WAS-4652	Minor	Good access. The work is along neighborhood streets not main roads. May need CTB to separate the work from traffic.
WAS-4655	Minor	Good access. The work is along neighborhood streets not main roads. May need CTB to separate the work from traffic.
WAS-4656	Minor	Good access. The work is along neighborhood streets not main roads. May need CTB to separate the work from traffic.
WAS-4657	Minor	Good access. The work is along neighborhood streets not main roads. There are some OH wires to work around. May need CTB to separate the work from traffic.
WAS-4658	Minor	Good access. The work is along neighborhood streets not main roads. There are a few trees to work around. May need CTB to separate the work from traffic.
WAS-4659	Minor	CTB needed for workzone protection. There are OH wires but very good access. There are some trees that may have to be removed or trimmed.
WAS-4660	Minor	CTB needed for workzone protection. There are OH wires but very good access.
WAS-5301	Minor	CTB needed for workzone protection. Good access along neighborhood road. Some trees to remove or trim.
WAS-5306	Minor	CTB needed for workzone protection. There are OH wires and some trees along the entire length of this site close to the roadway. Good access from the road.
WAS-5307	Minor	CTB needed for workzone protection. There are OH wires, some trees and a sidewalk along the entire length of this site close to the roadway. I do not think these will impact the work. Good access from the road.
WAS-5308	Minor	CTB needed for both sides of the workzone for protection. This site is in a very narrow median of two way traffic. At least one lane of traffic will have to be closed in order to perform any work. There are a few directional signs and a gas line along the edge of the roadway.
WAS-5310	Minor	CTB needed for both sides of the workzone for protection. This site is a narrow median of two way traffic. At least one lane of traffic will have to be closed in order to perform any work. There are a few directional signs and scattered trees along the length of the roadway.

Site Name	Rating	Comments
WAS-5311	Minor	CTB needed for workzone protection. There are OH wires and some trees along the entire length of this site. Good access from the road.
WAS-5312	Minor	CTB needed for workzone protection. There are OH wires and a wooden fence along the entire length of this site. Good access from the road.
WAS-5315	Minor	The work will take place between the sidewalk next to the road and the OH wires that are approximately 30' away. There is a brick office sign and a fiber optic vault at this location.
WAS-5316	Minor	CTB needed for both sides of the workzone for protection. This site is a narrow median of two way traffic. At least one lane of traffic will have to be closed in order to perform any work. There are gas lines on each side of the median along the length of the roadway.
WAS-5317	Minor	CTB needed for both sides of the workzone for protection. This site is a narrow median of two way traffic. At least one lane of traffic will have to be closed in order to perform any work. There are gas lines on each side of the median along the length of the roadway.
PAX-0014	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Requires daily MOT. Possible demo, removal, and/or repair of existing facilities.
PAX-0016	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
PAX-0026	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Likely demo, removal, and/or repair of existing facilities. Possible conflicts with underground utilities.
PAX-0029	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Likely demo, removal, and/or repair of existing facilities. Likely conflicts with major utilities.
PAX-0030	Moderate	Possible shoring required. May require protective CT. Likely demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT. Likely conflicts with major utilities.
PAX-0034	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. Clearing required. Requires significant daily/long-term MOT.
PAX-0042	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Possible conflict with underground utilities.
PAX-0045	Moderate	Unable to fully analyze due to lack of defined proposed structure. General Analysis: May require CTB. Possible shoring required. May conflict with underground and overhead utilities.
PAX-0047	Moderate	LOD is tight. Requires protective CTB. May require demo, removal, and/or repair of existing facilities.
PAX-0049	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities. LOD includes left lane NB which will not be allowed to be a permanent closure.
PAX-0051	Moderate	Shoring likely required adjacent to traffic. Requires protective CTB. LOD is tight. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT.
PAX-0059	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities.

Site Name	Rating	Comments
PAX-0063	Moderate	May require demo, removal, and/or repair of existing facilities. Likely conflict with utilities.
PAX-0076	Moderate	Possible shoring required adjacent to traffic and utility poles. Requires protective CTB. LOD is tight. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
PAX-0301	Moderate	Possible shoring required adjacent to traffic and private property. Requires protective CTB. LOD is tight. Requires significant daily/long-term MOT. Likely conflict with existing utilities.
PAX-0302	Moderate	Possible shoring required. May require protective CTB. Likely demo, removal, and/or repair of existing facilities. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely conflicts with utilities.
PAX-0305	Moderate	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Likely conflicts with utilities.
PAX-0308	Moderate	Shoring required adjacent to traffic. Requires protective CTB. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities.
PAX-0310	Moderate	Possible shoring required. May require protective CTB. Access and work area for construction equipment difficult due to existing grade slope. Likely conflicts with utilities.
PAX-0312	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Significant clearing needed.
PAX-0313	Moderate	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Likely conflicts with utilities.
PAX-0601	Moderate	Possible conflict with new construction. May require protective CTB. Likely conflicts with utilities.
PAX-0602	Moderate	Possible conflict with new construction. May require protective CTB. Possible conflicts with utilities.
PAX-0608	Moderate	Possible shoring required adjacent to traffic and private property. Requires protective CTB. Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-0618	Moderate	Low overhead utility lines cross project. Possible shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT.
PAX-1210	Moderate	Will need CTB for workzone protection and storage yard. Verify UGD utility does not impact site. Shoring needed due to tight LOD on Post Office side.
PAX-1502	Moderate	Will need CTB for workzone protection and storage yard. Shoring needed depending on excavation depth.
PAX-1509	Moderate	Will need CTB for workzone protection and storage yard. Shoring needed depending on excavation depth. Caution near overhead crossing line.
PAX-2006	Moderate	Possible extensive shoring required adjacent to traffic and private property. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely conflict with existing utilities/SHA lighting.
PAX-2007	Moderate	Possible shoring required. May require protective CTB. Access and work area for construction equipment extremely limited. Possible conflict with utilities.

Site Name	Rating	Comments
PAX-2008	Moderate	Possible shoring required. May require protective CTB. Access and work area for construction equipment extremely limited. May require modification/demolition/reconstruction of sound wall.
PAX-2009	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-2015	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-2016	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
PAX-2017	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities. Likely conflict with utilities.
PAX-2018	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment extremely limited. Possible conflict with utilities.
PAX-2019	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment extremely limited. Possible conflict with utilities.
PAX-2021	Moderate	Information on PW was unclear and location vague. Based on photos on PW: Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment extremely limited. Possible conflict with utilities.
PAX-2514	Moderate	May require protective CTB. Access and work area for construction equipment extremely limited.
PAX-2515	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment extremely limited. Possible conflict with utilities.
PAX-2523	Moderate	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Extremely tight access.
PAX-2524	Moderate	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Extremely tight access.
PAX-2559	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Possible conflict with utilities. Extremely tight access.
PAX-3002	Moderate	Will need CTB for workzone protection and storage yard. OH lines appear to be comm only, however shoring or other support may be required to stabilize poles during construction.
PAX-3003	Moderate	Will need CTB for workzone protection and storage yard. Access is only from I-70.
PAX-3004	Moderate	Will need CTB for workzone protection and storage yard. Access is only from I-70.
PAX-3005	Moderate	Will need CTB for workzone protection and storage yard. Test pit gas line and then redesign away from it, or relocate.
PAX-3011	Moderate	Will need CTB for workzone protection and storage yard. Design should avoid any work under the OH lines.
PAX-3012	Moderate	Will need CTB for workzone protection and storage yard. Access is only from I-70.

Site Name	Rating	Comments
PAX-3024	Moderate	CTB needed for workzone protection. Preferred access is from Heritage Hills Dr. for sites WAS-3309, -3310, -3311 to be performed at same time, otherwise OH lines cause access issues.. Moderate clearing needed.
PAX-3025	Moderate	CTB needed for workzone protection. Preferred access is from Heritage Hills Dr. for sites WAS-3309, -3310, -3311 to be performed at same time. Moderate clearing needed.
PAX-3026	Moderate	CTB needed for workzone protection. Preferred access is from Heritage Hills Dr. for sites WAS-3309, -3310, -3311 to be performed at same time. Moderate clearing needed.
PAX-3801	Moderate	Temp. Concrete Barrier on shoulder or backfill daily.
PAX-3802	Moderate	Temp. Concrete Barrier on shoulder or in Grass or backfill daily.
PAX-4001	Moderate	Set Temp. Barrier on Grass w/ Construction entrance/access or backfill daily.
PAX-4003	Moderate	Set Temp. Barrier on Grass w/ Construction entrance/access or backfill daily.
PAX-4006	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May conflict with utilities.
WAS-0012	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-0072	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Possible conflict with utilities.
WAS-0076	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0084	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0085	Moderate	Possible shoring required. May require protective CTB. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with utilities.
WAS-0301	Moderate	Possible shoring required. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with utilities.
WAS-0302	Moderate	Possible shoring required. May require protective CTB. Access and work area for construction equipment limited. Possible conflict with utilities.
WAS-0303	Moderate	Possible shoring required. May require protective CTB. OH lines will interfere with swing radii and dump trucks.
WAS-0304	Moderate	Possible shoring required. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0313	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. May require daily MOT.
WAS-0322	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0333	Moderate	Possible shoring required. May require protective CTB. Access and work area for construction equipment extremely limited. May require modification/demolition/reconstruction of sound wall. Possible conflict with utilities.
WAS-0343	Moderate	Possible shoring required. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.

Site Name	Rating	Comments
WAS-0606	Moderate	May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0623	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Access and work area for construction equipment limited.
WAS-0624	Moderate	Unable to fully analyze due to lack of defined proposed structure, but possible shoring required adjacent to traffic and private property. May require protective CTB. Access and work area for construction equipment appears limited. Possible conflict with utilities.
WAS-0628	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely conflict with utilities.
WAS-0638	Moderate	Possible extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-0641	Moderate	Possible extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-0644	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May require demo, removal, and/or repair of existing facilities. Likely conflicts with utilities.
WAS-0649	Moderate	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment limited. May require significant daily/long-term MOT.
WAS-0650	Moderate	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-0901	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May require demo, removal, and/or repair of existing facilities. Likely conflicts with utilities.
WAS-0903	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May require demo, removal, and/or repair of existing facilities. Likely conflicts with utilities.
WAS-0911	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited.
WAS-0913	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. Likely conflicts with utilities.
WAS-0925	Moderate	May require protective CTB. Possible conflict with utilities.
WAS-0934	Moderate	Possible shoring required adjacent to traffic. May require demo, removal, and/or repair of existing facilities. May require protective CTB. Possible conflict with utilities.
WAS-0937	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. Likely conflicts with utilities.
WAS-0946	Moderate	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant

Site Name	Rating	Comments
		daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0971	Moderate	CTB for workzone protection. Possible shoring of roadway
WAS-0972	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-0988	Moderate	CTB for workzone protection. Possible shoring of roadway
WAS-0989	Moderate	Possible shoring required adjacent to traffic. May require protective CTB.
WAS-0990	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities.
WAS-0995	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-1009	Moderate	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2016	Moderate	Possible extensive shoring required adjacent to traffic. Requires protective CTB. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities. Likely conflict with existing overhead utilities.
WAS-2024	Moderate	Requires significant daily/long-term MOT. Possible conflict with utilities.
WAS-2027	Moderate	Requires daily/long-term MOT. Access and work area for construction equipment extremely limited. Likely demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2034	Moderate	Requires shoring. Requires protective CTB. Requires significant daily/long-term MOT. Access and work area for construction equipment extremely limited. Likely conflict with utilities.
WAS-2059	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Likely conflict with existing utilities. Daily plating/backfill required.
WAS-2062	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Likely conflict with existing utilities. Daily plating/backfill required.
WAS-2066	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2073	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May requires demo, removal, and/or repair of existing facilities. May conflict with existing utilities.
WAS-2079	Moderate	Will need CTB for workzone protection and storage yard. Access only from 495 or 495 onramp. SHA lighting duct will be encountered.
WAS-2501	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment extremely limited.
WAS-2503	Moderate	Will need CTB for workzone protection and storage yard. Minor tree removal needed. OH lines cross over proposed site, and could be an issue, depending on equipment needed.
WAS-2511	Moderate	Requires significant daily/long-term MOT. May require CTB. May require shoring. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.

Site Name	Rating	Comments
WAS-2519	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Possible conflict with utilities.
WAS-2520	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Possible conflict with utilities.
WAS-2522	Moderate	Will need CTB for workzone protection and storage yard. Design needs to be aware of any SHA conduit.
WAS-2530	Moderate	Shoring likely required adjacent to traffic. Likely requires protective CTB. Likely requires demo, removal, and/or repair of existing facilities. Will require substantial clearing of trees and undergrowth.
WAS-2535	Moderate	Access would severely affect adjacent residences. Requires significant daily/long-term MOT.
WAS-2537	Moderate	Requires significant daily/long-term MOT. CTB needed for protection.. Extremely tight access.
WAS-2538	Moderate	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Extremely tight access.
WAS-2553	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Possible conflict with utilities.
WAS-2568	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2596	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-2599	Moderate	OH Electric and Comm lines will need to be travelled under to reach the site. Shoring may be needed to prevent undermining of one electric pole.
WAS-2601	Moderate	Requires significant daily/long-term MOT. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2602	Moderate	Requires significant daily/long-term MOT. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2603	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May require demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2604	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. Access and work area for construction equipment limited. May require demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2605	Moderate	CTB for workzone protection. Possible shoring of roadway. Possible UGD Utility conflicts/
WAS-2613	Moderate	Possible shoring required adjacent to traffic. Likely requires protective CTB. Access and work area for construction equipment limited. Possible conflict with existing utilities.
WAS-2614	Moderate	CTB needed workzone protection. Shoring needed to support roadway.
WAS-3301	Moderate	CTB needed for workzone protection. Vehicles move fast on 108. Work is beneath OH lines. Significant clearing needed.
WAS-3302	Moderate	CTB needed for workzone protection. Vehicles move fast on 108. Work is beneath OH lines. Significant clearing needed.
WAS-3308	Moderate	CTB needed for workzone protection. Part of work is below OH Lines.

Site Name	Rating	Comments
WAS-3601	Moderate	Temp. Barrier in grass or backfill daily.
WAS-3602	Moderate	Temp. Barrier on Shoulder or backfill daily. OH lines will create access issues.
WAS-3603	Moderate	Temp. Barrier on Curb/SW.
WAS-3604	Moderate	No barrier/safety slope/backfill daily or place barrier in grass.
WAS-3608	Moderate	Temp. Barrier on pavement or backfill daily.
WAS-3611	Moderate	CTB needed for workzone protection. Work would require moderate clearing. Access from service road might need flagging, but access from MD 97 is troublesome.
WAS-3612	Moderate	Temp. Barrier in grass or backfill daily.
WAS-3617	Moderate	Temp. Barrier on Shoulder or backfill daily.
WAS-3622	Moderate	Use temp workzone for access to site. Need pedestrian fence. May need shoring near trees, or clearing.
WAS-3626	Moderate	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult.
WAS-3631	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3637	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3639	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3644	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3645	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3646	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3649	Moderate	CTB needed for workzone protection. Shoring needed to support road. Removal of trees will cause concern of community.
WAS-3650	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3653	Moderate	CTB needed for workzone protection. Shoring needed to support road.
WAS-3655	Moderate	CTB needed for workzone protection. Shoring needed to support road. Temp. sidewalk needed for access to trail. Possible UGD for traffic signal and gas. Access from service road.
WAS-3658	Moderate	CTB needed for workzone protection. Traffic is extremely heavy. Daily lane closures will be needed for truck ingress and egress.
WAS-3996	Moderate	Possible shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Possible conflict with utilities.
WAS-3999	Moderate	Likely shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Likely conflict with utilities.
WAS-4000	Moderate	Likely shoring required adjacent to traffic. May require protective CTB. May require demo, removal, and/or repair of existing facilities. Likely conflict with utilities.
WAS-4002	Moderate	Need Temp. Conc. Barrier or backfill daily, Underground utility box nearby. Looks wet.
WAS-4013	Moderate	No need for Barrier - protected by existing guardrail. Need construction entrance/access/ staging area. OH Lines need to be avoided.
WAS-4016	Moderate	Need Temp. Conc. Barrier, Need maybe temp. sidewalk. Need shoring - say soldier pile and lagging. Assume CIP Box
WAS-4018	Moderate	Set Temp. Barrier in shoulder or backfill daily. Need construction entrance behind barrier. Access under OH lines
WAS-4019	Moderate	Set Temp. Barrier in shoulder or backfill daily. Need construction entrance behind barrier. Access under OH lines

Site Name	Rating	Comments
WAS-4024	Moderate	Set Temp Barrier on Curb or backfill daily. Construction entrance/access or flag daily.
WAS-4025	Moderate	Work behind existing guardrail. Construction entrance or daily MOT. Separated by a driveway. 1 guy wire appears in the location may require temporary support.
WAS-4026	Moderate	OH comm lines limit equipment size, but work still possible. CTB needed for workzone protection.
WAS-4027	Moderate	OH comm lines limit equipment size, but work still possible. CTB needed for workzone protection.
WAS-4029	Moderate	Need fence to keep pedestrians away. Need to detour pedestrians. Existing Street Light/Wiring. Grass/SW area - need shoring. Tree removal.
WAS-4030	Moderate	Need to detour pedestrians. Existing Street Light/Wiring. UG utilities. Grass/SW area - need shoring.
WAS-4031	Moderate	CTB needed on both sides. Limited access in median. Shoring to support road.
WAS-4032	Moderate	Temp Barrier - may need to squeeze traffic (make narrow lanes). Tree removal. Temp. Sidewalk. Some lane closures. Grass/SW area - Shoring.
WAS-4037	Moderate	Near low OH utility lines. Temp. Barrier. Need to detour pedestrians. Grass/SW area - need shoring system.
WAS-4038	Moderate	Near low OH utility lines. Temp. Barrier. Need to detour pedestrians. Grass/SW area - need shoring system.
WAS-4040	Moderate	In Median - would need daily lane closures x 2 directions. Grass area - need shoring. Maintain existing stormdrain.
WAS-4045	Moderate	OH utility lines nearby. Need to detour pedestrians. Daily lane closures. Tree removal. Grass/SW area - need shoring.
WAS-4047	Moderate	CTB needed for workzone protection. Shoring needed to support road. Portions of work are below OH lines.
WAS-4048	Moderate	CTB needed for workzone protection. Shoring needed to support road. Design needs to incorporate possible UGD water, gas and electric.
WAS-4050	Moderate	OH utility lines nearby. Need to detour pedestrians. Daily lane closures. Tree removal. Grass/SW area - need shoring.
WAS-4053	Moderate	CTB needed for workzone protection. Shoring needed to support road. OH Lines near filter site, but work appears to be possible with caution.
WAS-4059	Moderate	Grass/SW area -need shoring. Temp. Barrier/ squeeze traffic. Build temp SW. Some lane closures.
WAS-4061	Moderate	CTB needed for workzone protection. There are OH wires on Sandberry Ct that conflict. Notes show buried utilities in the existing sidewalk along Quince Orchard Rd. You may need shoring to support the road.
WAS-4063	Moderate	Existing Light Poles/Wiring. Grass/SW area -need shoring. Temp. Barrier. Need to detour pedestrians. Some lane closures.
WAS-4065	Moderate	Existing Light Poles/Wiring. Grass/SW area -need shoring. Temp. Barrier. Need to detour pedestrians. Some lane closures.
WAS-4067	Moderate	CTB needed for workzone protection. There are light poles along Great Seneca Hwy that conflict. There are utility markings (gas, fiber optics, waterline) under the sidewalk. Shoring to support the road may be needed.
WAS-4072	Moderate	In median - Temp. Barrier x 2 directions. Daily lane closures. Tree removal. Grass area - shoring.
WAS-4078	Moderate	CTB need for workzone protection. There are OH wires at the south end. There are light poles and trees to contend with along Germantown Rd.

Site Name	Rating	Comments
WAS-4079	Moderate	OH utility lines nearby. Need temp. SW. Grass/SW area - need shoring. Temp. Barrier. Some lane Closures
WAS-4083	Moderate	Temp Barrier - may need to squeeze traffic (make narrow lanes). Prune trees. Temp. Sidewalk. Some lane closures. Shoring.
WAS-4084	Moderate	OH utility lines nearby. Temp. Barrier and/or Fence needed at SW. Grass area - need shoring. Some lane/SW Closure or get permission to use parking lot. May need to pump concrete.
WAS-4086	Moderate	CTB need for workzone protection. There are mature trees on the north end that conflict with the work. The median work zone is only about 20' wide.
WAS-4087	Moderate	CTB needed for workzone protection. There are trees and guardrail along the entire site.
WAS-4091	Moderate	CTB needed for workzone protection. Guardrail exists all along the entire site that will have to be worked around or removed and replaced.
WAS-4098	Moderate	OH Utilities nearby. Between SW and road. Try to close SW. Grass area - need shoring. Daily lane closures. Underground utilities.
WAS-4099	Moderate	The site is between the sidewalk and an existing building. There is one sign to deal with and OH wires behind the sidewalk. No real storage area for materials.
WAS-4111	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-4112	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-4137	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-4141	Moderate	Possible shoring required adjacent to traffic and private property. May require protective CTB. May requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-4150	Moderate	Need Temp. Conc. Barrier or backfill daily. May need to hold utility pole or stay away.
WAS-4164	Moderate	CTB needed for workzone protection. There are OH wires and a scattering of trees to work around. There is a fire hydrant as well indicating an underground water line feeding it.
WAS-4201	Moderate	CTB needed for workzone protection. OH wires are just off the edge of the roadway. There are trees that may conflict with a portion of this site.
WAS-4206	Moderate	CTB needed for workzone protection. OH wires are just off the edge of the roadway. There is some clearing of brush and tree removals to perform on the site.
WAS-4310	Moderate	OH Utilities nearby. Between SW and road. Temp. Barrier - in bike lane. Fence along. Grass area - need shoring. Some lane closures. Limited staging. Replace small trees.
WAS-4321	Moderate	OH Utilities nearby. Behind SW. Temp. Barrier on Grass. Temp. SW. with Constr. Easements. Grass area - need shoring. SCE/Staging Area.
WAS-4322	Moderate	OH Utilities nearby. Between SW and road. Temp. Barrier - may need to squeeze lanes. Try to close SW. Grass area - need shoring. Daily lane closures.

Site Name	Rating	Comments
WAS-4323	Moderate	Between SW and Road. Temp. Barrier. Temp. SW. Grass area/SW - need shoring. SCE/Staging area. Some Lane Closures
WAS-4324	Moderate	OH Utilities and wood poles. Grass area - need shoring. Put Temp. Barrier on grass. Tree removal. Some lane closures. Need SCE/Staging area.
WAS-4325	Moderate	Between SW and Road. Temp. Barrier. Temp. SW. Grass area/SW - need shoring. SCE/Staging area. Some Lane Closures
WAS-4334	Moderate	OH Utility. UG box. Between Road and Fence. Grass area - need shoring. Protect exist. fence/Horse Farm. Set Staging along ROW. Temp. Barrier. Some Flagging Operations (3-way).
WAS-4335	Moderate	Significant clearing. Low overhead lines to access site. Road closure with flagging may be necessary.
WAS-4342	Moderate	CTB needed for workzone protection. OH wires and lots of trees along the workzone.
WAS-4345	Moderate	CTB needed for workzone protection. OH wires along the workzone but there is good access to the work.
WAS-4349	Moderate	CTB needed for workzone protection. OH wires and trees along the workzone.
WAS-4353	Moderate	CTB needed for workzone protection. OH wires and trees along the workzone. Not a lot of working area.
WAS-4354	Moderate	CTB needed for workzone protection. OH wires and trees along the workzone. Not a lot of working area.
WAS-4356	Moderate	CTB needed for workzone protection. OH wires along the workzone. There may be a need to remove some of the trees. Overall there is good access once the small amount of trees are addressed.
WAS-4361	Moderate	CTB needed for workzone protection. OH wires along the entire length. Trees along the workzone will have to be removed.
WAS-4362	Moderate	Behind Curb. Assume can put Temp. Barrier on top of Curb - if not would require temp. road widening. shift lines set barrier. Some Flagging Ops. Staging along ROW. R&R Guardrail.
WAS-4363	Moderate	CTB needed for workzone protection. The southern portion has guardrail near the roadway. The entire length has 2 rows of wooden fencing to work around.
WAS-4364	Moderate	CTB needed for workzone protection. OH wires along the entire length. Trees along the workzone will have to be trimmed or removed.
WAS-4371	Moderate	Temp. Barrier on Grass. Shoring. R&R Mailbox. Clearing and Grubbing. Some Flagging Ops.
WAS-4373	Moderate	Temp. Barrier on Grass . Need to detour driveway or provide access. Shoring. Clearing and Grubbing. Some Flagging Ops.
WAS-4375	Moderate	CTB needed for workzone protection. OH wires along the entire length. Trees along the workzone will have to be trimmed or removed.
WAS-4382	Moderate	OH Wire. Temp Barrier on Grass. Some Flagging Ops.
WAS-4383	Moderate	Temp. Barrier on Grass - but close to driveway. Shoring.
WAS-4385	Moderate	Temp. Barrier on Grass. Shoring.
WAS-4386	Moderate	Temp. Barrier on Grass/Asphalt Curb. Shoring.
WAS-4393	Moderate	Temp. Barrier on Grass/Curb. Shoring.
WAS-4394	Moderate	Temp. Barrier on Grass/Curb. Shoring.
WAS-4402	Moderate	Temp. Barrier on Grass/Asphalt Curb. or Road and shift lanes. Shoring.
WAS-4404	Moderate	CTB needed for workzone protection. OH wires line the entire length of this site. There are some trees that will have to be removed.

Site Name	Rating	Comments
WAS-4411	Moderate	Temp. Barrier on Grass. Shoring.
WAS-4412	Moderate	
WAS-4413	Moderate	Temp. Barrier on Shoulder/Grass. Shoring.
WAS-4414	Moderate	Temp. Barrier on Grass. Shoring.
WAS-4415	Moderate	Temp. Barrier on Grass or backfill daily.
WAS-4423	Moderate	Temp. Barrier on Shoulder. Shoring.
WAS-4424	Moderate	Temp. Barrier on Grass/Shoulder or backfill daily.
WAS-4425	Moderate	Temp. Barrier on Grass/Shoulder. Shoring.
WAS-4427	Moderate	Temp. Barrier on Shoulder. Shoring.
WAS-4428	Moderate	Temp. Barrier on Grass. Shoring.
WAS-4429	Moderate	Temp. Barrier on shoulder and maybe temp. SW on shoulder with fence. Fence off driveway. Shoring.
WAS-4431	Moderate	CTB needed for workzone protection. There are OH wires on both sides of the street very close to the road. There are also earth berms that may need some sheeting depending on how extensive the work becomes.
WAS-4433	Moderate	Temp. Barrier on shoulder and maybe temp. SW on shoulder with fence. Shoring.
WAS-4441	Moderate	Temp. Barrier on Grass or backfill daily.
WAS-4442	Moderate	Temp. Barrier on Grass or backfill daily.
WAS-4443	Moderate	Temp. Barrier on Grass. Shoring.
WAS-4444	Moderate	CTB needed for workzone protection. There are OH wires on both sides of the street. There is a church at this location.
WAS-4446	Moderate	CTB needed for workzone protection. There are OH wires on both sides of the street. There is a building with an earth berm that may have to be supported by sheeting.
WAS-4447	Moderate	CTB needed for workzone protection. There are OH wires on both sides of the street. There is a wood fence and a driveway to work around.
WAS-4448	Moderate	CTB needed for workzone protection. The houses in this area are up on a slight berm. There may be a need for sheeting to support the work.
WAS-4449	Moderate	Temp. Barrier on Grass or backfill daily.
WAS-4451	Moderate	CTB needed for workzone protection. This site is right at a roadway intersection. There may be a need for sheeting. Access is pretty good.
WAS-4453	Moderate	CTB needed for workzone protection. There are OH wires and trees along the entire length of this site. The amount of trees is not dense but there will be some that may have to be removed.
WAS-4455	Moderate	CTB needed for workzone protection. There are OH wires and some trees along the entire length of this site very close to the roadway.
WAS-4459	Moderate	Temp. Barrier on Grass or backfill daily.
WAS-4462	Moderate	Temp. Barrier on Grass or backfill daily.
WAS-4463	Moderate	Temp. Barrier on Pavement. Layback slope/some shoring.
WAS-4464	Moderate	Temp. Barrier on Grass. Layback slope and shoring along road.
WAS-4474	Moderate	Temp. Barrier on Curb. Shoring at least along road.
WAS-4476	Moderate	Temp. Barrier on Curb. Shoring.
WAS-4477	Moderate	Temp. Barrier on Curb. Shoring.
WAS-4478	Moderate	Temp. Barrier on Curb. Shoring.

Site Name	Rating	Comments
WAS-4479	Moderate	Temp. Barrier on Curb. Shoring.
WAS-4481	Moderate	Temp. Barrier on Curb. Shoring.
WAS-4482	Moderate	Temp. Barrier on Curb. Shoring.
WAS-4483	Moderate	Temp. Barrier on Road/lanes shifts may be necessary. Shoring.
WAS-4484	Moderate	Temp. Barrier on Road/lanes shifts. Shoring.
WAS-4488	Moderate	CTB needed for both sides of the workzone for protection. This site is in the median of two way traffic. There are numerous trees and some directional signs to work around. Not much working area at this site.
WAS-4489	Moderate	CTB needed for both sides of the workzone for protection. This site is in the median of two way traffic. There are numerous trees to work around. There is decent working area at this site.
WAS-4495	Moderate	CTB needed for workzone protection. There is guardrail and OH wires to work around. Beyond that there appears to be room to complete the work.
WAS-4498	Moderate	CTB needed for both sides of the workzone for protection. This site is in a narrow median of two way traffic. One lane of traffic will have to be closed to perform the work. There are light poles and trees to work around.
WAS-4506	Moderate	CTB needed for both sides of the workzone for protection. This site is in a narrow median of two way traffic. One lane of traffic will have to be closed to perform the work. There is a gas line along the shoulder.
WAS-4509	Moderate	The work area is behind the guardrail. The area has small trees that will have to be removed and slopes down from the roadway..
WAS-4513	Moderate	Temp. on Barrier on curb. Shoring on a hill.
WAS-4518	Moderate	Temp. Barrier on shoulder. Shoring.
WAS-4519	Moderate	Temp. Barrier on shoulder. Shoring.
WAS-4523	Moderate	Temp. Barrier on shoulders/shift lines on turn lane side. Shoring.
WAS-4532	Moderate	Temp. Barrier in Road/shift lanes. Shoring.
WAS-4533	Moderate	Temp. Barrier in Road. Shoring. Little room for staging.
WAS-4534	Moderate	Temp. Barrier in Road. Shoring. Little room for staging.
WAS-4601	Moderate	Temp. Barrier on Shoulder.
WAS-4603	Moderate	Temp. Barrier on Shoulder.
WAS-4604	Moderate	Temp. Barrier on Shoulder.
WAS-4606	Moderate	Temp. Barrier in Grass.
WAS-4607	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4609	Moderate	Temp. Barrier on shoulder.
WAS-4610	Moderate	Temp. Barrier on Shoulder.
WAS-4614	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4615	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4619	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4622	Moderate	Temp. Barrier in Grass.
WAS-4623	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4624	Moderate	Temp. Barrier on Shoulder or backfill daily.
WAS-4625	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4626	Moderate	Temp. Barrier in Grass or backfill daily.

Site Name	Rating	Comments
WAS-4627	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4628	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4629	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4630	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4631	Moderate	Temp. Barrier on Shoulder.
WAS-4632	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4633	Moderate	Temp. Barrier on Shoulder.
WAS-4635	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4636	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4637	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4638	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4639	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4640	Moderate	Temp. Barrier on shoulder. Shoring.
WAS-4641	Moderate	Temp. Barrier on shoulder. Shoring.
WAS-4642	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4644	Moderate	Temp. Barrier on shoulder. Shoring.
WAS-4645	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4646	Moderate	Temp. Barrier in Grass or backfill daily.
WAS-4647	Moderate	Temp. Barrier on shoulder. Shoring.
WAS-4651	Moderate	Temp. Barrier on shoulders. Shoring.
WAS-4653	Moderate	Temp. Barrier on shoulder. Shoring.
WAS-5302	Moderate	CTB needed for workzone protection. Limited work area and tight access along neighborhood road. Lots of trees to remove or trim.
WAS-5304	Moderate	CTB needed for workzone protection. Two rows of OH wires along the entire site. There are also some directional signs that will have to be worked around. This site is adjacent to a power plant. Lots of high tension wires overhead. Good access from the road.
WAS-5313	Moderate	The work will take place between the sidewalk next to the road and the OH wires that are approximately 15' away. There is a fiber optic vault at this location.
WAS-5314	Moderate	CTB needed for workzone protection. There are OH wires and a sidewalk along the entire length of this site. This is a very narrow work zone.
WAS-5602	Moderate	The work will take place outside the sidewalk next to the road. There are trees that will have to be removed or trimmed.
PAX-0017	Significant	Possible extensive shoring required adjacent to traffic and private property. Requires protective CTB. LOD is tight. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities. Likely conflict with existing major overhead power distribution utilities and underground utilities.
PAX-0018	Significant	Possible extensive shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Requires significant daily/long-term MOT. Likely conflict with existing overhead and underground power utilities.
PAX-0019	Significant	Possible extensive shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Possible demo, removal, and/or repair of existing facilities.

Site Name	Rating	Comments
PAX-0022	Significant	Possible shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities.
PAX-0626	Significant	Bulk of ROW would need to be cleared to be useful. OH lines will require relocation.
PAX-1206	Significant	Will need CTB for workzone protection and storage yard. OH lines need relocation prior to construction.
PAX-1510	Significant	Will need CTB for workzone protection and storage yard. OH lines need relocation prior to construction.
PAX-2001	Significant	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely conflict with overhead utilities.
PAX-2005	Significant	Possible extensive shoring required adjacent to traffic and private property. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely conflict with existing utilities/SHA lighting.
WAS-0010	Significant	May require protective CTB. Possible demo, removal, and/or repair of existing facilities. Work is below OH lines.
WAS-0013	Significant	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely demo, removal, and/or repair of existing facilities.
WAS-0073	Significant	Shoring likely required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely conflict with utilities.
WAS-0074	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely conflict with utilities.
WAS-0075	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT. Likely conflict with utilities.
WAS-0077	Significant	Shoring likely required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT. Likely conflict with utilities.
WAS-0078	Significant	Shoring likely required adjacent to traffic. May require protective CTB. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT. Conflict with utilities.
WAS-0081	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT.
WAS-0082	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT.
WAS-0083	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT. Likely conflict with utilities.

Site Name	Rating	Comments
WAS-0086	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT.
WAS-0319	Significant	Possible shoring required. Requires protective CTB. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with utilities.
WAS-0326	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT.
WAS-0328	Significant	Shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Requires significant daily/long-term MOT.
WAS-0342	Significant	Possible shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely demo, removal, and/or repair of existing facilities.
WAS-0615	Significant	Possible extensive shoring required adjacent to traffic and private property. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-0616	Significant	Possible extensive shoring required adjacent to traffic and private property. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-0617	Significant	Possible extensive shoring required adjacent to traffic and private property. Requires protective CTB. Access and work area for construction equipment extremely limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-0647	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-0651	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. LOD is tight. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities and removal of existing concrete ditch.
WAS-0939	Significant	Possible shoring required adjacent to traffic. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Work will be extremely close to overhead lines.
WAS-1003	Significant	Extensive shoring required adjacent to traffic and private property. Requires protective CTB. Access and work area for construction equipment extremely limited. Work appears to be in private property. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely conflict with existing utilities.
WAS-1004	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely requires demo, removal, and/or repair of existing facilities.

Site Name	Rating	Comments
WAS-1005	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely requires demo, removal, and/or repair of existing facilities.
WAS-1006	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely requires demo, removal, and/or repair of existing facilities.
WAS-1007	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely requires demo, removal, and/or repair of existing facilities.
WAS-1010	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely requires demo, removal, and/or repair of existing facilities.
WAS-1011	Significant	Extensive shoring required adjacent to traffic. Requires protective CTB. Access and work area for construction equipment extremely limited. Requires significant daily/long-term MOT. Likely requires substantial detour and reconstruction of adjacent roadways. Likely requires demo, removal, and/or repair of existing facilities.
WAS-2025	Significant	Access would severely affect adjacent residences. Requires significant daily/long-term MOT.
WAS-2026	Significant	Access would severely affect adjacent residences. Requires significant daily/long-term MOT.
WAS-2056	Significant	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Extremely tight access immediately adjacent to rail infrastructure
WAS-2063	Significant	Possible shoring required adjacent to traffic and private property. May require protective CTB. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing utilities.
WAS-2064	Significant	Possible shoring required adjacent to traffic and private property. May require protective CTB. Likely conflict with existing utilities. Daily plating/backfill required.
WAS-2067	Significant	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Work near railroad
WAS-2068	Significant	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Work near railroad
WAS-2069	Significant	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Work near railroad
WAS-2070	Significant	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Work near railroad

Site Name	Rating	Comments
WAS-2071	Significant	Requires significant daily/long-term MOT. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Work near railroad
WAS-2072	Significant	Daily MOT with Plating or lane closure with CTB needed. Workzone will block entrance to laundromat parking. Merchant's sign appears to be in LOD. Unknown manhole appears to be in proposed site area.
WAS-2078	Significant	Will need CTB for workzone protection and storage yard. Sidewalk detour needed. Heavy traffic approaching 495 onramps will be severely impacted by any lane closure. No room for temporary widening.
WAS-2512	Significant	Access would severely affect adjacent residences. Requires significant daily/long-term MOT. May require CTB. May require shoring. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities.
WAS-2513	Significant	Possible shoring required adjacent to traffic. May require protective CTB. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Will require substantial clearing of trees and undergrowth.
WAS-2526	Significant	Possible shoring required adjacent to traffic. May require protective CTB. Likely requires demo, removal, and/or repair of existing facilities. Possible conflict with existing utilities. Will require substantial clearing of trees and undergrowth.
WAS-2562	Significant	Will need CTB for workzone protection and storage yard. Low hanging OH power and comm lines need to be relocated to work safely.
WAS-2608	Significant	Not enough space for proposed element without significant reconstruction of the roadway.
WAS-2609	Significant	Not enough space for proposed element without significant reconstruction of the roadway.
WAS-2610	Significant	Not enough space for proposed element without significant reconstruction of the roadway.
WAS-2611	Significant	Not enough space for proposed element without significant reconstruction of the roadway.
WAS-3306	Significant	Good access. OH utility through site requires relocation. OH along ROW is ok.
WAS-3609	Significant	CTB needed for workzone protection. Significant OH lines located above the proposed facility. Access for sideroad possible. Access from MD97 would be problematic due to heavy volumes.
WAS-3619	Significant	CTB needed for workzone protection. OH line appear to be in footprint of facility.
WAS-3628	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Removal of trees will cause concern of community.
WAS-3629	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Median width too narrow for 2x CTB and shoring and construction. Too much traffic for long-term lane closure.
WAS-3634	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Removal of trees will cause concern of community.
WAS-3635	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Removal of trees will cause concern of community.
WAS-3636	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Removal of trees will cause concern of community.

Site Name	Rating	Comments
WAS-3638	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Removal of trees will cause concern of community.
WAS-3640	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Removal of trees will cause concern of community.
WAS-3641	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Median width too narrow for 2x CTB and shoring and construction. Too much traffic for long-term lane closure. Removal of trees will cause concern of community.
WAS-3647	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Median width too narrow for 2x CTB and shoring and construction. Too much traffic for long-term lane closure. Removal of trees will cause concern of community.
WAS-3648	Significant	CTB needed for workzone protection. Shoring needed to support road. Heavy traffic and limited staging will make site difficult. Median width too narrow for 2x CTB and shoring and construction. Too much traffic for long-term lane closure.
WAS-3652	Significant	CTB needed for workzone protection. Shoring needed to support road. Evidence of existing SWM facility in service road. Temporary sidewalk would need to be constructed. Removal of trees will cause concern of community. Evidence of possible UGH lighting conduit.
WAS-3657	Significant	CTB needed for workzone protection. Shoring needed to support road. Median may be too narrow for CTB, shoring and the installation of structure. No room for permanent shoulder.
WAS-4011	Significant	Set up Temp. Barrier to close shoulder - need to restripe decel./rt. turn lane. Digging over or close to Gas Line - need shutdown or relocate
WAS-4015	Significant	Need Temp. Conc. Barrier. Concern about enough Room for Crash Cushions at Intersection. Need maybe temp. sidewalk. Underground utility box nearby. OH Utility Lines. Fire Hydrant. Need shoring - say soldier pile and lagging. Assume CIP Box
WAS-4052	Significant	CTB needed for workzone protection. Shoring needed to support road. Proposed location in close to OH lines that could interfere with loading trucks.
WAS-4064	Significant	CTB needed for workzone protection. There are light poles along Great Seneca Hwy that conflict. There is an underground Sanitary line that should be deep enough but you will have to contend with the manholes. Shoring to support the road may be needed. Trees may need to be trimmed or removed.
WAS-4093	Significant	CTB needed for workzone protection. There are OH wires right behind the sidewalk on Shady Grove Rd. The site is adjacent to the US Post Office. Lots of traffic coming and going into the parking lot. No real storage area for performing the work.
WAS-4131	Significant	Possible shoring required adjacent to traffic and WMATA property. May require protective CTB. Access and work area for construction equipment limited. Likely requires demo, removal, and/or repair of existing facilities. Likely conflict with existing local and WMATA utilities.
WAS-4132	Significant	Possible shoring required adjacent to traffic. Likely requires protective CTB. Access and work area for construction equipment limited. Likely conflict with existing utilities.
WAS-4156	Significant	CTB needed for workzone protection. OH wires, sloped ground and a busy parking lot will be issues that will be difficult to deal with. Soil retention system will be needed to support the parking lot. Trees will have to be trimmed or removed.

Site Name	Rating	Comments
WAS-4157	Significant	CTB needed for workzone protection. There are a significant amount of trees in the location for this work. There are also light poles along the roadway.
WAS-4158	Significant	CTB needed for workzone protection. There are a significant amount of trees in the location for this work. There are also light poles along the roadway.
WAS-4160	Significant	CTB needed for workzone protection. A significant amount of trees on this site that will have to be removed. The ground is also sloped.
WAS-4161	Significant	CTB needed for workzone protection. A significant amount of trees on this site that will have to be removed. The ground is also sloped.
WAS-4162	Significant	CTB needed for workzone protection. The middle of the proposed site includes a pedestrian path lined on both sides by trees.
WAS-4163	Significant	CTB needed for workzone protection. The median is very narrow so you will have to close at least one lane of traffic to work in this area. The area on the east side of Frederick Rd is sloped and has trees and OH wires in the work area.
WAS-4165	Significant	CTB needed for workzone protection. There are OH wires along a wood privacy fence on a sloped hill. There is not a lot of working space at this site. There is a sidewalk between the roadway curb and the sloped hill.
WAS-4304	Significant	CTB needed for workzone protection. OH wires, trees and a sidewalk are all along the proposed path of this work.
WAS-4339	Significant	CTB needed for workzone protection. OH wire along roadway. Significant amount of trees to remove. Site access is bad for this area.
WAS-4347	Significant	CTB needed for workzone protection. OH wires, trees and wood fence line make this a difficult site to get anything done.
WAS-4366	Significant	CTB needed for workzone protection. OH wires, guardrail and trees along the entire length of the road on the east side. Not very good access to this site. The west side of the road is much better.
WAS-4432	Significant	CTB needed for workzone protection. There are OH wires on both sides of the street very close to the road. There are trees that may have to be removed. There is not a lot of work area at this site.
WAS-4450	Significant	CTB needed for workzone protection. There is not a lot of work area. This site is right at a roadway intersection. There are trees that may have to be removed.
WAS-4452	Significant	CTB needed for workzone protection. There are OH wires and trees along the entire length of this site.
WAS-4456	Significant	CTB needed for workzone protection. The area slopes away from the roadway and most likely will need sheeting to support the roadway. There is not much working room between the roadway and the lake.
WAS-4457	Significant	CTB needed for workzone protection. There is roadway park just south of this site. There is guardrail and lots of trees at this site and not much working room between the roadway and the lake.
WAS-4475	Significant	Temp. Barrier on road. Shoring. Complicated pedestrian detour/ramp/SW.
WAS-4486	Significant	CTB needed for workzone protection. There is sidewalk, numerous trees and intermittent light poles at this site. Not much working room. May need sheeting to support the sidewalk.
WAS-4487	Significant	CTB needed for workzone protection. There is sidewalk, numerous trees, utility vaults and intermittent light poles at this site. Not much working room. May need sheeting to support the sidewalk.
WAS-4491	Significant	CTB needed for both sides of the workzone for protection. This site is in a very narrow median of two way traffic. At least one lane of traffic will have to be closed in order to perform any work.

Site Name	Rating	Comments
WAS-4493	Significant	CTB needed for workzone protection. The site slopes upward from the roadway and may require sheeting to support the trees and building parking lot. There are some trees to work around or remove.
WAS-4494	Significant	CTB needed for workzone protection. The site slopes steepling downward from the roadway and may require sheeting to support the roadway. There is guardrail and many trees to work around or remove.
WAS-4497	Significant	The work area is right behind the guardrail at the corner roadway intersection. There are utility vaults in the area. The ground slopes down from the roadway and there is not much area to work. Trees and brush will have to be trimmed.
WAS-4499	Significant	The work area is behind the guardrail. The area has lots of trees and has a large downward slope from the roadway. Access is poor.
WAS-4502	Significant	The work area is behind the guardrail. The area has lots of trees and has poor access.
WAS-4613	Significant	Night Work may be needed. Temp. Barrier in left lane (lane shift EB) and close Lt. lane WB). Shoring.
WAS-5601	Significant	The work will take place between the sidewalk next to the road with OH wires above and a wooden fence that that is on an earth slope. This may require sheeting to support the fence.

APPENDIX M – COMPENSATORY STORMWATER MITIGATION SITE SUMMARY TABLES

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
PAX-0014	144	Future Phase	021311	02060006	SWM Facility - Ch 5	0.33	0.56	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 436.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0016	150	Future Phase	021311	02060006	SWM Facility - Ch 3	1.47	0.45	0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.11 / 4801.5	19.38 / 143.78	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0017	150	Future Phase	021311	02060006	SWM Facility - Ch 5	0.57	0.37	0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.27 / 11785.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0018	144	Future Phase	021311	02060006	SWM Facility - Ch 5	0.50	0.34	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0019	144	Future Phase	021311	02060006	SWM Facility - Ch 5	0.56	0.49	0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4356	0.3 / 13095	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0020	152	Future Phase	021311	02060006	SWM Facility - Ch 5	0.16	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0022	144	Future Phase	021311	02060006	SWM Facility - Ch 5	0.15	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0026	150	Future Phase	021311	02060006	SWM Facility - Ch 5	0.24	0.39	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4384.83	0 / 0
PAX-0029	150	Future Phase	021311	02060006	SWM Facility - Ch 5	0.41	0.71	0.18	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0030	150	Future Phase	021311	02060006	SWM Facility - Ch 5	1.10	1.91	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.11 / 4923.29	0 / 0
PAX-0034	133	Future Phase	021311	02060006	SWM Facility - Ch 5	0.34	0.45	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.29 / 12637.35	0 / 0
PAX-0039	145	Future Phase	021311	02060006	SWM Facility - Ch 5	0.19	0.53	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 838.99	4 / 133
PAX-0041	145	Future Phase	021311	02060006	SWM Facility - Ch 5	0.22	0.16	0.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 229.16	0 / 0
PAX-0042	147	Future Phase	021311	02060006	SWM Facility - Ch 5	0.62	0.47	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0045	153	Future Phase	021311	02060006	Pavement Removal	0.01	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.14 / 6098.4	0.00 / 0.00	0 / 0
PAX-0046	153	Future Phase	021311	02060006	SWM Facility - Ch 5	0.31	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0047	153	Future Phase	021311	02060006	SWM Facility - Ch 5	0.62	0.60	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0048	153	Future Phase	021311	02060006	SWM Facility - Ch 5	0.35	0.49	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0049	147	Future Phase	021311	02060006	SWM Facility - Ch 5	0.20	0.24	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0051	147	Future Phase	021311	02060006	SWM Facility - Ch 5	0.18	0.18	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0059	154	Future Phase	021311	02060006	SWM Facility - Ch 5	0.40	0.31	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0061	148	Future Phase	021311	02060006	SWM Facility - Ch 5	0.64	0.87	0.43	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0062	149	Future Phase	021311	02060006	SWM Facility - Ch 5	0.51	0.51	0.00	0.01 / 435.6	0.00 / 0.00	0.00 / 0.00	0.06 / 2619	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0063	149	Future Phase	021311	02060006	SWM Facility - Ch 5	0.09	0.46	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0064	149	Future Phase	021311	02060006	SWM Facility - Ch 5	0.37	0.26	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0076	149	Future Phase	021311	02060006	SWM Facility - Ch 5	0.32	0.49	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	30.19 / 82.12	0.00 / 0.00	0.02 / 1018.07	0 / 0
PAX-0080	146	Future Phase	021311	02060006	SWM Facility - Ch 5	0.26	0.64	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	49.2 / 181.9	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0301	158	Future Phase	021311	02060006	SWM Facility - Ch 5	0.52	0.85	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0302	158	Future Phase	021311	02060006	SWM Facility - Ch 5	0.21	0.44	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0304	158	Future Phase	021311	02060006	SWM Facility - Ch 5	0.98	3.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0305	158	Future Phase	021311	02060006	SWM Facility - Ch 5	0.58	1.02	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0308	160	Future Phase	021311	02060006	SWM Facility - Ch 5	0.47	1.43	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0310	160	Future Phase	021311	02060006	SWM Facility - Ch 5	0.11	0.79	0.09	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.06 / 2619	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0311	160	Future Phase	021311	02060006	SWM Facility - Ch 5	0.48	1.44	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0312	160	Future Phase	021311	02060006	SWM Facility - Ch 5	0.38	1.04	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.45 / 19518.64	0 / 0
PAX-0313	162	Future Phase	021311	02060006	SWM Facility - Ch 5	0.16	0.59	0.10	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0315	162	Future Phase	021311	02060006	SWM Facility - Ch 3	0.77	1.32	0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.02 / 873	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.35 / 15354.88	0 / 0
PAX-0601	171	Future Phase	021311	02060006	SWM Facility - Ch 5	0.33	0.80	0.10	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0602	171	Future Phase	021311	02060006	SWM Facility - Ch 5	0.45	1.11	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.12 / 5348.44	0 / 0
PAX-0608	181	Future Phase	021311	02060006	SWM Facility - Ch 5	0.18	0.28	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0610	171	Future Phase	021311	02060006	SWM Facility - Ch 5	0.26	0.88	0.27	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	44.37 / 518.48	0.00 / 0.00	0.00 / 0.00	0.04 / 1870.16	0 / 0
PAX-0616	172	Future Phase	021311	02060006	SWM Facility - Ch 5	0.31	0.91	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	57.87 / 349.97	0.00 / 0.00	0.00 / 0.00	0.14 / 6178.09	0 / 0
PAX-0618	174	Future Phase	021311	02060006	SWM Facility - Ch 5	0.45	1.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0620	172	Future Phase	021311	02060006	SWM Facility - Ch 5	0.36	1.65	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.18 / 7979.03	0 / 0
PAX-0621	172	Future Phase	021311	02060006	SWM Facility - Ch 5	0.76	3.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.16 / 6907.7	0 / 0
PAX-0622	175	Future Phase	021311	02060006	SWM Facility - Ch 5	0.32	2.01	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0624	176	Future Phase	021311	02060006	SWM Facility - Ch 3	0.76	0.62	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.09 / 3889.79	0 / 0
PAX-0625	176	Future Phase	021311	02060006	SWM Facility - Ch 5	0.46	0.88	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0626	177	Future Phase	021311	02060006	SWM Facility - Ch 5	0.38	0.96	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0641	180	Future Phase	021311	02060006	SWM Facility - Ch 5	0.48	0.58	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0951	189	Future Phase	021311	02060006	SWM Facility - Ch 5	0.09	0.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.06 / 2679.22	0 / 0
PAX-0961	190	Future Phase	021311	02060006	SWM Facility - Ch 5	0.56	0.95	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-0965	190	Future Phase	021311	02060006	SWM Facility - Ch 5	0.15	0.49	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 40
PAX-1204	199	Future Phase	021311	02060006	SWM Facility - Ch 5	0.27	0.26	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-1205	191	Future Phase	021311	02060006	SWM Facility - Ch 5	0.15	0.42	0.27	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	6.94 / 12.45	0.00 / 0.00	0.00 / 0.00	0.11 / 4622.55	0 / 0
PAX-1206	191	Future Phase	021311	02060006	SWM Facility - Ch 5	0.43	0.96	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.08 / 3672.02	2 / 84
PAX-1209	201	Future Phase	021311	02060006	SWM Facility - Ch 5	0.16	0.42	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4573.18	0 / 0
PAX-1210	196	Future Phase	021311	02060006	SWM Facility - Ch 5	0.34	0.49	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-1211	205	Future Phase	021311	02060006	SWM Facility - Ch 5	0.26	0.54	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.09 / 3834.89	0 / 0
PAX-1213	204	Future Phase	021311	02060006	SWM Facility - Ch 5	0.18	0.85	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-1502	209	Future Phase	021311	02060006	SWM Facility - Ch 5	0.82	1.58	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-1504	206	Future Phase	021311	02060006	SWM Facility - Ch 5	0.17	0.31	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 887.35	0 / 0
PAX-1509	209	Future Phase	021311	02060006	SWM Facility - Ch 5	0.58	1.42	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-1510	207	Future Phase	021311	02060006	SWM Facility - Ch 5	0.11	0.27	0.18	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2001	117	Future Phase	021311	02060006	SWM Facility - Ch 3	0.92	1.01	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
PAX-2005	131	Future Phase	021311	02060006	SWM Facility - Ch 5	0.54	1.57	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.87 / 37811.38	0 / 0
PAX-2006	131	Future Phase	021311	02060006	SWM Facility - Ch 5	0.73	0.85	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2007	132	Future Phase	021311	02060006	SWM Facility - Ch 5	1.03	0.85	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2008	132	Future Phase	021311	02060006	SWM Facility - Ch 5	1.01	1.71	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.52 / 22748.73	0 / 0
PAX-2009	133	Future Phase	021311	02060006	SWM Facility - Ch 5	0.34	0.38	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2010	127	Future Phase	021311	02060006	SWM Facility - Ch 5	0.34	0.79	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2012	127	Future Phase	021311	02060006	SWM Facility - Ch 5	0.60	0.59	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2013	127	Future Phase	021311	02060006	SWM Facility - Ch 5	0.37	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2015	119	Future Phase	021311	02060006	SWM Facility - Ch 3	0.83	1.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2016	117	Future Phase	021311	02060006	SWM Facility - Ch 5	0.47	0.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2017	124	Future Phase	021311	02060006	SWM Facility - Ch 5	0.21	0.47	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2018	111	Future Phase	021311	02060006	SWM Facility - Ch 5	0.97	0.94	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2019	111	Future Phase	021311	02060006	SWM Facility - Ch 5	1.07	0.89	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.25 / 10710.48	0 / 0
PAX-2020	107	Future Phase	021311	02060006	SWM Facility - Ch 3	0.39	1.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2021	111	Future Phase	021311	02060006	SWM Facility - Ch 5	0.09	0.42	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2501	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.57	0.80	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2502	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.57	0.63	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2503	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.40	0.72	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2504	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.13	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2505	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.24	0.55	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.21 / 8934.06	0 / 0
PAX-2506	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.69	0.80	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.21 / 9313.45	0 / 0
PAX-2507	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.24	0.58	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.19 / 8342.6	0 / 0
PAX-2508	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.37	0.39	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 2869.99	0 / 0
PAX-2509	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.43	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 711.05	0 / 0
PAX-2510	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.53	0.64	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2511	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.45	0.90	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.01 / 522.83	0 / 0
PAX-2514	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.54	1.04	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2515	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.73	0.64	0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.2 / 8730	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2516	71	Future Phase	021311	02060006	SWM Facility - Ch 5	1.23	0.97	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2518	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.30	2.04	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2519	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.30	1.70	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2520	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.44	0.67	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2521	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.30	0.57	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.3 / 12893.87	0 / 0
PAX-2522	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.33	0.44	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2523	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.18	0.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2524	71	Future Phase	021311	02060006	SWM Facility - Ch 5	0.34	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2525	76	Future Phase	021311	02060006	SWM Facility - Ch 5	0.51	1.02	0.35	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.78 / 33976.8	0.00 / 0.00	0 / 0
PAX-2529	72	Future Phase	021311	02060006	SWM Facility - Ch 5	0.44	0.71	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2530	72	Future Phase	021311	02060006	SWM Facility - Ch 5	0.19	0.30	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2531	72	Future Phase	021311	02060006	SWM Facility - Ch 5	0.24	0.58	0.11	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2537	80	Future Phase	021311	02060006	SWM Facility - Ch 5	0.34	1.54	1.54	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2538	80	Future Phase	021311	02060006	SWM Facility - Ch 5	0.15	0.63	0.63	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2539	80	Future Phase	021311	02060006	SWM Facility - Ch 5	0.43	1.20	1.20	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2540	76	Future Phase	021311	02060006	SWM Facility - Ch 5	0.31	0.49	0.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2541	76	Future Phase	021311	02060006	SWM Facility - Ch 5	0.38	0.64	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2542	76	Future Phase	021311	02060006	SWM Facility - Ch 5	0.43	0.72	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	31.37 / 52.73	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2559	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.59	0.57	0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.17 / 7420.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2560	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.24	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-2561	75	Future Phase	021311	02060006	SWM Facility - Ch 5	0.51	0.44	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3002	6	Future Phase	021311	02060006	SWM Facility - Ch 5	0.12	0.31	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3003	6	Future Phase	021311	02060006	SWM Facility - Ch 5	1.76	2.66	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1.41 / 61390.38	0 / 0
PAX-3004	6	Future Phase	021311	02060006	SWM Facility - Ch 5	0.12	0.30	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3005	4	Future Phase	021311	02060006	SWM Facility - Ch 5	0.31	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3006	4	Future Phase	021311	02060006	SWM Facility - Ch 5	0.23	0.69	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3007	4	Future Phase	021311	02060006	SWM Facility - Ch 5	0.14	0.95	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3008	4	Future Phase	021311	02060006	SWM Facility - Ch 5	0.24	0.70	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3009	4	Future Phase	021311	02060006	SWM Facility - Ch 5	0.13	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3011	4	Future Phase	021311	02060006	SWM Facility - Ch 5	0.13	0.79	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3012	4	Future Phase	021311	02060006	SWM Facility - Ch 5	1.10	1.52	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3014	2	Future Phase	021311	02060006	Pavement Removal	0.05	0.27	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3016	3	Future Phase	021311	02060006	SWM Facility - Ch 5	0.20	0.58	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3017	1	Future Phase	021311	02060006	SWM Facility - Ch 3	0.60	0.95	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3018	1	Future Phase	021311	02060006	SWM Facility - Ch 5	0.41	0.81	0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.05 / 2182.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-3021	5	Future Phase	021311	02060006	SWM Facility - Ch 3	0.91	3.00	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 38
PAX-3024	34	Future Phase	021311	02060006	SWM Facility - Ch 5	0.33	0.62	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
PAX-3025	34	Future Phase	021311	02060006	SWM Facility - Ch 5	0.25	1.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.82 / 35876.9	0 / 0
PAX-3026	34	Future Phase	021311	02060006	SWM Facility - Ch 5	0.23	0.80	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.43 / 18839.87	0 / 0
PAX-3801	39	Future Phase	021311	02060006	SWM Facility - Ch 5	0.36	0.84	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1624.08	0 / 0
PAX-3802	49	Future Phase	021311	02060006	SWM Facility - Ch 5	0.17	0.55	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.53 / 22934.99	0 / 0
PAX-4001	8	Future Phase	021311	02060006	SWM Facility - Ch 5	0.36	1.51	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-4003	8	Future Phase	021311	02060006	SWM Facility - Ch 5	0.34	1.06	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-4004	165	Future Phase	021311	02060006	SWM Facility - Ch 5	0.88	2.06	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-4006	165	Future Phase	021311	02060006	SWM Facility - Ch 3	0.23	1.40	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
PAX-4007	157	Future Phase	021311	02070010	SWM Facility - Ch 3	0.73	0.86	0.32	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.14 / 6111	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0010	142	Future Phase	021402	02070010	SWM Facility - Ch 5	0.22	0.05	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0012	138	Future Phase	021402	02070010	SWM Facility - Ch 5	0.45	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0013	138	Future Phase	021402	02070010	SWM Facility - Ch 5	0.48	0.35	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0070	140	Future Phase	021402	02070010	SWM Facility - Ch 5	0.27	0.78	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0072	134	Future Phase	021402	02070010	SWM Facility - Ch 3	0.58	0.19	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0073	139	Future Phase	021402	02070010	SWM Facility - Ch 5	0.18	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0074	143	Future Phase	021402	02070010	SWM Facility - Ch 3	1.72	1.35	0.96	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.32 / 13775.93	0 / 0
WAS-0075	139	Future Phase	021402	02070010	SWM Facility - Ch 5	0.36	0.57	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 596.96	0 / 0
WAS-0076	135	Future Phase	021402	02070010	SWM Facility - Ch 3	1.46	0.70	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	73.7 / 169.4	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0077	139	Future Phase	021402	02070010	SWM Facility - Ch 3	1.01	0.95	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0078	139	Future Phase	021402	02070010	SWM Facility - Ch 5	0.36	0.55	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0081	141	Future Phase	021402	02070010	SWM Facility - Ch 3	0.46	1.00	0.10	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.15 / 6534	0.08 / 3313.85	0 / 0
WAS-0082	141	Future Phase	021402	02070010	SWM Facility - Ch 3	0.38	0.75	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.06 / 2613.6	0.00 / 0.00	0 / 0
WAS-0083	134	Future Phase	021402	02070010	SWM Facility - Ch 3	0.53	0.73	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	150.01 / 847.51	46.15 / 148.22	0.00 / 0.00	0.12 / 5210.64	0 / 0
WAS-0084	138	Future Phase	021402	02070010	SWM Facility - Ch 5	0.38	1.50	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 873	0.00 / 0.00	154.11 / 695.78	0.00 / 0.00	0.18 / 7678.15	0 / 0
WAS-0085	138	Future Phase	021402	02070010	SWM Facility - Ch 3	0.84	1.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	54.8 / 792.17	0.00 / 0.00	0.00 / 0.00	0.16 / 7033.71	0 / 0
WAS-0086	141	Future Phase	021402	02070010	SWM Facility - Ch 3	0.39	1.31	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.17 / 7561.03	0 / 0
WAS-0301	151	Future Phase	021402	02070010	SWM Facility - Ch 5	0.13	0.21	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0302	151	Future Phase	021402	02070010	SWM Facility - Ch 3	1.64	2.25	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	387.04 / 1274.8	0.00 / 0.00	0.08 / 3401.65	0 / 0
WAS-0303	152	Future Phase	021402	02070010	SWM Facility - Ch 5	0.22	0.08	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0304	152	Future Phase	021402	02070010	SWM Facility - Ch 3	0.77	0.77	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	28.21 / 861.88	0.00 / 0.00	0.04 / 1742.4	0.1 / 4490.28	0 / 0
WAS-0307	155	Future Phase	021402	02070010	SWM Facility - Ch 5	0.31	0.53	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0312	155	Future Phase	021402	02070010	SWM Facility - Ch 5	0.25	0.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0313	155	Future Phase	021402	02070010	SWM Facility - Ch 5	0.23	0.26	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0315	159	Future Phase	021402	02070010	SWM Facility - Ch 5	0.07	0.24	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0317	159	Future Phase	021402	02070010	SWM Facility - Ch 5	0.25	0.62	0.22	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0318	159	Future Phase	021402	02070010	SWM Facility - Ch 5	0.14	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0319	167	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0320	166	Future Phase	021402	02070010	SWM Facility - Ch 5	0.57	0.91	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 643.2	0 / 0
WAS-0321	166	Future Phase	021402	02070010	SWM Facility - Ch 5	0.57	0.84	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2233.65	0 / 0
WAS-0322	166	Future Phase	021402	02070010	SWM Facility - Ch 3	1.32	1.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0326	167	Future Phase	021402	02070010	SWM Facility - Ch 5	0.21	0.22	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0328	167	Future Phase	021402	02070010	SWM Facility - Ch 3	1.30	0.95	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.08 / 3484.8	0.00 / 0.00	0 / 0
WAS-0333	169	Future Phase	021402	02070010	SWM Facility - Ch 5	0.36	0.54	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.29 / 12769.15	0 / 0
WAS-0334	169	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.89	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4228.8	0 / 0
WAS-0340	169	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	1.01	0.38	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	29.31 / 69.15	0.00 / 0.00	0.00 / 0.00	0.1 / 4371.59	0 / 0
WAS-0342	169	Future Phase	021402	02070010	SWM Facility - Ch 5	0.83	0.67	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0343	169	Future Phase	021402	02070010	SWM Facility - Ch 3	1.88	3.35	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 873	0.00 / 0.00	66.63 / 238.55	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0345	166	Future Phase	021402	02070010	SWM Facility - Ch 5	0.37	0.41	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 616.82	0 / 0
WAS-0346	166	Future Phase	021402	02070010	SWM Facility - Ch 3	1.07	2.08	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0347	166	Future Phase	021402	02070010	SWM Facility - Ch 5	0.19	0.51	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.19 / 8111.15	0 / 0
WAS-0348	166	Future Phase	021402	02070010	SWM Facility - Ch 5	0.15	0.26	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2182.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2164.07	0 / 0
WAS-0606	178	Future Phase	021402	02070010	SWM Facility - Ch 5	0.28	0.55	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	68.07 / 175.67	150.87 / 289.54	0.13 / 5662.8	0.09 / 3749.09	0 / 0
WAS-0610	178	Future Phase	021402	02070010	SWM Facility - Ch 5	0.15	1.15	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2292.92	0 / 0
WAS-0614	178	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.67	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.18 / 7840.8	0 / 102.07	0 / 0
WAS-0615	170	Future Phase	021402	02070010	SWM Facility - Ch 5	0.33	0.21	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0616	169	Future Phase	021402	02070010	SWM Facility - Ch 5	0.19	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0617	169	Future Phase	021402	02070010	SWM Facility - Ch 5	0.18	0.21	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0623	183	Future Phase	021402	02070010	SWM Facility - Ch 3	0.51	0.54	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.15 / 6612.4	0 / 0
WAS-0624	183	Future Phase	021402	02070010	Pavement Removal	0.15	0.48	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0625	183	Future Phase	021402	02070010	SWM Facility - Ch 5	0.38	0.61	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0626	183	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.18	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0627	183	Future Phase	021402	02070010	SWM Facility - Ch 5	0.11	0.18	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 37
WAS-0628	183	Future Phase	021402	02070010	SWM Facility - Ch 5	0.39	0.37	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0634	178	Future Phase	021402	02070010	Pavement Removal	0.04	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.08 / 3300.75	0 / 0
WAS-0638	173	Future Phase	021402	02070010	SWM Facility - Ch 3	0.86	0.89	0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 871.2	0.19 / 8293.5	0.00 / 0.00	0.00 / 0.00	0.14 / 6098.4	0.02 / 1027.17	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-0641	178	Future Phase	021402	02070010	SWM Facility - Ch 5	0.25	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1742.4	0.14 / 6111	42.49 / 385.99	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0644	179	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.88	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	80.01 / 941.02	0.00 / 0.00	0.00 / 0.00	0.26 / 11447.25	3 / 101
WAS-0647	183	Future Phase	021402	02070010	SWM Facility - Ch 3	0.83	0.48	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	63.23 / 976.24	21.05 / 66.06	0.00 / 0.00	0.02 / 745.93	0 / 0
WAS-0649	182	Future Phase	021402	02070010	SWM Facility - Ch 3	0.63	0.82	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0650	182	Future Phase	021402	02070010	SWM Facility - Ch 3	1.29	1.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 873	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4457.8	0 / 0
WAS-0651	178	Future Phase	021402	02070010	SWM Facility - Ch 3	0.62	0.67	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	35.08 / 583.7	0.00 / 0.00	0.05 / 2178	0.03 / 1474.95	0 / 0
WAS-0652	179	Future Phase	021402	02070010	SWM Facility - Ch 3	0.71	1.92	0.62	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0901	183	Future Phase	021402	02070010	SWM Facility - Ch 5	0.65	0.52	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0903	185	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.97	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0905	185	Future Phase	021402	02070010	SWM Facility - Ch 5	0.28	0.82	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1746	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0906	185	Future Phase	021402	02070010	SWM Facility - Ch 5	0.23	0.84	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1879.73	0 / 0
WAS-0911	185	Future Phase	021402	02070010	SWM Facility - Ch 5	0.22	0.45	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	20.24 / 165.3	0.00 / 0.00	0.00 / 0.00	0.08 / 3587.63	0 / 0
WAS-0913	192	Future Phase	021402	02070010	SWM Facility - Ch 5	0.21	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.16 / 6984	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0918	183	Future Phase	021402	02070010	SWM Facility - Ch 5	0.39	0.63	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	41.91 / 481.86	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0922	197	Future Phase	021402	02070010	SWM Facility - Ch 5	0.32	0.27	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1279	0 / 0
WAS-0923	197	Future Phase	021402	02070010	SWM Facility - Ch 3	0.51	0.40	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0925	197	Future Phase	021402	02070010	SWM Facility - Ch 5	0.23	0.21	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0929	197	Future Phase	021402	02070010	SWM Facility - Ch 5	0.08	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0932	202	Future Phase	021402	02070010	SWM Facility - Ch 5	1.42	1.43	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0933	202	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1742.4	0.24 / 10476	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0934	202	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.30	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0937	202	Future Phase	021402	02070010	SWM Facility - Ch 5	0.43	0.27	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0938	203	Future Phase	021402	02070011	SWM Facility - Ch 5	0.09	0.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0939	203	Future Phase	021402	02070010	SWM Facility - Ch 5	0.16	0.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0946	198	Future Phase	021402	02070010	SWM Facility - Ch 3	0.47	0.50	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0957	184	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.62	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0968	190	Future Phase	021402	02070010	SWM Facility - Ch 5	1.07	2.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0969	190	Future Phase	021402	02070010	SWM Facility - Ch 5	0.27	0.54	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0971	194	Future Phase	021402	02070010	SWM Facility - Ch 5	0.93	1.23	0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.16 / 6984	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0972	194	Future Phase	021402	02070010	SWM Facility - Ch 5	0.27	0.53	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	86.63 / 213.86	0.00 / 0.00	0.01 / 227.67	0 / 0
WAS-0975	194	Future Phase	021402	02070010	SWM Facility - Ch 5	0.23	0.35	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 644.12	0 / 0
WAS-0979	200	Future Phase	021402	02070010	SWM Facility - Ch 5	0.26	0.24	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0980	195	Future Phase	021402	02070010	SWM Facility - Ch 5	0.11	0.35	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 30
WAS-0984	193	Future Phase	021402	02070010	SWM Facility - Ch 5	0.76	0.98	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0985	193	Future Phase	021402	02070010	SWM Facility - Ch 5	0.53	1.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0987	187	Future Phase	021402	02070010	SWM Facility - Ch 5	0.64	0.81	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0988	187	Future Phase	021402	02070010	SWM Facility - Ch 5	0.33	0.70	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0989	187	Future Phase	021402	02070010	SWM Facility - Ch 3	0.52	1.51	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.00 / 0.00	0 / 0
WAS-0990	187	Future Phase	021402	02070010	SWM Facility - Ch 3	0.64	1.62	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0992	195	Future Phase	021402	02070010	SWM Facility - Ch 5	0.36	0.78	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1742.4	0.00 / 0.00	0 / 0
WAS-0995	202	Future Phase	021402	02070010	SWM Facility - Ch 5	0.42	0.66	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-0996	190	Future Phase	021402	02070010	SWM Facility - Ch 5	0.14	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 871.2	0.06 / 2619	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4561.76	0 / 0
WAS-0999	183	Future Phase	021402	02070010	SWM Facility - Ch 5	0.11	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-1000	188	Future Phase	021402	02070010	SWM Facility - Ch 5	0.37	0.65	0.65	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	31.34 / 290.08	0.00 / 0.00	0.00 / 0.00	0.06 / 2515.98	0 / 0
WAS-1001	188	Future Phase	021402	02070010	SWM Facility - Ch 3	2.54	4.54	4.54	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	20.81 / 0.00	0.00 / 0.00	0.00 / 0.00	0.06 / 2603.96	1 / 41
WAS-1002	188	Future Phase	021402	02070010	SWM Facility - Ch 3	1.59	1.40	1.40	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-1003	203	Future Phase	021402	02070010	SWM Facility - Ch 3	0.88	1.36	0.15	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-1004	202	Future Phase	021402	02070010	SWM Facility - Ch 3	0.59	0.80	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	79.47 / 549.76	0.00 / 0.00	0.00 / 0.00	0.06 / 2421.14	0 / 0
WAS-1005	202	Future Phase	021402	02070010	SWM Facility - Ch 3	1.24	0.34	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-1006	202	Future Phase	021402	02070010	SWM Facility - Ch 3	0.48	0.75	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.16 / 6912.98	0 / 0
WAS-1007	202	Future Phase	021402	02070010	SWM Facility - Ch 3	0.60	1.75	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.74 / 32217.1	1 / 36
WAS-1009	197	Future Phase	021402	02070010	SWM Facility - Ch 3	0.91	0.86	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	56.05 / 1145.09	0.00 / 0.00	0.47 / 20473.2	0.12 / 5329.32	0 / 0
WAS-1010	192	Future Phase	021402	02070010	SWM Facility - Ch 3	0.34	0.54	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.35 / 15054.04	0 / 0
WAS-1011	185	Future Phase	021402	02070010	SWM Facility - Ch 3	0.59	0.69	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	15.85 / 30.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2003	129	Future Phase	021402	02070010	SWM Facility - Ch 5	0.46	0.44	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2004	129	Future Phase	021402	02070010	SWM Facility - Ch 5	0.29	0.50	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2010	110	Future Phase	021402	02070010	SWM Facility - Ch 3	1.48	1.18	0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 871.2	0.12 / 5238	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 426.45	0 / 0
WAS-2012	110	Future Phase	021402	02070010	SWM Facility - Ch 3	0.70	1.05	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2016	116	Future Phase	021402	02070010	SWM Facility - Ch 5	0.66	1.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2018	114	Future Phase	021402	02070010	SWM Facility - Ch 5	0.49	0.88	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.33 / 14336.23	1 / 46
WAS-2019	114	Future Phase	021402	02070010	SWM Facility - Ch 5	0.36	1.11	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2022	128	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.08	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2023	128	Future Phase	021402	02070010	SWM Facility - Ch 5	0.28	0.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2024	128	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.17	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2025	128	Future Phase	021402	02070010	SWM Facility - Ch 5	0.23	0.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-2026	128	Future Phase	021402	02070010	SWM Facility - Ch 5	0.29	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2027	128	Future Phase	021402	02070010	SWM Facility - Ch 5	0.28	0.41	0.25	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2028	128	Future Phase	021402	02070010	SWM Facility - Ch 5	0.35	0.24	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2029	125	Future Phase	021402	02070010	SWM Facility - Ch 5	0.29	0.27	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2030	125	Future Phase	021402	02070010	SWM Facility - Ch 5	0.31	0.19	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.14 / 6098.4	0.00 / 0.00	0 / 0
WAS-2032	125	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.17	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2033	125	Future Phase	021402	02070010	SWM Facility - Ch 5	0.63	0.08	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2034	125	Future Phase	021402	02070010	SWM Facility - Ch 5	0.63	0.34	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 695.43	0 / 0
WAS-2035	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2036	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2037	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.26	0.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2038	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.61	0.50	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2039	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.96	1.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2040	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.46	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2041	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.23	0.62	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2042	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.35	0.68	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2043	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.50	0.69	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2044	122	Future Phase	021402	02070010	SWM Facility - Ch 5	0.28	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2048	129	Future Phase	021402	02070010	SWM Facility - Ch 5	1.13	0.77	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2050	130	Future Phase	021402	02070010	SWM Facility - Ch 3	1.15	0.41	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2051	130	Future Phase	021402	02070010	SWM Facility - Ch 5	0.93	0.89	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2056	123	Future Phase	021402	02070010	SWM Facility - Ch 5	0.49	0.60	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2057	121	Future Phase	021402	02070010	SWM Facility - Ch 5	0.45	0.73	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2059	121	Future Phase	021402	02070010	SWM Facility - Ch 3	0.55	0.18	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2062	122	Future Phase	021402	02070010	SWM Facility - Ch 3	0.42	0.22	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2063	122	Future Phase	021402	02070010	SWM Facility - Ch 3	0.45	0.23	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 36
WAS-2064	121	Future Phase	021402	02070010	SWM Facility - Ch 3	0.88	0.31	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2066	125	Future Phase	021402	02070010	SWM Facility - Ch 5	0.67	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2067	126	Future Phase	021402	02070010	SWM Facility - Ch 5	0.27	0.26	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2068	126	Future Phase	021402	02070010	SWM Facility - Ch 5	0.18	0.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2069	126	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.22	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2070	126	Future Phase	021402	02070010	SWM Facility - Ch 5	0.22	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2071	126	Future Phase	021402	02070010	SWM Facility - Ch 5	0.09	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2072	126	Future Phase	021402	02070010	SWM Facility - Ch 3	1.08	0.27	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2073	134	Future Phase	021402	02070010	SWM Facility - Ch 3	0.48	0.65	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2074	124	Future Phase	021402	02070010	SWM Facility - Ch 3	0.80	0.69	0.21	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2075	124	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.72	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.4 / 17541.21	0 / 0
WAS-2076	130	Future Phase	021402	02070010	SWM Facility - Ch 5	0.45	0.55	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.12 / 5137.72	0 / 0
WAS-2078	106	Future Phase	021402	02070010	SWM Facility - Ch 3	1.51	0.29	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2079	106	Future Phase	021402	02070010	SWM Facility - Ch 3	1.10	1.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.24 / 10556.3	0 / 0
WAS-2501	66	Future Phase	021402	02070010	SWM Facility - Ch 5	0.48	0.31	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2502	66	Future Phase	021402	02070010	SWM Facility - Ch 3	0.96	1.60	0.48	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2503	66	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.07	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2504	79	Future Phase	021402	02070010	SWM Facility - Ch 5	0.41	0.46	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2505	106	Future Phase	021402	02070010	SWM Facility - Ch 5	0.30	0.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2506	106	Future Phase	021402	02070010	SWM Facility - Ch 5	0.29	0.33	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2507	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.26	0.18	0.09	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2508	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.19	0.09	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2509	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.06	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2510	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.39	0.16	0.16	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2511	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.20	0.15	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2512	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.35	0.07	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2513	94	Future Phase	021402	02070010	SWM Facility - Ch 3	0.29	0.53	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1840.43	0 / 0
WAS-2514	83	Future Phase	021402	02070010	SWM Facility - Ch 5	0.39	0.80	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1309.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2515	83	Future Phase	021402	02070010	SWM Facility - Ch 5	0.52	0.41	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2518	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.50	0.26	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2519	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.39	0.66	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2341.03	0 / 0
WAS-2520	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.63	0.60	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2522	82	Future Phase	021402	02070010	SWM Facility - Ch 5	0.77	0.87	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2525	66	Future Phase	021402	02070010	SWM Facility - Ch 5	0.49	0.50	0.09	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2526	94	Future Phase	021402	02070010	SWM Facility - Ch 3	0.31	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2182.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2527	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.36	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2528	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.21	0.06	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2529	94	Future Phase	021402	02070010	SWM Facility - Ch 3	0.39	0.25	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2530	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.23	0.47	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-2531	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.20	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2532	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.18	0.15	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2533	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.53	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2534	66	Future Phase	021402	02070010	SWM Facility - Ch 5	0.13	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2535	66	Future Phase	021402	02070010	SWM Facility - Ch 5	0.10	0.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2536	70	Future Phase	021402	02070010	SWM Facility - Ch 5	0.26	0.72	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2537	70	Future Phase	021402	02070010	SWM Facility - Ch 5	0.25	0.22	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2538	70	Future Phase	021402	02070010	SWM Facility - Ch 5	0.22	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2539	109	Future Phase	021402	02070010	SWM Facility - Ch 5	0.30	0.19	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2540	66	Future Phase	021402	02070010	SWM Facility - Ch 5	0.41	0.80	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2541	79	Future Phase	021402	02070010	SWM Facility - Ch 5	0.68	1.01	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2542	79	Future Phase	021402	02070010	SWM Facility - Ch 5	0.58	0.64	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 3124	0 / 0
WAS-2543	79	Future Phase	021402	02070010	SWM Facility - Ch 5	0.50	1.39	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 583.86	0 / 0
WAS-2548	82	Future Phase	021402	02070010	SWM Facility - Ch 5	0.57	0.99	0.39	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2549	82	Future Phase	021402	02070010	SWM Facility - Ch 5	0.25	0.74	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2551	93	Future Phase	021402	02070010	SWM Facility - Ch 5	0.11	1.04	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2553	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.19	0.71	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2554	88	Future Phase	021402	02070010	SWM Facility - Ch 3	0.92	1.54	0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 3049.2	0.3 / 13095	0.00 / 0.00	71.43 / 402.7	0.00 / 0.00	0.12 / 5320.27	0 / 0
WAS-2555	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.13	0.45	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.11 / 4817.83	0 / 0
WAS-2556	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.27	0.80	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.00 / 0.00	0 / 0
WAS-2557	83	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.36	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2558	83	Future Phase	021402	02070010	SWM Facility - Ch 5	0.18	0.42	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2559	109	Future Phase	021402	02070010	SWM Facility - Ch 5	0.27	0.08	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2560	109	Future Phase	021402	02070010	SWM Facility - Ch 5	0.16	0.16	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2562	96	Future Phase	021402	02070010	SWM Facility - Ch 5	0.37	0.40	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2564	97	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.12	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2565	97	Future Phase	021402	02070010	SWM Facility - Ch 5	0.28	0.31	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2567	97	Future Phase	021402	02070010	SWM Facility - Ch 5	0.33	0.08	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2568	97	Future Phase	021402	02070010	SWM Facility - Ch 5	0.20	0.30	0.24	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2569	97	Future Phase	021402	02070010	SWM Facility - Ch 5	0.32	0.14	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2571	97	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.08	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2572	97	Future Phase	021402	02070010	SWM Facility - Ch 5	0.22	0.15	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.00 / 0.00	0 / 0
WAS-2573	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.20	0.18	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2574	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.22	0.07	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2575	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2576	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.14	0.11	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2577	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2578	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2579	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2182.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2580	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.20	0.17	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2581	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.13	0.16	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2582	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.14	0.12	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 58.14	0 / 0
WAS-2583	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.12	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 388.33	0 / 0
WAS-2584	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.13	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2585	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.12	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2586	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.10	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2587	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.15	0.11	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2588	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.14	0.11	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2589	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.11	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2590	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.14	0.11	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2591	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.15	0.12	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2592	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.11	0.09	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2593	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.10	0.10	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2594	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.15	0.16	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2595	89	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.11	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2596	89	Future Phase	021402	02070010	SWM Facility - Ch 3	0.46	0.45	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2599	96	Future Phase	021402	02070010	SWM Facility - Ch 5	0.71	1.42	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2600	96	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.52	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2601	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2602	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.52	0.08	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2603	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.29	0.40	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2604	94	Future Phase	021402	02070010	SWM Facility - Ch 3	0.36	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2605	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.42	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1649.39	0 / 0
WAS-2606	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.21	0.22	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2608	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.71	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-2609	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.73	0.68	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2610	88	Future Phase	021402	02070010	SWM Facility - Ch 3	0.93	0.47	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0	0.01 / 359.63	0 / 0
WAS-2611	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.65	0.44	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2612	94	Future Phase	021402	02070010	SWM Facility - Ch 5	0.24	0.67	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 436.5	38.39 / 168.32	0.00 / 0.00	0.00 / 0.00	0.11 / 4696.09	0 / 0
WAS-2613	94	Future Phase	021402	02070010	SWM Facility - Ch 3	0.36	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2614	96	Future Phase	021402	02070010	SWM Facility - Ch 3	0.88	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-2615	88	Future Phase	021402	02070010	SWM Facility - Ch 5	0.27	0.41	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3301	19	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.13	0.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.12 / 5108.6	0 / 0
WAS-3302	19	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.06	0.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.09 / 4107.33	0 / 0
WAS-3303	22	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.15	0.28	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3305	44	Future Phase	021402	02070010	SWM Facility - Ch 5	0.21	0.28	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3306	62	Future Phase	021402	02070010	SWM Facility - Ch 5	0.38	0.85	0.01	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.26 / 11349	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.64 / 27771.06	0 / 0
WAS-3307	58	Future Phase	021402	02070010	SWM Facility - Ch 5	0.35	1.13	1.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.63 / 27354.6	0 / 0
WAS-3308	31	Future Phase	021402	02070010	SWM Facility - Ch 5	0.21	2.06	1.91	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3601	95	Future Phase	021402	02070010	SWM Facility - Ch 5	0.51	0.25	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3602	103	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.43	0.49	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3603	108	Future Phase	021402	02070010	SWM Facility - Ch 5	0.26	0.44	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3604	108	Future Phase	021402	02070010	SWM Facility - Ch 5	0.46	0.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3606	96	Future Phase	021402	02070010	SWM Facility - Ch 5	0.37	0.47	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3607	96	Future Phase	021402	02070010	SWM Facility - Ch 5	0.32	0.62	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3608	118	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.75	0.34	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	3 / 105
WAS-3609	65	Future Phase	021402	02070010	SWM Facility - Ch 5	0.14	0.35	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3611	65	Future Phase	021402	02070010	SWM Facility - Ch 5	0.32	0.72	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3612	100	Future Phase	021402	02070010	SWM Facility - Ch 3	0.74	0.29	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 31
WAS-3613	103	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.26	0.35	0.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3614	103	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	0.28	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3615	65	Future Phase	021402	02070010	SWM Facility - Ch 5	0.17	0.22	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3616	65	Future Phase	021402	02070010	SWM Facility - Ch 5	0.20	0.28	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4330.74	0 / 0
WAS-3617	120	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.56	1.49	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3618	118	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.28	1.05	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 30
WAS-3619	85	Future Phase	021402	02070010	SWM Facility - Ch 5	0.34	0.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3621	96	Future Phase	021402	02070010	SWM Facility - Ch 5	0.25	0.36	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	2 / 40
WAS-3622	118	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.67	0.89	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	176.86 / 1676.83	0.00 / 0.00	0.08 / 3484.8	0.00 / 0.00	5 / 166
WAS-3623	118	Phase 1 South	021402	02070008	Pavement Removal	0.06	0.28	0.15	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3625	113	Future Phase	021402	02070010	SWM Facility - Ch 5	0.19	0.37	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3626	81	Future Phase	021402	02070010	SWM Facility - Ch 3	0.52	0.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3628	87	Future Phase	021402	02070010	SWM Facility - Ch 3	0.78	0.29	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3629	92	Future Phase	021402	02070010	SWM Facility - Ch 3	0.56	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3631	85	Future Phase	021402	02070010	SWM Facility - Ch 3	1.41	0.25	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3632	85	Future Phase	021402	02070010	SWM Facility - Ch 3	0.26	0.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3633	85	Future Phase	021402	02070010	SWM Facility - Ch 3	0.16	0.08	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3634	73	Future Phase	021402	02070010	SWM Facility - Ch 3	0.48	0.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3635	73	Future Phase	021402	02070010	SWM Facility - Ch 3	0.31	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3636	73	Future Phase	021402	02070010	SWM Facility - Ch 3	0.14	0.59	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3637	65	Future Phase	021402	02070010	SWM Facility - Ch 3	0.15	0.27	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3638	65	Future Phase	021402	02070010	SWM Facility - Ch 3	0.17	0.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3639	74	Future Phase	021402	02070010	SWM Facility - Ch 3	0.38	0.28	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3640	85	Future Phase	021402	02070010	SWM Facility - Ch 3	0.22	0.24	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3641	93	Future Phase	021402	02070010	SWM Facility - Ch 3	0.22	0.37	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3644	100	Future Phase	021402	02070010	SWM Facility - Ch 3	0.36	0.18	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3645	100	Future Phase	021402	02070010	SWM Facility - Ch 3	0.37	0.25	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3646	100	Future Phase	021402	02070010	SWM Facility - Ch 3	0.44	0.26	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3647	101	Future Phase	021402	02070010	SWM Facility - Ch 3	0.68	0.19	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3648	104	Future Phase	021402	02070010	SWM Facility - Ch 3	0.56	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3649	101	Future Phase	021402	02070010	SWM Facility - Ch 3	0.30	0.22	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3650	105	Future Phase	021402	02070010	SWM Facility - Ch 3	0.21	0.18	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 435.6	0.00 / 0.00	0 / 0
WAS-3652	78	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.28	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3653	64	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.25	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3655	73	Future Phase	021402	02070010	SWM Facility - Ch 3	1.32	0.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3656	73	Future Phase	021402	02070010	SWM Facility - Ch 3	0.69	0.21	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3657	81	Future Phase	021402	02070010	SWM Facility - Ch 3	0.35	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3658	73	Future Phase	021402	02070010	SWM Facility - Ch 5	0.59	0.86	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3994	168	Future Phase	021402	02070010	SWM Facility - Ch 5	0.44	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1746	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1449.32	0 / 0
WAS-3995	170	Future Phase	021402	02070010	SWM Facility - Ch 5	0.12	0.35	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-3996	168	Future Phase	021402	02070010	SWM Facility - Ch 5	0.21	0.39	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-3997	168	Future Phase	021402	02070010	SWM Facility - Ch 5	0.32	0.64	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.15 / 6727.91	0 / 0
WAS-3999	168	Future Phase	021402	02070010	SWM Facility - Ch 5	0.35	0.31	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	13.6 / 124.99	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4000	170	Future Phase	021402	02070010	SWM Facility - Ch 5	0.18	0.35	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4002	12	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.79	0.41	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4006	15	Phase 1 South	021402	02070008	Pavement Removal	0.38	0.74	0.30	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 33
WAS-4010	16	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.33	1.65	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4011	13	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.64	1.64	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4013	13	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.18	0.92	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4014	10	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.18	0.47	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 55
WAS-4015	9	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.27	0.36	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4016	9	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.19	0.32	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 1973.53	0 / 0
WAS-4017	7	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.29	0.51	0.11	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4018	17	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.59	1.62	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4019	17	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.86	0.44	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4020	11	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.17	1.21	1.20	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4021	11	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.13	0.73	0.72	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4022	11	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.12	0.53	0.10	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4023	11	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.13	0.40	0.19	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4024	18	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.36	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4025	13	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.33	0.76	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4026	18	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.19	0.91	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4027	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.18	0.55	0.20	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.14 / 6047.32	0 / 0
WAS-4029	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.17	0.64	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1841.47	0 / 0
WAS-4030	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.25	0.68	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4031	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.44	0.56	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4032	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.23	0.30	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4037	30	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.36	0.55	0.36	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4038	38	Phase 1 South	021402	02070008	SWM Facility - Ch 3	1.23	2.30	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.3 / 13195.98	1 / 36
WAS-4040	38	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.44	0.61	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4045	38	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.72	0.62	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.00 / 0.00	0 / 0
WAS-4047	46	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.77	1.56	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4048	46	Phase 1 South	021402	02070008	SWM Facility - Ch 5	1.04	1.31	0.52	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4050	47	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.23	1.80	0.56	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.2 / 8730	0.00 / 0.00	0.00 / 0.00	0.33 / 14374.8	0.00 / 0.00	0 / 0
WAS-4052	47	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.38	0.87	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4053	47	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.44	0.79	0.34	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4058	56	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.29	0.64	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4059	56	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.79	0.92	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1686.09	0 / 0
WAS-4060	56	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.64	1.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4061	56	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.44	0.73	0.15	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.13 / 5843.65	0 / 0
WAS-4063	56	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.40	0.62	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	4 / 137
WAS-4064	56	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.30	0.54	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4065	56	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.73	1.16	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4067	56	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.94	0.84	0.14	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4068	61	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.39	0.71	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4072	63	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.71	1.19	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4075	37	Phase 1 South	021402	02070008	SWM Facility - Ch 3	2.78	1.15	0.26	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	20.14 / 164.24	0.00 / 0.00	0.04 / 1772.97	0 / 0
WAS-4078	37	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.57	1.54	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4079	37	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.74	1.08	0.17	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.06 / 2785.09	0 / 0
WAS-4083	29	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.60	0.99	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4084	29	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.38	0.55	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4086	29	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.36	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4087	29	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.46	0.74	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 3016.41	0 / 0
WAS-4091	57	Phase 1 South	021402	02070008	SWM Facility - Ch 5	1.79	2.03	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4093	58	Future Phase	021402	02070010	SWM Facility - Ch 3	0.54	0.85	0.31	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4096	57	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.48	0.36	0.19	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4098	57	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.57	0.59	0.09	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4099	57	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.16	0.24	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4100	164	Future Phase	021402	02070010	SWM Facility - Ch 5	0.41	2.06	0.62	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	40.99 / 117.81	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4101	164	Future Phase	021402	02070010	SWM Facility - Ch 5	1.43	0.84	0.17	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4111	161	Future Phase	021402	02070010	SWM Facility - Ch 5	0.79	1.38	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4112	161	Future Phase	021402	02070010	SWM Facility - Ch 5	0.69	2.05	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4119	157	Future Phase	021402	02060006	SWM Facility - Ch 3	0.57	0.96	0.41	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4121	156	Future Phase	021402	02070010	SWM Facility - Ch 5	0.46	1.45	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4122	156	Future Phase	021402	02070010	SWM Facility - Ch 5	0.79	1.47	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2359.11	0 / 0
WAS-4123	156	Future Phase	021402	02070010	SWM Facility - Ch 5	1.26	2.38	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-4124	156	Future Phase	021402	02070010	SWM Facility - Ch 5	1.17	2.24	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.08 / 3342.71	0 / 0
WAS-4125	156	Future Phase	021402	02070010	SWM Facility - Ch 5	0.44	1.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4127	155	Future Phase	021402	02070010	SWM Facility - Ch 5	0.65	0.96	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4131	163	Future Phase	021402	02070010	SWM Facility - Ch 3	0.36	1.11	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4132	156	Future Phase	021402	02070010	SWM Facility - Ch 3	0.25	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4134	166	Future Phase	021402	02070010	SWM Facility - Ch 5	0.76	1.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4135	166	Future Phase	021402	02070010	SWM Facility - Ch 5	0.31	0.44	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4137	161	Future Phase	021402	02070010	SWM Facility - Ch 5	0.35	1.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4138	156	Future Phase	021402	02070010	SWM Facility - Ch 5	0.57	0.86	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4140	155	Future Phase	021402	02070010	SWM Facility - Ch 5	0.77	1.11	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4141	156	Future Phase	021402	02070010	SWM Facility - Ch 3	0.23	0.33	0.17	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 660.59	0 / 0
WAS-4150	13	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.34	1.25	0.80	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4153	17	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.23	1.05	0.56	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4154	11	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.42	0.24	0.00 / 0.00	0.00 / 0.00	0.06 / 2613.6	0.06 / 2619	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4155	11	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.25	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4156	18	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.21	0.38	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4157	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.19	0.30	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4158	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.27	0.31	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4159	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.14	0.22	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4160	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.40	0.41	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 3057.36	0 / 0
WAS-4161	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.26	0.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 727.32	0 / 0
WAS-4162	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.34	0.34	0.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4163	20	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.11	0.25	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4164	57	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.43	0.25	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4165	56	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.53	0.56	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4200	14	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.65	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4201	14	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.10	0.46	0.26	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4202	14	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.63	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.11 / 4801.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4203	14	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.14	0.43	0.14	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1309.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 864.8	0 / 0
WAS-4204	14	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.31	1.29	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1800.26	0 / 0
WAS-4205	23	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.17	1.29	0.71	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	2 / 73
WAS-4206	14	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.26	1.08	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 3200	0 / 0
WAS-4208	33	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	0.76	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 836.73	1 / 36
WAS-4212	21	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	0.81	0.60	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4214	21	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.55	0.09	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4215	21	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.21	0.71	0.59	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.13 / 5488.18	0 / 0
WAS-4216	21	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	0.72	0.68	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4218	21	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.67	0.50	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4304	50	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.30	0.23	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4310	50	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.16	0.11	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4321	26	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.28	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4322	26	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.10	0.09	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4323	26	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.17	0.08	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4324	30	Phase 1 South	021402	02070008	SWM Facility - Ch 3	1.25	0.46	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4325	30	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.30	0.26	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4331	27	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.63	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.02 / 873	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.14 / 6160.42	0 / 0
WAS-4333	27	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.13	0.90	0.51	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.11 / 4605.11	2 / 72
WAS-4334	27	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.14	0.71	0.55	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	24.04 / 68.61	0.00 / 0.00	0.00 / 0.00	0.01 / 368.06	0 / 0
WAS-4335	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.15	0.70	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1746	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.45 / 19750.2	0 / 0
WAS-4336	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.15	0.34	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4337	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.43	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1746	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4338	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.47	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4339	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.37	1.11	0.42	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.82 / 35879.94	0 / 0
WAS-4342	36	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.42	0.41	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	2 / 64
WAS-4345	36	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.16	0.52	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	19.33 / 217.18	0.00 / 0.00	0.00 / 0.00	0.09 / 3789.71	0 / 0
WAS-4347	36	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.19	0.44	0.44	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	50.04 / 567.99	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4349	36	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.12	0.72	0.11	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4352	45	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.13	0.88	0.15	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1309.5	48.69 / 190.86	0.00 / 0.00	0.00 / 0.00	0.42 / 18382.62	0 / 0
WAS-4353	45	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.38	2.07	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 60
WAS-4354	45	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.37	0.84	0.83	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.15 / 6547.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4355	41	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.10	0.97	0.21	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4356	41	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.44	1.04	0.95	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	10.03 / 46.25	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 40
WAS-4361	41	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	0.54	0.54	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1309.5	0.00 / 1.45	0.00 / 0.00	0.03 / 1306.8	0.00 / 0.00	0 / 0
WAS-4362	41	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.13	0.42	0.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	20.29 / 283.13	0.00 / 0.00	0.06 / 2613.6	0.00 / 0.00	2 / 90
WAS-4363	41	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.26	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2178	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-4364	41	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.21	0.70	0.24	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	43.56 / 46.58	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4366	41	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.29	0.48	0.44	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4370	35	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.33	0.21	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.14 / 6230	0 / 0
WAS-4371	35	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.30	0.20	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 9.25	0.00 / 0.00	0.00 / 0.00	0.1 / 4194.61	0 / 0
WAS-4373	35	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.11	0.63	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4375	33	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.67	0.66	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1306.8	0.04 / 1529.16	2 / 63
WAS-4376	33	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.34	0.21	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4377	33	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.15	0.46	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4378	33	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.12	0.41	0.38	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4382	33	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.30	0.11	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 436.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 38.47	0 / 0
WAS-4383	33	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.57	0.18	0.18	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 436.5	0.00 / 3.63	0.00 / 0.00	0.00 / 0.00	0.02 / 973.47	0 / 0
WAS-4385	33	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.39	0.15	0.10	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.1 / 4394.98	0 / 0
WAS-4386	32	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.13	0.25	0.14	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1309.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4391	45	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.16	0.86	0.53	0.00 / 0.00	0.00 / 0.00	0.05 / 2178	0.06 / 2619	17.89 / 164.39	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4392	45	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.21	0.81	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.51 / 22125.32	1 / 31
WAS-4393	54	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.40	0.16	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4394	54	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.15	0.47	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4397	54	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.23	0.56	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4402	53	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.28	0.24	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4404	53	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.53	0.44	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4405	53	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.19	0.77	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.12 / 5227.2	0.00 / 0.00	0 / 0
WAS-4406	53	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.43	0.76	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4407	53	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.26	1.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4411	54	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.12	0.41	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 3190.34	0 / 0
WAS-4412	54	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.54	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.03 / 1309.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4413	55	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.11	0.33	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4414	55	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.21	0.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4415	55	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.40	0.47	0.23	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.11 / 4801.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4423	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.11	0.24	0.09	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	58.85 / 329.92	0.00 / 0.00	0.00 / 0.00	0.15 / 6385.87	0 / 0
WAS-4424	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.28	0.43	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1746	30.23 / 202.74	0.00 / 0.00	0.00 / 0.00	0.3 / 13058.5	0 / 0
WAS-4425	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.34	0.13	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.08 / 3530.62	0 / 0
WAS-4426	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.17	0.51	0.10	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4427	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.24	0.33	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	63.42 / 536.27	0.00 / 0.00	0.00 / 0.00	0.16 / 6862.11	0 / 0
WAS-4428	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.16	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4429	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.49	0.35	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	28.76 / 238.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4431	59	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.41	0.58	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	79.37 / 289.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4432	59	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.32	0.73	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	35.24 / 51.43	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4433	59	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.39	0.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4441	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.23	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4442	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.25	0.32	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	41.02 / 581.19	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4443	24	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.26	0.19	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	2 / 91
WAS-4444	24	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.23	0.27	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4445	24	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.13	0.19	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4446	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.19	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4447	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.20	0.19	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4448	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.19	0.19	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4449	25	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.29	0.48	0.41	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4450	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.10	0.25	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.12 / 5436.09	0 / 0
WAS-4451	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.15	0.30	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4452	28	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.13	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4453	28	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.21	0.17	0.16	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4454	28	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.20	0.09	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4455	28	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.13	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4456	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.29	0.43	0.19	0.00 / 0.00	0.00 / 0.00	0.05 / 2178	0.07 / 3055.5	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4457	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.28	0.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4459	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.19	1.06	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4462	25	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.22	0.95	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.51 / 22422.3	2 / 74
WAS-4463	25	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.22	0.33	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.24 / 10584.41	0 / 0
WAS-4464	25	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.11	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4474	30	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.25	0.08	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4475	30	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.29	0.13	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4476	30	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.30	0.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4477	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.10	0.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4478	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.41	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4479	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.11	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-4481	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.42	0.23	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4482	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.35	0.12	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4483	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.13	0.09	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4484	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.73	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4486	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.37	0.13	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4487	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.29	0.04	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4488	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.18	0.31	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4489	43	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.21	0.45	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	1 / 31
WAS-4491	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.56	0.52	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4493	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.45	0.19	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4494	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.38	0.15	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4495	43	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.16	0.34	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.15 / 6394.27	0 / 0
WAS-4497	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.22	0.22	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.04 / 1742.4	0.16 / 6833.87	0 / 0
WAS-4498	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.23	0.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4499	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.19	0.10	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 1990.72	0 / 0
WAS-4502	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.45	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.12 / 5299.55	0 / 0
WAS-4506	43	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.21	0.19	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4509	48	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.83	0.17	0.04	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	30.28 / 240.18	0.00 / 0.00	0.11 / 4628.52	0 / 0
WAS-4513	48	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.31	0.18	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4516	48	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.59	0.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4517	48	Future Phase	021402	02070010	SWM Facility - Ch 3	0.41	0.12	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4518	48	Future Phase	021402	02070010	SWM Facility - Ch 3	0.61	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.08 / 3603.57	0 / 0
WAS-4519	48	Future Phase	021402	02070010	SWM Facility - Ch 3	0.70	0.22	0.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.13 / 5558.71	0 / 0
WAS-4521	48	Future Phase	021402	02070010	SWM Facility - Ch 3	0.98	0.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4523	48	Future Phase	021402	02070010	SWM Facility - Ch 3	0.38	0.15	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4532	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.31	0.07	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4533	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.78	0.03	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4534	42	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.25	0.09	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4601	67	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.19	0.51	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4602	67	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.35	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4603	67	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.53	0.61	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4604	67	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.20	0.24	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4606	68	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.35	0.30	0.11	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4607	68	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4609	68	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	0.52	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4610	67	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.43	0.21	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	25.83 / 49.29	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4613	69	Phase 1 South	021402	02070008	SWM Facility - Ch 3	4.24	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4614	68	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.12	0.37	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4615	68	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4619	77	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.38	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4622	77	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	0.36	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4623	77	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.27	0.12	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4624	84	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.35	0.03	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4625	84	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.13	0.29	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4626	84	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.35	0.72	0.06	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4627	84	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.19	0.29	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4628	84	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.18	0.48	0.13	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4629	90	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.16	0.38	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4630	90	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.17	0.28	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4631	90	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.17	0.13	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4632	98	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.22	0.28	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.01 / 432.53	0 / 0
WAS-4633	86	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.51	0.19	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4635	86	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.17	0.30	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4636	90	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.27	0.52	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4637	98	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.15	0.23	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4638	98	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.27	0.86	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4639	98	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.15	1.01	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.38 / 16588.78	0 / 0
WAS-4640	99	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.58	0.47	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4641	99	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.47	0.32	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	29.28 / 78.7	0.00 / 0.00	0.05 / 2174.78	0 / 0
WAS-4642	99	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.12	0.38	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4644	99	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.93	0.30	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4645	99	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.25	0.97	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2331.59	0 / 0
WAS-4646	99	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.37	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.07 / 3156.08	0 / 0
WAS-4647	99	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.65	0.30	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4651	102	Phase 1 South	021402	02070008	SWM Facility - Ch 3	1.77	0.26	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0

Appendix M: Compensatory Stormwater Mitigation Site Summary Tables

Site Name	Map Number	MLS Phase	MDE 6-Digit Watershed	Federal 8-Digit HUC	Potential SWM Facility Type	Potential IAT for WQ Credit (Pe = 1") (AC)	Potential LOD Area	Potential ROW Impact (acre)	Wetland Impact (AC/SF)			Wetland Buffer Impact (AC/SF)	Waterway Impact (LF/SF)		FEMA 100-Year Floodplain Impact	Forest Impact (AC/SF)	Specimen Tree Impact (Count/DBH)
									PFO	PSS	PEM		Perennial	Intermittent			
WAS-4652	102	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.24	0.43	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4653	102	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.34	0.14	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4655	112	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.35	0.93	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4656	112	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.11	0.49	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4657	112	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.15	0.60	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4658	112	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.34	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4659	91	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.10	0.47	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-4660	91	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.30	1.57	0.19	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5301	67	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.14	1.06	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5302	67	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.13	0.86	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5304	51	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.30	1.24	0.02	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5306	37	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.68	0.70	0.16	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	80.35 / 862.16	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	3 / 123
WAS-5307	37	Phase 1 South	021402	02070008	SWM Facility - Ch 3	1.12	0.45	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5308	212	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.57	0.42	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.05 / 2178	0.00 / 0.00	0 / 0
WAS-5310	61	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.66	0.24	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5311	60	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.26	0.48	0.05	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5312	60	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.21	0.78	0.01	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5313	60	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.86	0.17	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5314	60	Phase 1 South	021402	02070008	SWM Facility - Ch 3	1.05	0.22	0.08	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5315	61	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.66	0.20	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5316	52	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.29	0.62	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5317	52	Phase 1 South	021402	02070008	SWM Facility - Ch 5	0.62	0.75	0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5601	69	Phase 1 South	021402	02070008	SWM Facility - Ch 3	0.96	0.59	0.59	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
WAS-5602	69	Phase 1 South	021402	02070008	SWM Facility - Ch 3	1.04	0.43	0.15	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	0 / 0
MPOC-0009	210	Phase 1 South	021402	02070008	Stream Restoration	2.91	13.62	10.21	0.09 / 3920.4	0.00 / 0.00	0.00 / 0.00	0.52 / 22698	3176.33 / 40712.56	576.12 / 3113.44	10.99 / 478724.4	8.53 / 371688.54	0 / 0
MO_00047A	211	Phase 1 South	021402	02070008	Stream Restoration	2.92	21.38	0.07	0.33 / 14374.8	0.00 / 0.00	0.3 / 13068	1.42 / 61983	4086.59 / 54823.56	815.56 / 4179.52	19.07 / 830689.2	12.74 / 554752.22	0 / 0
SSS_150023	208	Future Phase	021402	02070010	Stream Restoration	1.01	8.73	1.45	0.15 / 6534	0.03 / 1306.8	0.17 / 7405.2	1.07 / 46705.5	2782.14 / 24175.32	49.36 / 436.32	6.91 / 300999.6	7.4 / 322383.68	0 / 0
MPOC_0008	40	Phase 1 South	021402	02070008	Stream Restoration	0.25	13.14	0.00	0.61 / 26571.6	0.00 / 0.00	0.00 / 0.00	1.43 / 62419.5	3018.45 / 23966.32	522.45 / 991.28	1.37 / 59677.2	9.65 / 420523.15	0 / 0
MO_00018	136	Phase 1 South	021402	02070008	Stream Restoration	1.13	19.65	0.00	2.21 / 96267.6	0.00 / 0.00	0.03 / 1306.8	1.5 / 65475	4172.11 / 41715.56	232.22 / 2644.4	8.89 / 387248.4	14.7 / 640291.61	0 / 0
MPOC_0006_0010_0011	115	Phase 1 South	021402	02070008	Stream Restoration	0.56	7.83	1.13	0.00 / 0.00	0.02 / 871.2	0.04 / 1742.4	0.22 / 9603	1750.76 / 21436	274.64 / 3020.9	0.00 / 0.00	6.64 / 289265.37	0 / 0
MPAO_0022-Backup	101	Future Phase	021402	02070010	Stream Restoration	0.62	12.73	0.06	7.33 / 319294.8	0.00 / 0.00	0.00 / 0.00	1.86 / 81189	2729.39 / 26744.46	641.53 / 4496.83	11.09 / 483080.4	4.39 / 191071.3	0 / 0
MO_00051	115	Phase 1 South	021402	02070008	Stream Restoration	0.48	8.38	0.07	0.67 / 29185.2	0.00 / 0.00	0.00 / 0.00	0.77 / 33610.5	1678.61 / 18724.03	0.00 / 0.00	0.00 / 0.00	6.81 / 296681.95	0 / 0
SSS_160065_160066	137	Future Phase	021402	02070010	Stream Restoration	0.08	17.66	1.59	0.1 / 4356	0.01 / 435.6	0.01 / 435.6	0.56 / 24444	2403.26 / 23556.34	54.09 / 225.61	15.45 / 673002	0.86 / 37559.17	0 / 0
PG_00079-Backup	152	Future Phase	021402	02070010	Stream Restoration	2.40	7.59	0.04	1.17 / 50965.2	0.00 / 0.00	0.00 / 0.00	1.16 / 50634	1771.79 / 39028.79	267.22 / 752.9	2.94 / 128066.4	5.24 / 228426.26	0 / 0
SSS_160023-Backup	131	Future Phase	021311	02060006	Stream Restoration	4.56	13.97	7.85	3.22 / 140263.2	0.89 / 38768.4	3.83 / 166834.8	2.66 / 116109	3920.13 / 34206.21	839.02 / 2632.39	12.45 / 542322	2.79 / 121450.38	0 / 0
MO_00029	108	Future Phase	021402	02070010	Stream Restoration	1.71	16.89	0.26	0.03 / 1306.8	0.00 / 0.00	0.19 / 8276.4	0.38 / 16587	4783.94 / 71668.82	50.97 / 246.38	12.69 / 552776.4	4.44 / 193268.31	0 / 0
MPAO_0015	213	Future Phase	021402	02070010	Stream Restoration	1.24	3.23	1.75	0.47 / 20473.2	0.02 / 871.2	0.02 / 871.2	0.5 / 21825	1005.69 / 20179.7	0.00 / 0.00	0.68 / 29620.8	1.81 / 78784.94	0 / 0
MPAO_0014	186	Future Phase	021402	02070010	Stream Restoration	0.75	13.97	2.27	0.06 / 2613.6	0.00 / 0.00	0.01 / 435.6	0.32 / 13968	4276.78 / 53719.89	238.54 / 916.9	7.67 / 334105.2	8.96 / 390277.21	0 / 0
MO_1540045	212	Phase 1 South	021402	02070008	Stream Restoration	0.07	11.37	0.00	0.15 / 6534	0.00 / 0.00	0.09 / 3920.4	0.75 / 32737.5	2336.34 / 18554.16	2086.46 / 9595.46	5.28 / 229996.8	10.17 / 443042.39	0 / 0