FINAL COMPENSATORY MITIGATION PLAN

KEY BRIDGE REBUILD PROJECT

BALTIMORE CITY, ANNE ARUNDEL COUNTY, AND BALTIMORE COUNTY, MD

ARTISTIC DAYTIME VIEW OF CABLE STAYED SPAN WITH DOWNTWON BALTIMORE BEYOND

JUNE 2025

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Table of Contents

List of Tables

List of Figures

List of Appendices

I. Introduction

The Maryland Transportation Authority's (MDTA) Key Bridge Rebuild Project (Project) will replace a pre-existing critical tolled bridge and related infrastructure associated with I-695 (Baltimore Beltway) over the Patapsco River in Baltimore City, Anne Arundel County, and Baltimore County, Maryland. Construction of the Project will result in unavoidable permanent impacts to resources regulated under Section 404 of the Clean Water Act, Maryland Nontidal Wetlands Protection Act, and Maryland Tidal Wetlands regulations including nontidal wetlands, nontidal waterways, and tidal open waters. Mitigation for permanent impacts to these resources will be provided in accordance with the guidelines of Section 404(b)1 of the Clean Water Act. This Compensatory Mitigation Plan details the impacts to these resources and the compensatory mitigation package proposed to replace the functions and values of the impacted resources resulting from construction of the Project.

II. Project Background

The Project includes construction of a new bridge over the Patapsco River to reconnect the Baltimore Beltway. The project area extends along I-695 from Quarantine Road in Curtis Bay, Baltimore City; through a small portion of Anne Arundel County; to Broening Highway in Dundalk, Baltimore County. See **Appendix A** for the Project location map.

The new bridge will be constructed to meet current roadway and bridge design and safety standards, and navigational clearance requirements. The final alignment of the new bridge will remain entirely within MDTA right-of-way. The roadway centerline of the main span of the new bridge will be offset from the existing centerline by 260 feet to the east and the centerline of the main span will be offset 25 feet to the south to align with the centerline of the federal navigation channel.

MDTA and Maryland State Highway Administration (SHA) prepared two emergency Categorical Exclusions (CE) for the Project in accordance with the National Environmental Policy Act (NEPA) for Federal Highway Administration's (FHWA) approval; one for debris removal (approved by FHWA on April 5, 2024) and one for construction of the new bridge (approved by FHWA on July 17, 2024). Re-evaluations are being prepared to evaluate impacts associated with changes in design and to confirm the Project remains in conformance with the emergency CEs.

III. Impacts

Table 1 presents a summary of the aggregate permanent impacts to wetlands and waters of the U.S. (WOTUS) associated with the Project. Wetland and waterway impacts occur within the MDE 8-digit watershed – Baltimore Harbor (02130903) and the larger Federal Hydrologic Unit Code 8-digit (HUC 8) watershed – Gunpower-Patapsco (02060003).

Table 1. Impact Summary

		Baltimore Harbor
NON-TIDAL WATERS		**TOTAL**
Intermittent/Perennial (permanent)	Linear Feet (LF)	299 LF
	Square Feet (SF)	936 SF
NON-TIDAL WETLANDS		
Palustrine Emergent (permanent)	Acres (AC)	3.12 AC
	Square Feet (SF)	135,789 SF
Palustrine Unconsolidated Bottom (permanent)	Acres (AC)	0.45 AC
	Square Feet (SF)	19,571 SF
TIDAL OPEN WATERS (Patapsco River)		
Estuarine Tidal - Open Water (permanent)	Acres (AC)	0.56 AC
	Square Feet (SF)	24,383 SF
Estuarine Tidal – Open Water (temporary)	Acres (AC)	0.25 AC
	Square Feet (SF)	10,605 SF

Unavoidable permanent impacts to non-tidal wetlands and waterways include 299 linear feet of intermittent/perennial streams, 3.12 acres of palustrine emergent wetlands, and 0.45 acre of palustrine unconsolidated bottom wetlands. These impacts will occur from the roadway and marine approaches on Hawkins Point, adjustments to stormwater management facilities, grading, and embankments. The proposed permanent non-tidal wetlands and waters impacts will occur within the footprint of the final alignment where wetlands and waters have been historically altered to a considerable degree by various projects. Field investigations confirmed that due to the altered nature of the areas, these wetlands and waters are low quality with functions and values being limited to sediment/toxicant retention and wildlife habitat.

Unavoidable permanent impacts to tidal open waters requiring mitigation are limited to 0.56 acre and result from pile supported bridge pier foundations and pile supported vessel protection systems. Existing main span piers (Piers 17 and 18) will remain as pier protection elements for the new main span piers. The remaining piers and foundations will be removed to the mudline and therefore will not be utilized to offset permanent impacts from the new bridge structures within tidal waters.

IV. Twelve Mitigation Plan Components

In accordance with MDE's Nontidal Wetland Phase I Mitigation Plan – Required Information (2020) and 33 CFR part 332 Compensatory Mitigation for Losses of Aquatic Resources dated April 10, 2008, the MDTA team has prepared the following information.

1. Project Objectives

The proposed compensatory wetland and waters mitigation plan includes non-tidal wetland and stream mitigation bank credit purchases and derelict crab pot removal. The mitigation package was developed to offset the impacts associated with the Project and is based on coordination with United States Army Corps

of Engineers (USACE), Maryland Department of the Environment (MDE), National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries), the Maryland Department of Natural Resources (MDNR), and other regulatory agencies.

Several mitigation options were considered and are detailed in **Section 2** but ultimately MDTA decided to pursue off-site permittee-responsible mitigation in the form of derelict crab pot removal for tidal open water impacts and purchasing mitigation credits for non-tidal wetland and stream impacts.

Impacts to non-tidal palustrine emergent (PEM, 3.12 acres/135,7899 square feet) wetlands will be mitigated at a 1:1 ratio through purchasing credits from Peige Wetland Mitigation Bank and/or Pheasant Run Wetland and Stream Mitigation Bank which are in the same federal HUC-8 watershed – Gunpowder-Patapsco (the primary service area) as the Project. USACE and MDE are not requiring mitigation for impacts to non-tidal open water (PUB, 0.45 acres/19,571 square feet).

Impacts to non-tidal streams (approximately 54 functional feet) will be mitigated through purchasing credits from Pheasant Run Wetland and Stream Mitigation Bank. Functional feet will be identified utilizing the Maryland Stream Mitigation Framework Calculator (MSMFC). This value of 54 functional feet is considered an estimate until it has been confirmed by MDE and USACE.

The impacts to tidal open water that were included in the Draft CMP were originally estimated to be up to 12.7 acres. However, the design has been refined, and it has been determined that tidal open water impacts will be 0.56 acres/24,383 square feet. These tidal open water impacts will be mitigated at a 2:1 ratio through derelict crab pot removal.

Table 2. Total Wetland and Waterway Impacts and Mitigation Requirements

Resource	**Impacts Requiring Mitigation** Acres (AC)/ Square Feet (SF) of Linear Feet (LF)	**Proposed Mitigation**	**Compensatory Mitigation Ratio**	**Compensatory Mitigation Required** Acres (AC)/Functional Feet (FF)
Non-tidal PEM	3.12 AC 135,789 SF	Non-tidal wetland mitigation bank credits	1:1	3.12 AC
Non-tidal PUB	0.45 AC 19,571 SF	Mitigation is not required by USACE and MDE	N/A	N/A
Non-tidal stream (P/I)	299 LF	Non-tidal stream mitigation bank credits	N/A	54 FF
Tidal Open Water	0.56 AC 23,880 SF	Derelict crab pot removal	1,400 pots / acre[1]	0.56 AC (784 pots)

[1]1,400 pots per acre reflects a 2:1 mitigation requirement

2. Site Selection

Mitigation for non-tidal wetland impacts was identified early in the site selection process by searching the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS). Because tidal wetland mitigation bank credits are not currently available in Maryland, permitting and other stakeholder agencies were presented with an initial list of potential tidal mitigation options during weekly meetings and asked to provide comments on their preferences as discussed below. Once the preferred mitigation options were identified, a watershed approach was used to identify suitable mitigation sites within the MDE 8-digit watershed (Baltimore Harbor) and Federal HUC 8-digit watershed (Gunpowder-Patapsco) and within close proximity to the Project.

2.1. Non-tidal Wetland and Stream Mitigation

The USACE regulations for Compensatory Mitigation for Losses of Aquatic Resources (33 CFR 332) prioritize using approved mitigation banks whenever possible. Therefore, a search of RIBITS was conducted to determine if approved banks with non-tidal wetland credits are available within the project service area. Currently RIBITS shows two approved banks with credits available servicing the project, the Peige Wetland Mitigation Bank and the Pheasant Run Wetland and Stream Mitigation Bank. Required mitigation credits will be purchased from these approved banks.

2.2. Tidal Mitigation

An initial list of potential tidal mitigation activities was presented to permitting and stakeholder agencies during weekly and monthly interagency meetings to gather comments on which activities would be preferred to include in a tidal mitigation package. Activities initially presented are included in the list below. Those in **bold** were carried forward for further investigation based on agency comments and are discussed below. All others were not considered further after the initial agency meeting because the activities either couldn't provide measurable functional uplift and/or would be too far from the project site.

- **Tidal Habitat Creation and/or Re-Establishment**
- **Oyster Reef Expansion**
- **Derelict Crab Pot Removal**
- **Dam Removal**
- **Artificial Reef Enhancement**
- **Capping Contaminated Sediments**
- SAV Habitat Restoration/Planting
- SAV Seed Processing Plant
- Invasive Species Removal
- Derelict Vessel Locating and Removal
- Abandoned Marina/Pier/Pilings Removal
- Fisheries Research
- Spawning Habitat Enhancement
- Enhancements (land acquisition for waterfront parkland, pier/waterfront access)
- Shoreline Access Improvements (roads, trails, ramps, piers)
- Climate Resiliency projects
- Removal of historic fill

a. Derelict Crab Pot Removal

Crab pots are the predominant derelict fishing gear found in the Chesapeake Bay because of the large number deployed, a relatively high loss rate (12-20%), and the long fishing season (April to November) (Scheld 2016). ORP created a hotspot graphic showing the predicted density of derelict crab pots in the Upper Chesapeake Bay (**Figure 1**). Based on ORP's prediction model, derelict crab pots are concentrated near the confluences of most rivers and the Bay. Based on ORP's predictions, derelict crab pot removal efforts would focus on the mouth of the Patapsco River in the Baltimore Harbor watershed to meet the 0.56 acres of required tidal mitigation. Derelict crab pot removal has been selected as the tidal mitigation activity, and MDTA is currently coordinating with ORP on derelict crab pot removal effort. **Appendix B** includes a vicinity map of the proposed target area for pot removal.

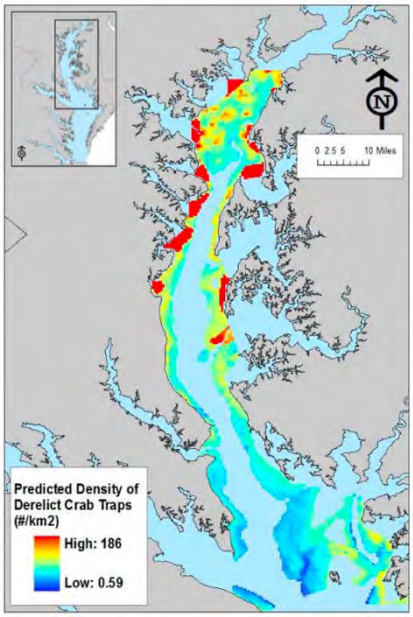

Figure 1. Predicted Density of Derelict Crab Pots (ORP 2024)

b. Oyster Reef Expansion

Oyster reef expansion and seeding was considered as mitigation for the Project. Agency feedback indicated that a minimum of 3 acres of oyster reef expansion would be required to establish a viable reef with potential for long-term success. A 3-acre reef would provide 1.5 acres of mitigation credit. The Chesapeake Bay Foundation (CBF) and Oyster Recovery Partnership (ORP) were consulted to identify potential sites near the Project. The Fort Carroll Oyster Sanctuary, which is in close proximity to the Project, is located in the Baltimore Harbor MDE 8-digit watershed (02130903). CBF currently manages two 1-acre sanctuary oyster reefs at Fort Carroll. The Oyster Garden (OG) reef is located directly adjacent to Fort Carroll and the Maryland Environmental Service (MES) reef is located northeast of Fort Carroll. Due to the significant decrease in impacts, oyster reef expansion is no longer being considered as compensatory mitigation.

c. Tidal Habitat Creation and/or Re-Establishment

Several full delivery tidal habitat creation and/or re-establishment projects along Middle Branch of the Patapsco River and Bear Creek were presented to the agencies. A total of six project concepts included in the Middle Branch Resiliency Initiative (MBRI) and Bear Creek Resiliency Initiative (BCRI) were reviewed. Both MBRI and BCRI aim to restore shorelines and aquatic habitats along their respective watercourses within South Baltimore (MBRI) and Baltimore County (BCRI).

After reviewing each potential project with the agencies, it was determined that Middle Branch-1 (Site 6), Middle Branch-3 (MBP West), Bear Creek-1, and Bear Creek-3 were to be removed from consideration due to the inclusion of living shoreline in the project concepts. Several agencies did not support living shoreline projects because these projects would require fill to be placed in shallow tidal waters. Bear Creek-3 was removed from consideration as the site overlaps an existing utility ROW, which is a conflicting land use.

Middle Branch-2 (PDP West) is a tidal habitat creation and re-establishment project that was included in the Draft CMP but will not be carried forward into the Final CMP due to the significant reduction in the proposed impacts.

Table 3 summarizes the six project concepts and potential mitigation credits of each site. **Appendix B** includes vicinity maps of each site in relation to the Project.

Table 3. Summary of MBRI and BCRI Project Concepts

Site Name	MDE 8-digit Watershed	Mitigation Activity	Available Mitigation (acres)	Functional Uplift
Middle Branch-1 (Site 6)	Baltimore Harbor (02130903)	Living Shoreline Re-Establishment	8.9	Improves resiliency to climate change. Provides habitat for fish and wildlife Improves water quality. Stabilizes shoreline and reduces erosion Collects and stores flood waters Filters pollutant runoff Weakens storm surges Enhances biological diversity
		Tidal Wetland Restoration	0.7	
Middle Branch-2 (PDP West)	Baltimore Harbor (02130903)	Tidal Habitat Creation and Re-establishment	2.41	Improves wildlife and aquatic habitat Collects and stores flood waters Filters pollutant runoff Weakens storm surges Enhances biological diversity
Middle Branch-3 (MBP West)	Baltimore Harbor (02130903)	Living Shoreline Re-Establishment	0.7	Improves resiliency to climate change Provides habitat for fish and wildlife Improves water quality Stabilizes shoreline and reduces erosion Collects and stores flood waters Filters pollutant runoff Weakens storm surges Enhances biological diversity
		Tidal Wetland Restoration	1.6	

Table 3. Summary of MBRI and BCRI Project Concepts, continued

Site Name	MDE 8-digit Watershed	Mitigation Activity	Available Mitigation (acres)	Functional Uplift
Bear Creek-1	Baltimore Harbor (02130903)	Living Shoreline Re-Establishment	2.0	Improves resiliency to climate change Provides habitat for fish and wildlife Improves water quality Stabilizes shoreline and reduces erosion Collects and stores flood waters Filters pollutant runoff Weakens storm surges Enhances biological diversity
		Tidal Wetland Restoration	1.8	
Bear Creek-2	Baltimore Harbor (02130903)	Living Shoreline Re-Establishment	3.2	Improves resiliency to climate change Provides habitat for fish and wildlife Improves water quality
Bear Creek-3	Baltimore Harbor (02130903)	Tidal Wetland Restoration	1.5	Improves wildlife and aquatic habitat Collects and stores flood waters Filters pollutant runoff Weakens storm surges Enhances biological diversity

d. Dam Removal

During coordination with regulatory agencies, removal of the Van Bibber Weir was suggested for consideration as part of the tidal mitigation package. Van Bibber Weir, a concrete dam constructed in 1942 to provide water to Aberdeen Proving Grounds (APG), is 410 feet long and 14 feet tall and has become obsolete now that Harford County provides water to APG. The weir is approximately 19.2 miles northeast of the Project immediately northwest of MD 40 and Emmorton Road in Harford County and lies within the Lower Winters Run MDE 8-digit watershed (02130702). Winters Run, a Use I waterway, terminates at Van Bibber Weir, at which point it becomes Otter Point Creek, another Use I waterway. The weir is also within the Maryland Tier II Otter Point Catchment.

MDTA coordinated with USACE to use the Beta Fish Passage Tool to calculate a credit estimate for removing Van Bibber Weir. The tool resulted in approximately 1,500 functional feet from removal of the weir. Because the Project is impacting tidal open water, the functional foot credit estimate was converted to square feet of credit. USACE recommended applying a mitigation ratio of 1.5 functional foot for every 15 square feet of impact which becomes one functional foot for every 6.87 square feet in the Coastal Plain. Using the proposed square foot conversion, the removal of Van Bibber Weir could compensate for approximately 0.25 acres of the Project tidal open water impacts assuming optimal stream quality. If it is assumed the impacted Patapsco River has a quality score of 50 percent, 0.50 acres of compensation could be achieved. The estimate did not include possible credits for sediment removal behind the impoundment or possible stream restoration which would increase the mitigation credits. These factors were not included as it would require field assessments of the stream and impoundment to accurately calculate available credits.

In addition to the low mitigation credit achieved by the project and its distance from the project site (see the vicinity map in **Appendix B**), the existing Environmental Assessment that was completed for the proposed weir removal would need to be re-evaluated which would require significant time and effort that is not feasible given the timing and schedule of the Project. Impacts associated with access to the project site as well as secondary impacts associated with changes in hydrology to nontidal wetlands upstream of the structure were not considered in the Environmental Assessment, nor was constructability. Given the complexity of the re-evaluation that would be necessary, degree of fieldwork and analysis that would have to be performed, unknowns associated with constructability, and the minimal amount of credit that would be generated, the removal of Van Bibber Wier was removed from consideration as a potential mitigation activity.

e. Artificial Reef Enhancement

The Maryland Artificial Reef Initiative (MARI) includes private, state, and federal partners, and acts as a funding mechanism (using private and corporate donations) for reef development in Maryland. The monitoring and management of artificial reefs in Maryland bay and ocean waters is conducted by MDNR through the Maryland Department of Natural Resources Artificial Reef Committee and Fishing and Boating Services. Coordination with MDNR's Artificial Reef Coordinator identified two potential sites, Love Point and Hackett Point reefs. The Love Point reef is located just north of Kent Island, approximately 16 miles from the Project, in the Lower Chester River MDE 8-digit watershed (02130505). The Hackett Point reef is located just south of the Bay Bridge, approximately 20 miles from the Project, in the Lower Chesapeake Bay MDE 8-digit watershed (02139998). **Appendix B** includes a vicinity map of the reef locations.

While there was some support for the enhancement of artificial reefs as a mitigation activity, not all agencies were supportive because the permitted reefs will eventually be built out overtime whether the Project adds material or not. Some agencies indicated that the Project's contribution to build-out of these reefs should not be considered mitigation and other alternatives should be considered instead. Therefore, enhancement of artificial reefs were removed from further consideration.

f. Capping Contaminated Sediments

Capping contaminated sediments was recommended as a potential mitigation activity during interagency meetings. MDTA conducted some desktop research to determine if this was a feasible mitigation activity for the Project. It was determined that capping contaminated sediments would require lengthy field investigations and property negotiations and permitting that does not align with the Project schedule and timing of rebuild permit needs. Therefore, based on the project schedule, it was decided that capping contaminated sediments would be removed from consideration.

3. Site Protection Instrument

The non-tidal wetland mitigation is being fulfilled at an approved mitigation bank that is already encumbered by a perpetual easement. Site-specific protective measures cannot be established for individual locations in which derelict crab pot have been removed; however, by default they will be protected as they are all within waters under the jurisdiction of state and federal regulatory agencies.

Table 4. Site Protection Instrument Summary

Site Type	Site Protection Instrument
Non-tidal wetland and stream mitigation bank	Perpetual Easement
Derelict Crab Pot Removal	State and Federal Regulations

4. Baseline Information

The proposed derelict crab pot removal area and wetland and stream mitigation banks were reviewed using desktop resources. The following describes existing conditions.

a. Project Impacts

A natural resources inventory, which includes a wetland and waterways delineation, was completed for the Project in Spring 2024. The impacted tidal open water is the Patapsco River which is classified as estuarine subtidal. The impacted non-tidal wetlands are referred to as 1WETA, 1WETB, 1WETC, 1WETD, 1WETE, 1WETF, 1WETG, and 2WETD in the NRI report. 1WETA, 1WETB, 1WETC, 1WETD, 1WETF, and 1WETG are depression / toe-of-slope wetlands located along the I-695 embankments and are classified as palustrine emergent wetlands with either a seasonally flooded (PEM1C) or temporarily flooded/saturated (PEM1A/B) water regime. 1WETE is an impoundment classified as a palustrine emergent wetland with a semi-permanently flooded (PEM1F) water regime. 2WETD is a toe-of-slope *Phragmites australis* (PEM5) wetland. Mapping, data forms, and photographs of these resources are included in **Appendix D**. The impacted non-tidal streams are referred to as 1WA, classified as a perennial

stream with cobble and gravel substrate (R3UB1) and 1WB, classified as an intermittent stream with cobble and gravel substrate (R4SB3).

b. Peige Mitigation Bank

The Peige Mitigation Bank is located at 701 Luthardt Road, in Middle River, Maryland. The bank was approved and established on December 10, 2020, and includes wetland bank credits. The primary service area associated with this bank is the Gunpowder-Patapsco HUC-8 watershed and the secondary service area includes the Coastal Plain portion of the Lower Susquehanna HUC-8 watershed. Coordination with Ecotone—the bank sponsor—is ongoing, see Appendix E: Mitigation Bank Credit Availability for documentation of the available credits.

c. Pheasant Run Mitigation Bank

The Pheasant Run Mitigation Bank is located near 13869 Baldwin Mill Road, in Jarrettsville, Maryland. The bank was approved and established on September 30, 2024, and includes wetland and stream bank credits. The primary service area associated with this bank is the Gunpowder-Patapsco HUC-8 watershed and the secondary service area includes the Eastern Mountains and Piedmont portions of the Lower Susquehanna HUC-8 and Patuxent HUC-8 (02060006) watersheds. Coordination with Ecotone—the bank sponsor—is ongoing, see Appendix E: Mitigation Bank Credit Availability for documentation of the available credits.

d. Derelict Crab Pot Removal

Derelict crab pots are the predominant derelict fishing gear found in the Chesapeake Bay because of the large number deployed and the long fishing season (April to November). According to a 2016 study by the Virginia Institute of Marine Science (VIMS), derelict crab pots passively trap approximately 3.3 million crabs a year in the Chesapeake Bay. In addition to blue crabs, over forty species have been documented in abandoned crab pots in the Chesapeake Bay, including the diamondback terrapin, a state listed species of special concern (Scheld, et.al., 2016). Derelict pots are typically lost during storms or accidentally cut loose by boat propellers. Scheld, et.al. found in a 2016 study that an estimated 12-20% of deployed crab pots are lost each year. The pots stay on the bay bottom and continue to trap crabs, finfish, turtles, and other aquatic species. A derelict crab pot can persist for months or even several years, depending on the construction. For instance, in the Chesapeake Bay, crab pots were estimated to persist from 1-7 years (Scheld, et.al., 2016).

Derelict pots are concerning due to their impact on sensitive habitats, by trapping and killing non-target species, as well as their economic impact caused from the loss of recreational and commercial harvest of valuable species. Lastly, they pose a safety threat to human navigation. The proposed crab pot removal effort would provide functional uplift by reducing bycatch and mortality rates of blue crabs and finfish. Additionally, the removal effort would aid in recovery and conservation of a variety of benthic habitats, SAV, marshes, turtle nesting beaches, and oyster reefs.

5. Determination of Credits

The Project will impact 3.12 acres of non-tidal PEM, 0.45 acres of PUB wetlands, 54 functional feet of perennial/intermittent stream, and 0.56 acres of tidal open waters (**Table 1**). USACE and MDE typically require mitigation for non-tidal PEM wetlands at a 1:1 ratio. USACE and MDE Nontidal is not regulating

the PUB waters at this location. Based on this mitigation ratio, a total of 3.12 acres of non-tidal wetland mitigation credit is required for the Project. USACE, MDE, and NOAA have agreed during interagency meetings that mitigation for tidal open waters with derelict crab pot removal will be at a ratio of 1,400 pots per acre of impact. A summary of non-tidal mitigation credit needs by mitigation activity is included in **Table 5**. A summary of tidal mitigation credit needs by mitigation activity is included in **Table 6**.

Based on the final output of the Maryland Stream Mitigation Framework (MSMF) "Stream Impact Calculator" (Calculator), the project will result in 299 linear feet and 54 functional feet of intermittent/perennial stream loss (impact) (**Appendix D**). When completing the Calculator, streams within the limits of disturbance (LOD) were considered to be a total functional loss except for those already in culverts (which are considered to have already lost function, therefore no net loss and no mitigation required). Stream mitigation credits were determined using the Calculator. All mitigation will be fulfilled through the purchase of stream credits from Pheasant Run Mitigation Bank. **Table 7** summarizes the detailed breakdown of the specific stream impacts along the project corridor, which is included in **Appendix D**. Details regarding the locations and nature of the stream impact locations can be found on the impact plates. USACE review of stream quality assessments and MSMF calculations may require adjustment of the amount of stream mitigation required.

Table 5. Non-Tidal Wetland Mitigation Summary Table

Proposed Activity	Proposed Impacts	Mitigation Ratio	Required Mitigation Credits
Purchase of non-tidal PFO credits	3.12 AC/135,789 SF	1:1	3.12 AC/135,789 SF

Table 6. Tidal Waters Mitigation Summary Table

Proposed Activity	Proposed Impacts	Mitigation Ratio	Required Mitigation Credits
Derelict Crab Pot Removal	0.56 AC	1,400 pots/acre[1]	784 pots

[1]1,400 pots per acre reflects a 2:1 mitigation requirement.

Table 7. Non-Tidal Stream Mitigation Stream Impact Calculator Impact Summary

Reach Name	Impact Type	Stream Quality Score (%)		Reach Length (LF)	Stream Losses/Gains (FF)
		Existing	Proposed		
1WA	Fill	26	0	112	-15
1WB	Fill	38	0	187	-39
Total Permanent Impact				**299 LF**	**-54 FF**

6. Mitigation Work Plan

MDTA has considered and implemented avoidance and minimization measures throughout the preliminary design phase. Despite avoidance and minimization to the extent practicable, this project will incur unavoidable impacts that will require compensatory mitigation and restoration. The required non-tidal wetland and stream and tidal open water mitigation will be achieved offsite through potential sites outlined below.

Based on agency feedback and support, and restoration and uplift potential, the sites listed in **Table 8** below are the preferred mitigation package for each type of mitigation required for the Project.

Table 8. Preferred Mitigation Package

Type	Site ID	Required Compensatory Mitigation	
		MDE	USACE
Non-tidal wetlands (PEM)	Peige and/or Pheasant Run Mitigation Bank	3.12 AC	3.12 AC
Non-tidal streams (Intermittent & Perennial)	Pheasant Run Mitigation Bank	54 FF	54 FF
Tidal open waters	Derelict Crab Pot Removal	784 pots	784 pots

a. Preferred Mitigation Package Sites

Peige and Pheasant Run Mitigation Banks

MDTA is currently coordinating with Ecotone, the bank sponsor, to finalize the purchase of 3.12 acres (135,789 SF) of non-tidal wetland mitigation credits and 54 functional feet of stream credit from the Peige and/or Pheasant Run Mitigation Banks. Documentation of the purchase will be provided once finalized.

Derelict Crab Pot Removal

MDTA is currently coordinating with ORP to provide training, onsite oversight, and organize efforts to locate and remove derelict crab pots from the tidal Patapsco River, south of the Project, and will continue into the Middle Chesapeake Bay (02139997) MDE 8-digit watershed as needed, to meet the mitigation requirement of 784 pots. The general areas to be initially targeted for derelict crab pot removal are shown in **Appendix B**.

A survey of the river and bay bottom to map submerged crab pots for targeted removal will be completed prior to starting the work. Based on ORP's past efforts, MDTA estimates hiring approximately 14 boats

(generally two local watermen per boat) during the 2026 winter off season (February – March) to remove the derelict pots and transport them to a recycling facility. It is anticipated that removing the required 784 pots can be achieved in five or more days during a single season. However, if an additional season is needed to meet the quota, survey and removal efforts will be completed in February and March 2027. ORP staff will be on board with the watermen and will document the condition of each trap and any trapped organisms. Data to be collected for trapped organisms includes species, dead or alive, and number. Photo vouchers will be taken of each species. Watermen would be allowed to strip the recovered gear of any usable parts, and the remaining parts will be taken to a recycling facility for disposal. A report following the work in 2026 (and subsequent years if needed to meet the required 784 pots) documenting the level of effort (number of boats and hours on the water), number of derelict gear retrieved (including types of gear), and the number of trapped organisms (including species, number dead or alive, and photo vouchers) recovered and released will be submitted to USACE via NAB-Regulatory@usace.army.mil and MDE.

7. Maintenance Plan

It is assumed maintenance is not required for derelict crab pot removal due to the nature of the mitigation activity. Maintenance of approved mitigation banks is the responsibility of the mitigation bank owner as outlined in the approved Mitigation Banking Instrument and not the purchaser of mitigation credits.

8. Performance Standards

The Project's ecologically based performance standards are tied to the site's objectives and its values. It is assumed performance standards for derelict crab pot removal are based on the number of derelict pots removed. Additional coordination with MDE and USACE will be required to determine other performance standards for derelict crab pot mitigation. Demonstrating performance standards are being met for approved mitigation banks is the responsibility of the mitigation bank owner as outlined in the approved Mitigation Banking Instrument and not the purchaser of mitigation credits.

9. Monitoring Requirements

It is assumed that monitoring is not required for derelict crab pot removal. Monitoring of approved mitigation banks is the responsibility of the mitigation bank owner as outlined in the approved Mitigation Banking Instrument and not the purchaser of mitigation credits.

10. Long-Term Management Plan

It is assumed a long-term management plan is not required for derelict crab pot removal. A long-term management plan is outlined in the approved Mitigation Banking Instrument and fulfilling management obligations is the responsibility of the mitigation bank owner and not the purchaser of mitigation credits.

11. Adaptive Management Plan

If the required 784 derelict crab pots cannot be located within the Baltimore Harbor MDE 8-digit watershed, the search will be expanded to the adjacent Middle Chesapeake Bay MDE 8-digit watershed. An adaptive management plan is outlined in the approved Mitigation Banking Instrument and fulfilling adaptive management obligations is the responsibility of the mitigation bank owner and not the purchaser of mitigation credits.

12. Financial Assurances

The Project was approved by the Baltimore Regional Transportation Planning Board for inclusion in the FY 2024-2027 Transportation Improvement Program on June 25, 2024. The Project will also be reflected by amendment in the Statewide Transportation Improvement Program (Control #22-141). The Project, including any associated mitigation requirements due to unavoidable impacts due to Project related activities, is eligible for federal reimbursement.

V. Environmental Stewardship

In addition to the required mitigation for the Project, MDTA is currently identifying opportunities for environmental stewardship including oyster reef expansion and Fort Carroll Oyster Sanctuary and additional derelict crab pot removal.

1. Derelict Crab Pot Removal

Through coordination with ORP, MDTA determined that the mouth of the Chester River or the Magothy River could be targeted to remove 6,216 additional derelict crab pots as environmental stewardship. Based on ORP's estimations, the mouths of these rivers have a high density of derelict crab pots that have not been removed to date (see **Figure 1**). The stewardship effort will be split between the Magothy and the Chester rivers. The approach to locating and removing the pots proposed in **Section 6.a** will be used for this stewardship activity.

2. Oyster Reef Expansion

Fort Carroll is located approximately 0.4 miles southeast of the Project area and falls within the Baltimore Harbor MDE 8-digit watershed. Near Fort Carroll are two existing sanctuary oyster reefs – each approximately one (1) acre in size, managed by CBF. Since 1999, nine-month-old oysters from CBF's Oyster Gardening program have been planted annually at the reef directly adjacent to Fort Carroll (OG reef). CBF's Baltimore Inner Harbor Education vessel visits this reef and samples it regularly with a small oyster dredge during their spring and fall field seasons with local students and teachers. In addition to CBF's reef, MES constructed a rectangular reef (MES reef) northeast of Fort Carroll in 2017 as compensatory mitigation for Maryland Port Administration activities. Following bathymetric surveys, MES constructed the reef on firm to very firm bottom with stone built to a height of six (6) inches off the bottom. CBF seeded the substrate with over six (6) million spat-on-shell oysters in 2017 and 2019. Multiple plantings were included to ensure multiple year classes of oysters were present on the reef. **Table 9** shows when and where CBF has planted oysters using the methods described above at the Fort Carroll reefs (CBF 2024).

Table 9: CBF Oyster Plantings at Fort Carroll Reefs (CBF 2024)

Year	OG Reef	MES Reef
2014	41,753	(constructed in 2017)
2015	158,883	
2016	111,219	
2017	280,734	3,104,836
2018	285,734	0
2019	363,504	3,362,379
2020	155,175	0

2021	56,863	0
2022	58,100	36,211
2023	336,150	356,600
2024	0	0
Total	**1,848,115**	**6,860,026**

MDTA is currently coordinating with CBF to determine where a new reef could be located within the Fort Carroll Oyster Sanctuary. CBF recommends deploying substrate south of the OG reef which is located immediately adjacent to the fort in order to avoid the risk of damaging the OG reef. Based on CBF's most recent assessment of bottom firmness, the most promising area within the sanctuary is significantly south of the OG reef and is what CBF would prefer to target for ground truthing. MDTA proposes to add hard bottom and seed the newly created reef within the Fort Carroll Oyster Sanctuary using concrete from the demolished FSK bridge piers or other suitable material. Substrate size will comply with DNR's oyster sanctuary substrate guidelines and recommendation of baseball-sized materials or a mix with smaller sized materials. Through discussion with the agencies at interagency meetings, it is recommended that a minimum of three acres of newly added hard bottom be seeded to ensure the reef is successful. The new reef will be seeded with spat-on-shell over multiple years to ensure multiple year classes of oyster are present. Coordination with MDNR's Shellfish Division and NOAA Fisheries will occur if oyster reef expansion is pursued as environmental stewardship including determining the size and location of substrate placement and seeding rates.

VI. Conclusions

The goals and objectives of the proposed mitigation strategy are to compensate for unavoidable impacts associated with the Project through off-site, in-kind and out-of-kind mitigation for unavoidable impacts to regulated resources associated with the Project. All impacts requiring compensatory mitigation will be completed in accordance with the guidelines of Section 404(b)1 of the Clean Water Act.

VII. Literature Cited

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APPENDIX A: PROJECT LOCATION MAP

KEY BRIDGE REBUILD
RECONNECT ▪ REVITALIZE ▪ REIMAGINE

Maryland Transportation Authority
MDTA

FSK Bridge Rebuild Project Compensatory Mitigation Plan

Appendix A: Project Vicinity Map

Baltimore City, Baltimore County, and Anne Arundel County, Maryland
June 2025

N
W E
S

Limit of Disturbance

0 1 2
miles

APPENDIX B: MITIGATION SITES OVERVIEW MAP

KEY BRIDGE REBUILD
RECONNECT ■ REVITALIZE ■ REIMAGINE

Maryland Transportation Authority
MDTA

Key Bridge Rebuild Project
Compensatory Mitigation Plan

Appendix B:
Mitigation Site Map
Sheet 1 of 2

Baltimore City, Baltimore County, and Anne Arundel County Maryland
June 2025

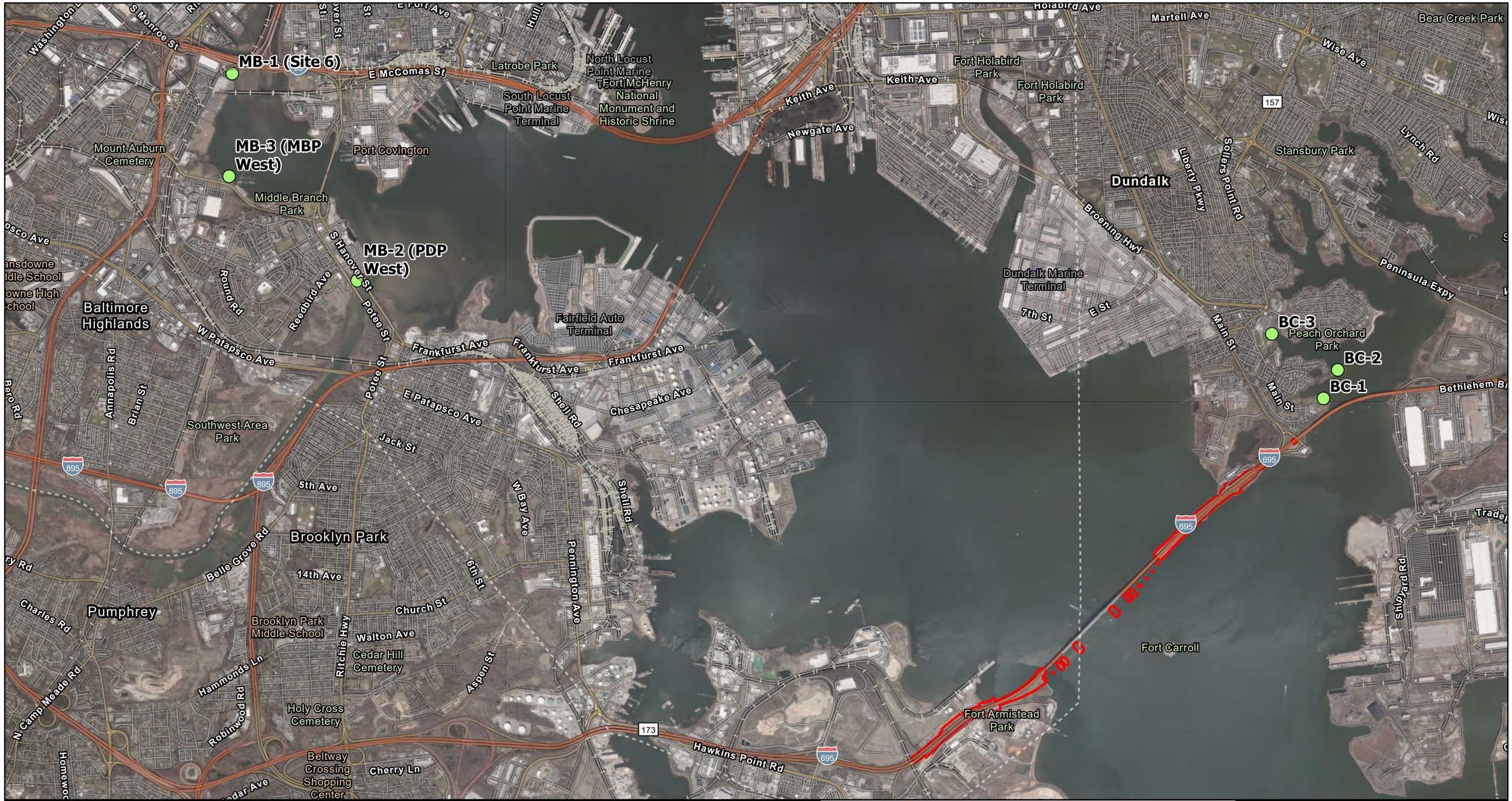
- Key Bridge Rebuild Project
- Non-Tidal Mitigation
- Tidal Mitigation
- Derelict Crab Pot Survey Area
- MDE 8-digit Watershed

Note: See Sheet 2 for locations of the MBRI and BCRI mitigation sites.

N

0 3 6 Miles

1 inch = 3 miles



KEY BRIDGE REBUILD
RECONNECT ■ REVITALIZE ■ REIMAGINE

MDTA Maryland Transportation Authority

Key Bridge Rebuild Project
Compensatory Mitigation Plan

Appendix B:
Mitigation Site Map
Sheet 2 of 2

Baltimore City, Baltimore County,
and Anne Arundel County Maryland
June 2025

Key Bridge Rebuild Project
MBRI & BCRI Sites

N

0 0.5 1 Miles

1 inch = 1 miles

APPENDIX C: NATURAL RESOURCES INVENTORY REPORT

NATURAL RESOURCES INVENTORY REPORT

FRANCIS SCOTT KEY BRIDGE REBUILD PROJECT

BALTIMORE CITY AND BALTIMORE COUNTY, MARYLAND

JUNE 2025

U.S. Department of Transportation
Federal Highway Administration

MDTA
Maryland Transportation Authority

MDOT
MARYLAND DEPARTMENT OF TRANSPORTATION

Table of Contents

List of Appendices

1.0 Introduction, Study Area, and Project Description

On March 26, 2024, the Maryland Transportation Authority (MDTA) Francis Scott Key Bridge (Key Bridge), which carries I-695 over the Patapsco River, was struck by a cargo ship leaving the Port of Baltimore, resulting in the collapse of the bridge. The collapse prompted the immediate closure of I-695 between MD 173 (exit 1) and MD 157/Peninsula Expressway (exit 43) and halted vehicle traffic across the Patapsco River as well as marine shipping to and from the Port of Baltimore. Following the incident, Executive Order 01.01.2024.09 was released by the State of Maryland, declaring a State of Emergency as a result of the Key Bridge collapse. Immediate recovery and debris removal actions were conducted.

MDTA and Maryland State Highway Administration (SHA) are proposing to replace the collapsed Francis Scott Key Bridge in the same location as the original structure, which will help alleviate the high traffic demands and restore the connectivity of the transportation network between Curtis Bay and Dundalk. As a result, Rummel, Klepper, & Kahl (RK&K) and Coastal Resources, Inc. (CRI), under contract by the MDTA, has completed a natural resources inventory, in support of the Francis Scott Key Bridge Rebuild Project (FSK Rebuild) located in Baltimore City and Baltimore County, Maryland. RK&K and CRI completed a water of the U.S. (WOTUS), including wetlands, delineation, forest stand delineation, and tree survey within the project study area (see **Appendix A**). The study area is approximately 117 acres within the Patapsco River MDE 8-digit watershed (02130903). Land use classifications within and adjacent to the study area include forest and industrial. The project area is in the Northern Coastal Plain physiographic province. The project limits extend along I-695 from Quarantine Road in Curtis Bay to Broening Highway in Dundalk and are entirely within MDTA's existing right-of-way (ROW). CRI completed the natural resources inventory in the segment between Quarantine Road and the Patapsco River. RK&K completed the natural resources inventory between the Patapsco River and Broening Highway. A wetland delineation was conducted for a separate MDTA project in February 2024 and field verified as part of the FSK Rebuild project in May of 2024.

2.0 Methodology

Prior to the field investigation, the RK&K and CRI field teams reviewed existing potential forest and wetland data within the project area, including but not limited to the United States Fish & Wildlife Service (USFWS) National Wetland Inventory, the Maryland Department of Natural Resources (MDNR) Wetlands, the Natural Resource Conservation Service (NRCS) Soil Survey Data and National Hydrography Dataset (NHD) Streams.

During the field investigation, wetlands were assessed in accordance with the *Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0* (USACE 2010). This methodology requires interpretation of a three-parameter approach representing hydrology, vegetation, and soils, which are known indicators of a wetland. Soils were sampled using three-inch diameter Dutch augers and Munsell Color charts were used to identify color (Munsell 1975). The wetland indicator status of the observed vegetation was identified using the National Wetland Plant List (NWPL) (USACE 2020). Wetland data were collected on Wetland Determination Data Forms (USACE 2010, 2012). A Wetland Functions and Value Evaluation form was completed for all delineated wetlands greater than 0.5 acres (USACE 1999). Matching upland test plots were also established adjacent to the wetland boundary in conjunction with wetland plots. Delineated WOTUS were flagged and surveyed using a Global Navigation Satellite System (GNSS) unit. Nontidal WOTUS, other than wetlands, were set at the ordinary

high-water mark (OHW) which was determined in the field using physical characteristics established by the fluctuations of water. Tidal WOTUS were defined by mean high water (MHW) elevation from the nearest tidal gauge and by in-situ water observations. Stream characteristics were recorded for each identified watercourse on a WOTUS datasheet. Identified WOTUS, including wetlands, were classified according to a *Classification of Wetland and Deep-Water Habitats in the United States* (USFWS 1979). Each wetland and watercourse were photographed, and a photo log was compiled.

Forest stands, hedgerows, and woody vegetation clusters were delineated and characterized with the study area in accordance with the State Forest Conservation Technical Manual and MDNR Critical Area requirements. A walk-through forest stand analysis was conducted to obtain a general overview of the species present, successional stage, and stand condition. Forest stand and hedgerow boundaries were delineated on project mapping and all forest stand characteristics were recorded on stand datasheets. Stand-alone trees (1.5" DBH or greater) and specimen trees (> 30' DBH) were measured using a diameter at breast height (DBH) tape at 4.5 feet above the ground. The species, size, and condition of stand-alone and specimen trees were recorded, and their locations were surveyed using a GNSS unit. Within the Chesapeake Bay Critical Area (CBCA), woody vegetation clusters were mapped and characterized. Additionally, stand-alone trees and shrubs of any size were identified and GPS-located.

3.0 Results

3.1 Waters of the U.S., including Wetlands

During the field investigations, ten non-tidal wetlands, four tidal wetlands, and three watercourses were identified within the study area. Wetland classifications included ten palustrine emergent wetlands (PEM), two estuarine intertidal emergent wetlands (E2EM), and two estuarine intertidal scrub shrub wetlands (E2SS). Data were collected at a total of ten representative wetland test plots that characterize the identified wetland types and Cowardin classifications. Test plots 1WETA, 1WETB, 1WETC, 1WETD, 1WETE, 1WETF, 1WETG, 1WETH, 1WETI and 2WETD characterize the PEM portion of these systems. Test plots 1WETJ and 2WETB characterize the E2EM portion of these systems. Test plot 2WETA and 2WETC characterize the E2SS portions of these systems. Delineated watercourses include one perennial, two intermittent systems, as well as the Patapsco River.

The locations of these resources and test plot locations are shown on the detailed maps provided in **Appendix B**. Details regarding wetland cover type and delineated size can be found in the WOTUS Summary Table located in **Appendix C.** Detailed wetland characteristics including cover type, indicators of hydrology, dominant vegetation, and soils are included on the datasheets provided in **Appendix D**. Characteristics of each watercourse can also be found in **Appendix C** and **Appendix D**. Photographs of all delineated resources are included in **Appendix E**.

3.2 Forest Stand Characterization

A total of thirteen forest stands, 15 hedgerows, and 24 woody vegetation clusters were identified within the study area. The locations of the forest stands, hedgerows, and woody vegetation clusters are displayed on the Natural Resources Inventory Map in **Appendix B**. The identified forest stands are described below, and a hedgerow summary table is included in **Appendix F**.

Stand 1FS1 (NRI Map Sheets 2 and 3)

Stand 1FS1 is a disturbed early successional black locust forest. Canopy closure is approximately 30 percent. The canopy is dominated by Callery pear (*Pyrus calleryana)*, Siberian elm (*Ulmus pumila*), and black locust (*Robinia pseudoacacia*). Dominant size class is 2 to 6" DBH with a few 6 to11" DBH trees scattered throughout this layer and ash-leaf maple (*Acer negundo*) is present at the bottom of the slope. Dominant species in the understory include groundseltree (*Baccharis halimifolia),* amur honeysuckle (*Lonicera maackii)*, and smooth sumac (*Rhus glabra*). Dominant species in the herbaceous layer include a broomsedge (*Andropogon* sp.), Japanese honeysuckle (*Lonicera japonica),* common reed (*Phragmites australis*), and wand panic grass (*Panicum virgatum).* Overall, the forest stand is in poor condition with high invasive species cover and moderate vine cover.

Stand 1FS2 (NRI Map Sheets 1 and 2)

Stand 1FS2 is a disturbed early successional black locust forest. Canopy closure is approximately 40 percent with dominant size class between 6 and 20" DBH. The canopy is dominated by black locust, white mulberry (*Morus alba),* tree-of-heaven (*Ailanthus altissima)*, and Siberian elm. Dominant species in the understory include groundseltree*,* amur honeysuckle, tree-of-heaven (*Ailanthus altissima*), eastern poison ivy (*Toxicodendron radicans*), black locust, Asian bittersweet (*Celastrus orbiculatus),* and Japanese honeysuckle*.* Dominant species in the herbaceous layer include Japanese honeysuckle*,* English ivy (*Hedera helix)*, grape species (*Vitis* sp.) and great mullein (*Verbascum thapsus).* The understory and herbaceous layers are sparse in some areas with little herbaceous growth. Overall, the forest stand is in poor condition with high invasive species cover, moderate downed woody debris and high vine cover.

Stand 1FS3 (NRI Map Sheets 2 and 3)

Stand 1FS3 is a disturbed early successional black locust forest. Canopy closure is approximately 40 percent with a dominant size class of 2-6" DBH. The canopy is dominated by Callery pear and black locust. There is also one 18" DBH pin oak (*Quercus palustris*) within the stand. Dominant species in the understory include amur honeysuckle and rambler rose (*Rosa multiflora*). Smooth sumac is also present on the edge of the forest stand. Dominant species in the herbaceous layer include Japanese honeysuckle and common reed. Overall, the forest stand is in poor condition with high invasive species cover, low downed woody debris, and moderate vine cover.

Stand 1FS4 (NRI Map Sheets 3 and 4)

Stand 1FS4 is an early successional black locust and tree-of-heaven forest. Canopy closure is approximately 75 percent with a dominant size class of 6-11" DBH. The canopy is dominated by black locust, tree-of-heaven, white mulberry, and sweetgum (*Liquidambar styraciflua) with* climbing vines present in this layer. Dominant species in the understory include amur honeysuckle, blackberry species (*Rubus* sp.), Japanese honeysuckle*,* eastern poison ivy, Asian bittersweet*,* and English ivy. Herbaceous species are lacking due to vines being dominant as ground cover. Overall, the forest stand is in fair condition with high invasive species cover, moderate downed woody debris, and high vine cover.

Stand 1FS5 (NRI Map Sheet 2)

Stand 1FS5 is an early successional sweetgum and common persimmon forest. Canopy closure is approximately 25 percent with a dominant size class of 2-6" DBH. The canopy is dominated by sweetgum,

common persimmon (*Diospyros virginiana),* black locust, and Callery pear with inclusion of white mulberry. Dominant species in the understory include groundseltree, amur honeysuckle, Callery pear, white mulberry, Asian bittersweet, eastern poison ivy, and common persimmon. Autumn olive (*Elaeagnus umbellata),* grape species, blackberry species, and Virginia creeper (*Parthenocissus quinquefolia)* are also common in this layer. Dominant species in the herbaceous layer include Japanese honeysuckle, Callery pear, Asian bittersweet, and eastern poison ivy. Common reed and Virginia creeper are also present throughout this layer. Overall, the forest stand is in poor condition with high invasive species cover, moderate downed woody debris, and heavy vine coverage.

Stand 1FS6 (NRI Map Sheet 2)

Stand 1FS6 is an early successional black locust and sweetgum forest. Canopy closure is approximately 25 percent with dominant size class of 6-11" DBH. The canopy is dominated by sweetgum and black locust. Common persimmon, Callery pear, and tree-of-heaven are also common in this layer. Dominant species in the understory include Callery pear, black locust, amur honeysuckle, groundseltree, grape species, Asian bittersweet, and amur peppervine (*Ampelopsis brevipedunculata)*. Dominant species in the herbaceous layer include Asian bittersweet, Japanese honeysuckle, an unknown blackberry, Virginia creeper, and amur peppervine. Common reed, rambler rose*,* and common wormwood (*Artemisia vulgaris)* are also scattered throughout. Vines are dominant as ground cover in this layer. Invasive species cover is high throughout this stand. Overall, this forest stand is in poor condition as invasive species are dominant throughout and trees are stressed and damaged from heavy vine coverage.

Stand 1FS7 (NRI Map Sheets 1 and 2)

Stand 1FS7 is a mid-successional black locust and sweetgum forest. Canopy closure is approximately 60 percent with a dominant size class of 6-11" DBH. The canopy is dominated by black locust, sweetgum, and willow oak (*Quercus phellos)*. Callery pear and common hackberry (*Celtis occidentalis)* are also common in this layer. A few larger trees are scattered throughout the stand. Dominant species in the understory include Callery pear, black locust, Japanese honeysuckle, rambler rose, grape species, Asian bittersweet, and Virginia creeper. Dominant species in the herbaceous layer include common reed, rambler rose, grape species, Japanese honeysuckle, Asian bittersweet, and amur peppervine. Common wormwood is present along the stand edges and vines are dominant as ground cover in this layer. Invasive species cover is high throughout this stand. Overall, this stand is in poor condition as invasive species are dominant throughout and trees are stressed and damaged from heavy vine coverage.

Stand 1FS8 (NRI Map Sheet 1)

Stand 1FS8 is a mid-successional sweet gum and white pine forest. Canopy closure is approximately 50 percent with a dominant size class of 6-11" DBH. The canopy is dominated by black locust, sweetgum, eastern white pine (*Pinus strobus),* Callery pear, and common persimmon. White mulberry and a few larger eastern white pine are present in this layer. Dominant species in the understory include amur peppervine, groundseltree, amur honeysuckle, Japanese honeysuckle, grape species, Asian bittersweet, eastern poison ivy, blackberry species, and rambler rose. Autumn olive, staghorn sumac (*Rhus typhina),* and tree-of-heaven are also present in this stand. Dominant species in the herbaceous layer include common reed, eastern poison ivy, Japanese honeysuckle, Virginia creeper, grape species, and amur peppervine. Vines are dominant as ground cover in this layer. Overall, this stand is in poor condition with high invasive species cover and trees are stressed/damaged from heavy vine coverage.

Stand 1FS9 (NRI Map Sheet 1)

Stand 1FS9 is a mid-successional black cherry and black locust forest. Canopy closure is approximately 75 percent with a dominant size class of 6-11" DBH. The canopy is dominated by black cherry (*Prunus serotina)*, black locust, and Callery pear. Northern white oak (*Quercus alba)* and mockernut hickory (*Carya tomentosa*) are also common in this layer. Tree-of-heaven and princesstree *(Paulownia tomentosa)* are scattered along the forest stand edges. Dominant species in the understory include amur peppervine, Callery pear, black cherry, grape species, American holly (*Ilex opaca),* eastern poison ivy, rambler rose, Japanese honeysuckle, Asian bittersweet, Virginia creeper, and groundseltree. Dominant species in the herbaceous layer include Asian bittersweet, eastern poison ivy, Japanese honeysuckle, Virginia creeper, and rambler rose. Common reed is scattered along the stand edges. Vines are dominant as ground cover in this layer. Invasive species cover is high throughout this stand. The eastern portion of the stand has slightly younger but similar species and condition. Overall, this stand is in fair condition as invasive species are dominant throughout and trees have climbing vines, but moderate species diversity is present.

Stand 1FS10 (NRI Map Sheet 1)

Stand 1FS10 is a mid-successional tuliptree and tree-of-heaven forest. Canopy closure is approximately 80 percent with a dominant size class of 12-20" DBH. The canopy is dominated by tuliptree (*Liriodendron tulipifera*), tree-of-heaven, sweetgum, and black cherry. princesstree (*Paulownia tomentosa*), common persimmon, white mulberry, and eastern red cedar (*Juniperus virginiana*) are also common in this layer. Dominant species in the understory include white mulberry, amur honeysuckle, Japanese honeysuckle, autumn olive, eastern poison ivy, Asian bittersweet, trumpet-creeper (*Campsis radicans)*, rambler rose, an unknown blackberry, English ivy, and tree-of-heaven. Dominant species in the herbaceous layer include Asian bittersweet, eastern poison ivy, Japanese honeysuckle, garlic-mustard (*Alliaria petiolata)*, and English ivy. Vines are dominant as ground cover in this layer. Invasive species cover is high throughout this stand. Overall, this stand is in poor condition as invasive species are dominant throughout and trees are stressed and damaged from heavy vine coverage.

Stand 1FS11 (NRI Map Sheets 1 and 2)

Stand 1FS11 is a mid-successional black locust and Callery pear forest. Canopy closure is approximately 50 percent with a dominant size class of 2-6" DBH. The canopy is dominated by black locust, Callery pear, sweetgum, and common persimmon. Tree-of-heaven, princesstree, and eastern red cedar are also common, and willow oak is scattered throughout the stand. Dominant species in the understory include groundseltree, amur honeysuckle, Callery pear, grape species, sweetgum, amur peppervine, and eastern poison ivy. Autumn olive is also common in this layer. Dominant species in the herbaceous layer include Asian bittersweet, eastern poison ivy, Japanese honeysuckle, rambler rose, blackberry species, and common wormwood. Common reed is scattered throughout and along the forest stand edge. Vines are dominant as ground cover in this layer. Invasive species cover is high throughout this stand. Overall, this stand is in poor condition as invasive species are dominant throughout and trees are stressed and damaged from heavy vine coverage.

Stand 1FS12 (NRI Map Sheet 2)

Stand 1FS12 is a mid-successional willow oak and black locust forest. Canopy closure is approximately 75 percent with a dominant size class of 20-30" DBH. The canopy is dominated by willow oak, black locust,

and sweetgum. Southern red oak (*Quercus falcata*), black cherry, Callery pear, northern red oak (*Quercus rubra)*, white mulberry, and red maple (*Acer rubrum)* are also common in this layer. Dominant species in the understory include eastern poison ivy, Japanese honeysuckle, rambler rose, groundseltree, horsebrier (*Smilax rotundifolia)*, American holly, Virginia creeper, Asian bittersweet, and blackberry species. Dominant species in the herbaceous layer include Japanese honeysuckle, English ivy, eastern poison ivy, Asian bittersweet, and goldenrod species (*Solidago* sp.). Common reed is scattered and along the forest stand edge. Vines are dominant as ground cover in this layer. Invasive species cover is high throughout this stand. Overall, this stand is in fair condition. Canopy trees are in good health, however, invasives species are prevalent throughout the stand with some climbing vines.

Stand 1FS13 (NRI Map Sheet 2)

Stand 1FS13 is a mid-successional willow oak and southern red oak forest. Canopy closure is approximately 90 percent and a dominant size class of 12-20" DBH. The canopy is dominated by willow oak, southern red oak, northern white oak, and sweetgum. Red maple and black cherry are also common in this layer. Dominant species in the understory include horsebrier, Virginia creeper, eastern poison ivy, trumpet-creeper, rambler rose, blackberry species, and highbush blueberry (*Vaccinium corymbosum*). The forest interior has a more open understory. Dominant species in the herbaceous layer include eastern poison ivy, Japanese honeysuckle, and Virginia creeper. Common reed is dominant along the forest stand edge. Invasive species cover is medium throughout this stand. Overall, this stand is in fair condition as the forest interior is diverse with an open understory, but the forest stand edge is more disturbed with heavier vine and invasive cover.

Tree Survey

A total of 120 trees were identified within the study area. This includes 112 stand-alone trees and 8 specimen trees located within forest stands. An additional 16 trees or shrubs with a DBH of less than 1.5" were identified within the CBCA. The locations of these trees are included on the maps in **Appendix B**. Information regarding the species, size, and condition of each identified tree is included on the table in **Appendix G**.

4.0 Conclusions

A total of 10 WOTUS features were identified within the study area. Impacts to these resources may require authorization from the United States Army Corps of Engineers (USACE) and/or the Maryland Department of the Environment (MDE). Thirteen forest stands, 15 hedgerows, 24 woody vegetation clusters, 112 stand-alone trees, 8 specimen trees, and 16 small trees or shrubs were identified within the study area. Impacts to trees and/or forest may require authorization from Maryland Department of Natural Resources (DNR).

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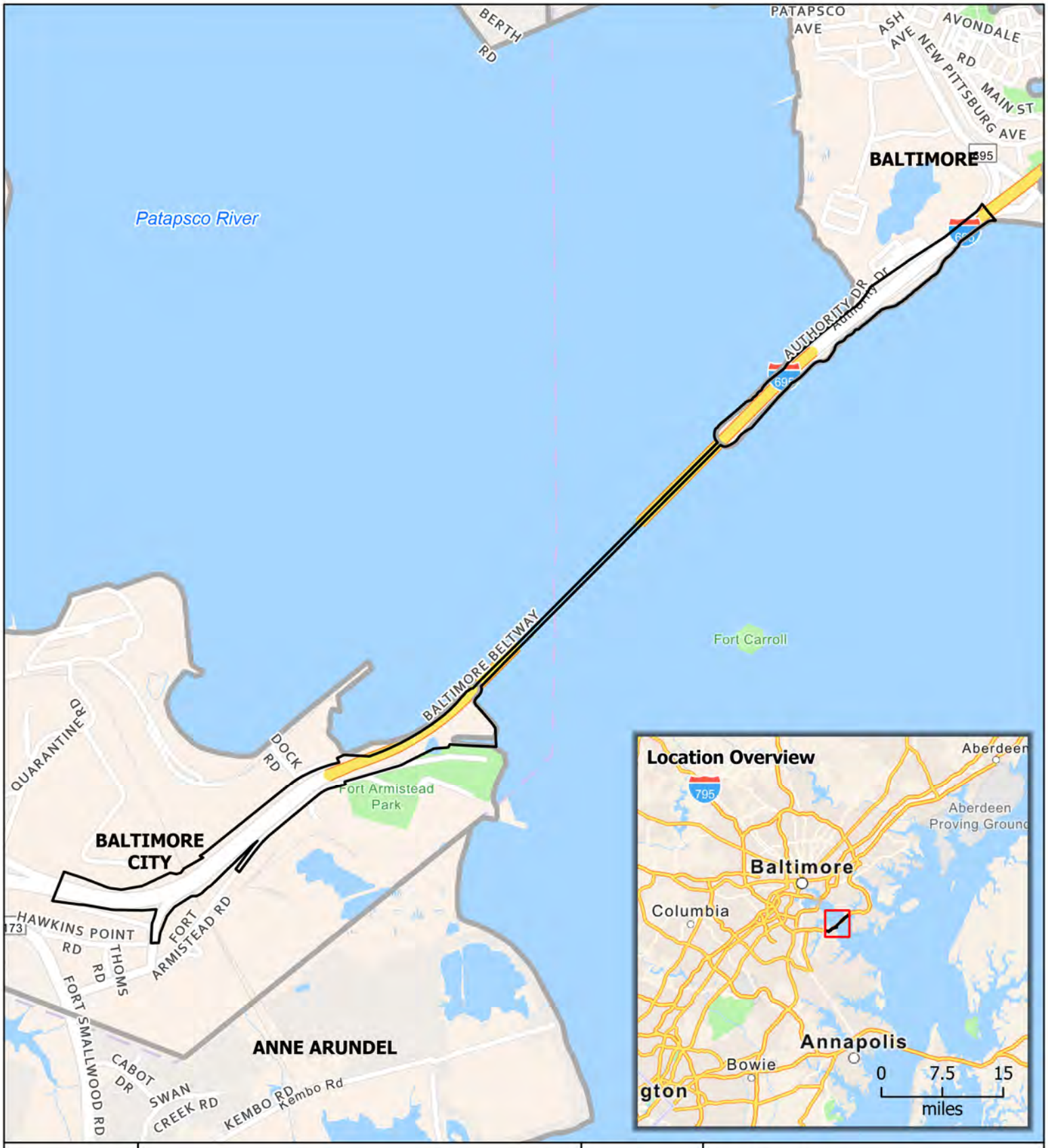
APPENDIX A: VICINITY MAP



MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MDTA
Maryland Transportation Authority

Francis Scott Key Bridge Rebuild Project

Vicinity Map

Baltimore City and Baltimore County, Maryland
June 2024

N
W E
S

Study Area
County Boundaries

0 1,000 2,000
Feet

APPENDIX B: NATURAL RESOUCES INVENTORY MAP

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Maryland Transportation Authority

Francis Scott Key Bridge Rebuild

Appendix B:
Natural Resources Inventory Maps
Sheet 1 of 7

Baltimore City and Baltimore County, Maryland
June 2025

- Upland Test Plot
- Wetland Test Plot
- Specimen Tree
- Individual Tree
- Individual Shrub
- Feature Continues Beyond Study Area
- Map Sheet
- County Boundaries
- Study Area
- Mean High Water (MHW) - 0.528ft - NAVD88
- Mean Higher High Water (MHHW) - 0.827ft - NAVD88
- CBCA — Chesapeake Bay Critical Area Boundary
- CRZ — CRZ
- Forest Stand
- Hedgerow
- Woody Vegetation
- Field Idenified MDTA Planting Area

Delineated Streams
- Intermittent
- Perennial
- Estuarine Sub-Tidal

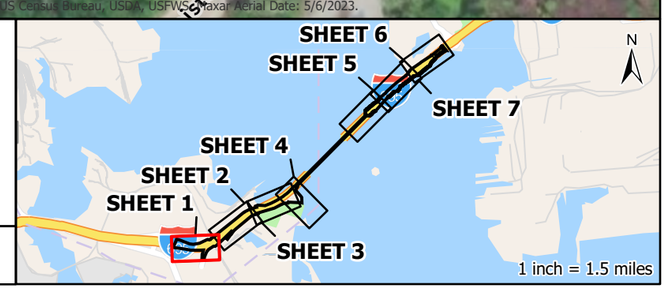
Delineated Wetlands
- Estuarine Emergent
- Estuarine Scrub-shrub
- Palustrine Emergent
- Palustrine Open Water
- NTWB — Non Tidal Wetland Buffer (25ft)

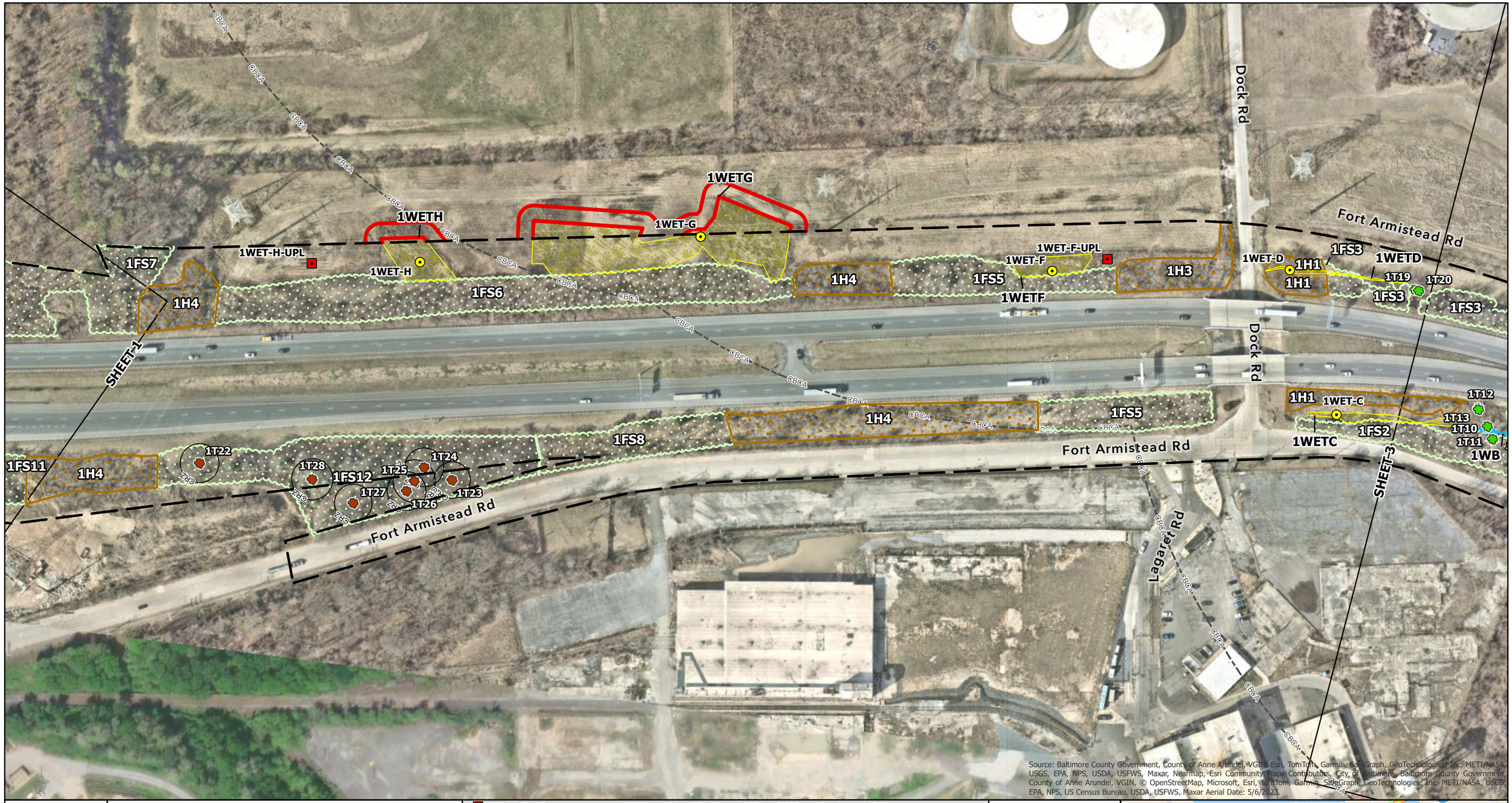
*Feature exists below bridge approach span, or portion of feature extends below bridge approach span.

N
W E
S

0 75 150
feet
1 inch = 150 feet

Map Center, NAD83
39.2038°, -76.5524°





Source: Baltimore County Government, County of Anne Arundel, VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Maxar, Nearmap, Esri Community Maps Contributors, City of Baltimore, Baltimore County Government, County of Anne Arundel, VGIN, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS. Maxar Aerial Date: 5/6/2023.

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STATE HIGHWAY ADMINISTRATION

Maryland Transportation Authority

Francis Scott Key Bridge Rebuild

Appendix B:
Natural Resources Inventory Maps
Sheet 2 of 7

Baltimore City and Baltimore County, Maryland
June 2025

- Upland Test Plot
- Wetland Test Plot
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- Individual Shrub
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- CBCA — Chesapeake Bay Critical Area Boundary
- CRZ
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- Hedgerow
- Woody Vegetation
- Field Idenified MDTA Planting Area

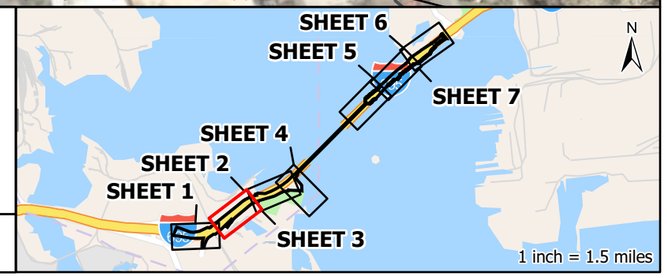
Delineated Streams
- Intermittent
- Perennial
- Estuarine Sub-Tidal

Delineated Wetlands
- Estuarine Emergent
- Estuarine Scrub-shrub
- Palustrine Emergent
- Palustrine Open Water
- WB — Non Tidal Wetland Buffer (25ft)

*Feature exists below bridge approach span, or portion of feature extends below bridge approach span.

0 75 150
feet
1 inch = 150 feet

Map Center, NAD83
39.207°, -76.545°



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MDTA Maryland Transportation Authority

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Francis Scott Key Bridge Rebuild

Appendix B:
Natural Resources Inventory Maps
Sheet 3 of 7

Baltimore City and Baltimore County, Maryland
June 2025

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*Feature exists below bridge approach span, or portion of feature extends below bridge approach span.

N W E S

0 75 150
feet
1 inch = 150 feet

Map Center, NAD83
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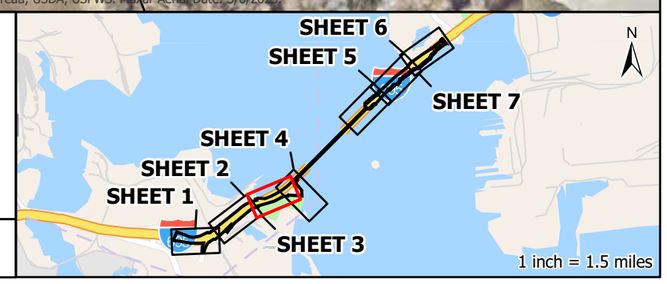

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STATE HIGHWAY ADMINISTRATION

MDTA Maryland Transportation Authority

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

Francis Scott Key Bridge Rebuild

Appendix B:
Natural Resources Inventory Maps
Sheet 4 of 7

Baltimore City and Baltimore County, Maryland
June 2025

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*Feature exists below bridge approach span, or portion of feature extends below bridge approach span.

N E S W

0 75 150
feet
1 inch = 150 feet

Map Center, NAD83
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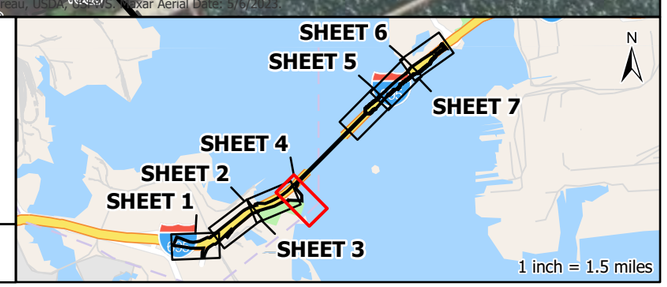

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Francis Scott Key Bridge Rebuild

Appendix B:
Natural Resources Inventory Maps
Sheet 5 of 7

Baltimore City and Baltimore County, Maryland
June 2025

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- Palustrine Open Water
- BWB — Non Tidal Wetland Buffer (25ft)

*Feature exists below bridge approach span, or portion of feature extends below bridge approach span.

0 75 150
feet
1 inch = 150 feet

Map Center, NAD83
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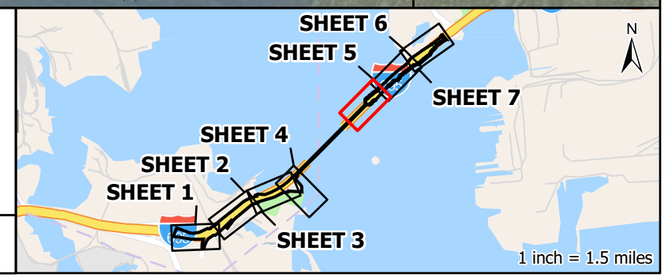

Project Area Within Chesapeake Bay Critical Area.

Source: Baltimore County Government, County of Anne Arundel, VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Esri Community Maps Contributors, Baltimore County Government, County of Anne Arundel, VGIN, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar, Nearmap. Maxar Aerial Date: 5/6/2023.

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Maryland Transportation Authority

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Francis Scott Key Bridge Rebuild

Appendix B:
Natural Resources Inventory Maps
Sheet 6 of 7

Baltimore City and Baltimore County, Maryland
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*Feature exists below bridge approach span, or portion of feature extends below bridge approach span.

0 75 150
feet
1 inch = 150 feet

Map Center, NAD83
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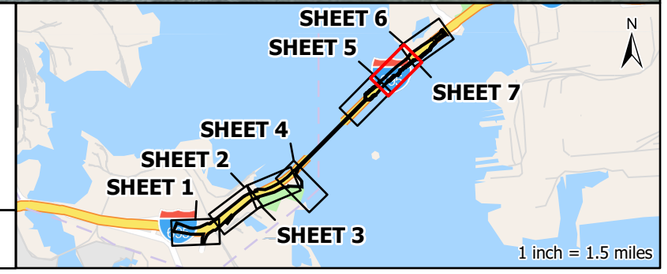

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Francis Scott Key Bridge Rebuild

Appendix B:
Natural Resources Inventory Maps
Sheet 7 of 7

Baltimore City and Baltimore County, Maryland
June 2025

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*Feature exists below bridge approach span, or portion of feature extends below bridge approach span.

W N E S

0 75 150
feet
1 inch = 150 feet

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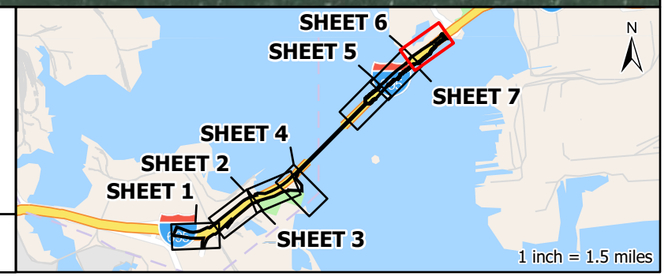

APPENDIX C: WOTUS SUMMARY TABLE

Appendix C: Francis Scott Key Bridge Rebuild Project
Wetland Summary Table

Wetland Number	Delineated Area (AC)	Cowardin Classification/Wetland Type	Hydrology	Dominant Vegetation			Soils
				Scientific Name	Common Name	Indicator Status	
1WETA (NRI Map Sheet 3)	0.02	PEM1C (Depression/Toe-of-Slope)	Surface Water, High Water Table, Saturation, Drainage Patterns, Geomorphic Position, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Udorthents, loamy, very deep, 0 to 8% slopes Depleted Below Dark Surface (A11) and Depleted Matrix (F3) 0-3 inches of 7.5YR3/2, clay, and 3-12 inches of 7.5YR 4/1, with 7.5YR5/8 redox concentrations, clay
1WETB (NRI Map Sheet 3)	0.003	PEM1C (Toe-of-Slope)	Surface Water, High Water Table, Saturation, Sediment Deposits, Geomorphic Position, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Udorthents, loamy, very deep, 0 to 8% slopes Depleted Below Dark Surface (A11), Depleted Matrix (F3), and Redox Dark Surface (F6) 0-6 inches of 2.5YR3/2 with 2.5YR4/8 redox concentrations, clay, and 6-12 inches of 2.5YR4/1 with 2.5YR4/8 redox concentrations, clay loam
1WETC (NRI Map Sheet 2 and 3)	0.05	PEM1C (Toe-of-Slope)	Surface Water, High Water Table, Saturation, Drainage Patterns, Geomorphic Position, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Udorthents, loamy, very deep, 0 to 8% slopes Redox Dark Surface (F6) 0-9 inches of 10Y 3/2 with 10Y 5/8 redox concentrations, clay loam
1WETD (NRI Map Sheet 2)	0.02	PEM1C (Toe-of-slope/Ditch)	Surface Water, High Water Table, Saturation, Sediment Deposits, Algal Mat or Crust, Geomorphic Position, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Urban Land, 0 to 15% slopes Depleted Matrix (F3) 0-6 inches of 10YR 4/2 with 2.5 YR5/6 redox concentrations, clay
1WETE (NRI Map Sheets 3, 4 and 5)	6.21	PEM1F (Impoundment)	Surface Water, Water Marks, Inundation Visible on Aerial Imagery, Aquatic Fauna, Geomorphic Position, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Udorthents, smoothed, 0-35% slopes. Sandy Mucky Mineral (S1) 0-12 inches of 10YR3/2, loamy sand with organics
1WETF (NRI Map Sheet 2)	0.08	PEM1A/B (Depression)	High Water Table, Saturation, Saturation Visible on Aerial Imagery, Geomorphic Position, FAC-Neutral Test	*Diospyros virginiana* *Baccharis halimifolia* *Phragmites australis*	Common Persimmon Groundseltree Common Reed	FAC FAC FACW	Udorthents, clayey, very deep, 0-15% slopes. Redox Dark Surface (F6) 0-8 inches of 10YR 3/2 with 5YR 4/4 redox concentrations, fine sandy loam
1WETG (NRI Map Sheet 2)	0.70	PEM1A/B (Depression)	Surface Water, High Water Table, Saturation, Saturation Visible on Aerial Imagery, Geomorphic Position	*Baccharis halimifolia* *Phragmites australis* *Holcus lanatus* *Toxicodendron radicans* *Smilax rotundifolia*	Groundseltree Common Reed Common Velvet Grass Eastern Poison Ivy Horsebrier	FAC FACW FACU FAC FAC	Udorthents, clayey, very deep, 0-15% slopes Redox Dark Surface (F6) 0-4 inches of 10YR 3/2 with 5YR4/6 redox concentrations, silt loam
1WETH (NRI Map Sheet 2)	0.13	PEM1A/B (Depression)	Surface Water, High Water Table, Saturation, Saturation Visible on Aerial Imagery, FAC-Neutral Test	*Baccharis halimifolia* *Liquidambar styraciflua* *Phragmites australis*	Groundseltree Sweet-Gum Common Reed	FAC FAC FACW	Udorthents, clayey, very deep, 0-15% slopes Depleted Matrix (F3) 0-8 inches of 7.5YR4/2 with 5YR4/6 redox concentrations, sandy clay loam

Wetland Number	Delineated Area (AC)	Cowardin Classification/Wetland Type	Hydrology	Dominant Vegetation			Soils
				Scientific Name	Common Name	Indicator Status	
1WETI (NRI Map Sheet 1)	2.55	PEM1A/B (Depression/Swale)	High Water Table, Saturation, Water-Stained Leaves, Saturation Visible on Aerial Imagery	*Populus alba* *Baccharis halimifolia* *Phragmites australis*	White poplar Groudseltree Common Reed	N/A FAC FACW	Udorthents, clayey, very deep, 0-15% slopes Redox Dark Surface (F6) 0-4 inches of 10YR2/2 with 7.5YR4/4 redox concentrations, sandy clay loam
1WETJ (NRI Map Sheets 3 and 4)	0.01	E2EM1 (Intertidal)	Surface Water, High Water Table, Saturation, Water Marks, Sediment Deposits, Drift Deposits, Geomorphic Position, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Udorthents, smoothed, 0-35% slopes Histosol (A1) 0-18+ inches of 10YR2/1, silt loam with organics, tidal muck
2WETA (NRI Map Sheet 6)	0.05	E2SS1 (Depression)	Surface Water, High Water Table, Saturation, Water Marks, Sediment Deposits, Drift Deposits, Algal Mat or Crust	*Baccharis halimifolia* *Phragmites australis*	Groundseltree Common Reed	FAC FACW	Udorthents, highway, 0 to 65% slopes Sandy Redox (S5) 3-16 inches of 2.5Y6/2 with 7.5YR4/6 redox concentrations, loamy sand
2WETB (NRI Map Sheet 6)	0.12	E2EM5 (Depression)	Surface Water, High Water Table, Saturation, Drift Deposits, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Udorthents, highway, 0 to 65% slopes Sandy Redox (S5) 3-12 inches of 10YR5/2 with 5YR4/6 redox concentrations, loamy sand
2WETC (NRI Map Sheet 6)	0.14	E2SS1 (Shoreline)	Surface Water, High Water Table, Saturation, Water Marks, Sediment Deposits, Drift Deposits, Algal Mat or Crust, FAC-Neutral	*Baccharis halimifolia* *Spartina alternifolia*	Groundseltree Saltwater cord grass	FAC OBL	Udorthents, highway, 0 to 65% slopes Sandy Redox (S5) 0-4 inches of 2.5Y7/2 with 7.5YR4/6 redox concentrations, loamy sand
2WETD (NRI Map Sheet 7)	0.05	PEM5 (Toe-of-slope)	Oxidized Rhizospheres along Living Roots, FAC-Neutral Test	*Phragmites australis*	Common Reed	FACW	Udorthents, highway, 0 to 65% slopes Depleted Matrix (F3) 0-6 inches of 10YR4/1 with 2.5YR3/4 redox concentrations,

Francis Scott Key Bridge Rebuild Project
Watercourse Summary Table

Watercourse Number	Delineated Size (LF/AC)	Cowardin Classification	Nearest Downstream Named Stream	Use Class	Channel Characteristics		Comments
					Average Channel Width	Average Channel Depth	
1WA (NRI Map Sheet 3)	112 LF	R4UB1	Patapsco River	I	3’	1” – 8”	Intermittent stream that flows from a culvert to 1WC and abuts 1WETA and 1WB.
1WB (NRI Map Sheets 2 and 3)	187 LF	R4UB1	Patapsco River	I	1’ – 4’	1’ – 4’	Intermittent stream that flows from 1WETC to 1WA and abuts 1WETB
1WC (NRI Map Sheets 3 – 7)	1.66 AC	E1UB	Chesapeake Bay	I	5,500’	50’	Patapsco River, begins and ends outside the study area.

APPENDIX D: DATASHEETS

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MDTA Inner Loop Rills City/County: Balt City Sampling Date: 2/20/24
Applicant/Owner: MDTA State: MD Sampling Point: 1WETA
Investigator(s): SWJ/EH Section, Township, Range: —
Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): none Slope (%): 1
Subregion (LRR or MLRA): 149A Lat: 39.209177 Long: -76.54069 Datum: NAD1983
Soil Map Unit Name: 40B Udorthents, loamy, very deep, 0 to 8 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 X 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 collecting sheet flow from east and toe of slope. Runs west to WB Photos 8087-88

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): 4"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 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: 1WET-A

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

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

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

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

Herb Stratum (Plot size: 5X1.0')			
1. Bromus diandrus	65	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65 = Total Cover		

50% of total cover: 32.5 20% of total cover: 13

Woody Vine Stratum (Plot size: NA)			
1. NA			
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).

SOIL

Sampling Point: 1WETA

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR3/2	100					clay	fine roots in upper inch
3-12	7.5YR4/1	90	7.5YR5/8	10	C	M	clay	gravel present

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MDTA City/County: Baltimore City Sampling Date: 2/20/24

Applicant/Owner: MDTA State: MD Sampling Point: 1WETB

Investigator(s): SLY ECH Section, Township, Range: —

Landform (hillslope, terrace, etc.): bottom of hillslopes Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): 149A Lat: 39.208999 Long: -76.541285 Datum: NAD 1983

Soil Map Unit Name: 40B Udorthents, loamy, very deep, 0 to 8 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:

photos - 8100 - 8101

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): 6
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:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 1WETB

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: NA)			
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling/Shrub Stratum (Plot size: NA)			
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5' x 10')			
1. Phragmites australis	70	Y	FACW
2. Lonicera japonica	10	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 = Total Cover		
50% of total cover: 40 20% of total cover: 16			
Woody Vine Stratum (Plot size: NA)			
1. NA			
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).

SOIL

Sampling Point: 1WETB

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5YR3/2	80	2.5YR4/8	20	C	M	clay loam	
6-12	2.5YR4/1	75	2.5YR4/8	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: (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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MDTA City/County: Baltimore City Sampling Date: 2/20/24

Applicant/Owner: MDTA State: MD Sampling Point: 1WETC

Investigator(s): SLY, ECH Section, Township, Range: —

Landform (hillslope, terrace, etc.): bottom of hillslope Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR or MLRA): 149A Lat: 39.208546 Long: -76.542296 Datum: NAD1983

Soil Map Unit Name: 40B Udorthents, loamy, very deep, 0 to 8 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:

phragmites ditch at toe of slope,

photos – 8103-8104

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): 7
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 5

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: 1WETC

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: NA)			
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling/Shrub Stratum (Plot size: NA)			
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5' x 10')			
1. Phragmites australis	85	Y	FACW
2. Lonicera japonica	10	N	FACU
3. Baccharis halimifolia	5	N	FAC
4. Rubus phoenicolasius	5	N	FACU
5.			
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: NA)			
1. NA			
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).

SOIL Sampling Point: 1WETC

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR3/2	90	10YR5/8	10	C	M	clay loam	
9-13	10YR3/2	100					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 has hydric soils but areas w/ fill soils are disturbed

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: MDTA Inner Loop Bills City/County: Baltimore Sampling Date: 3/20/24

Applicant/Owner: MDTA State: MD Sampling Point: 1WETD

Investigator(s): SLY, LAP Section, Township, Range:

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

Subregion (LRR or MLRA): MLRA 149A Lat: 39.209070 Long: -76.542730 Datum: NAD1983

Soil Map Unit Name: Urban land, 0 to 15 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? 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: 6560-6561

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)
- [x] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] 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 ✓	No _____	Depth (inches): 1"
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: • Standing water west end of wetland
• collects water from slope & road runoff

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

Sampling Point: 1WETD

Tree Stratum (Plot size: N/A)	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: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Herb Stratum (Plot size: 5'x10')			
1. Phragmites australis	90%	Y	FACW
2. Lonicera japonica	5%	N	FACU
3.			
4.			
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: _____)			
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).

SOIL

Sampling Point: A-WETD

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 4/2	90%	2.5YR 5/6	10%	C	M	clay	
6-14"	10YR 6/8	70%	5YR 5/8	30%	C	M	clay	fill soils

[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 (S8)
- ☐ 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:

- evidence of fill material
- fill soils

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore City Sampling Date: 5/3/24

Applicant/Owner: MdTA State: MD Sampling Point: 1WETE-1

Investigator(s): D. Smith, K. Mathews Section, Township, Range:

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

Subregion (LRR or MLRA): MLRA 149A Lat: 39.211814 Long: -76.53388 Datum: NAD83

Soil Map Unit Name: Udorthents, smoothed, 0-35% slopes NWI classification: PEMICd

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 1WETE-1 Upl. plot is same as for 1WETC

PEMIF

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): 6-12+

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:

Appears to be palustrine impoundment, with seasonal tidal influence

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WETE-1

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: 15 ft)			
1. Phragmites Australis	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

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

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).

SOIL

Sampling Point: WETF-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					LS	w/ organics

[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:

Permanent inundation likely. Very little soil extracted in auger. Soil w/ considerable muck.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Bridge City/County: Baltimore City Sampling Date: 5/6/24
Applicant/Owner: MDTA State: MD Sampling Point: WETF
Investigator(s): EB, GS Section, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5
Subregion (LRR or MLRA): MLRA 149A Lat: 39.208284 Long: -76.544114 Datum: NAD83
Soil Map Unit Name: Udorthents, clayey, very deep, 0-15% slopes NWI classification: None
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:
Soils disturbed from 695 + B6E ROW PEM1A/B

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:
Rain in past 24 hrs.

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

Sampling Point: 1WETF

Tree Stratum (Plot size: 20x50)	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: 20x50)			
1. Diospyros virginiana	5	✓	FAC
2. Baccharis halimifolia	5	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 10x25)			
1. Phragmites australis	90	✓	FACW
2. Lonicera japonica	3		FACU
3.			
4.			
5.			
6.			
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: 20x50)			
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: WETF

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR3/2	95	5YR4/4	5	C	M	Fine Sal	
2-8	10YR3/2	80	5YR4/4	20	C	M	Fine Sal	
8-12+	10YR7/2	95	2.5YR5/6	5	C	M	Sal	

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Bridge City/County: AA Co Sampling Date: 5/6/2024

Applicant/Owner: MDTA State: MD Sampling Point: WETF-UPL

Investigator(s): EB, GS Section, Township, Range:

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

Subregion (LRR or MLRA): MLRA 149A Lat: 39.208476 Long: -76.543899 Datum: NAD83

Soil Map Unit Name: Udorthents, clayey, very deep 0-15% slopes NWI classification: None

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: Upslope of wetland within depression that runs along the toe-of-slope of I-95 embankment. Receives significant stormwater run off from highway. Soils disturbed from I-95 + BGE ROW

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): 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:

Rain within past 24 hrs

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

Sampling Point: WETF-UPL

Tree Stratum (Plot size: 20×50)	Absolute % Cover	Dominant Species?	Indicator Status
1. Robinia pseudoacacia	5	✓	UPL
2. Liquidambar styraciflua	2	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	7	= Total Cover	
50% of total cover: 3.5	20% of total cover: 1.4		

Sapling/Shrub Stratum (Plot size: 20×50)			
1. Baccharis haminifolia	15	✓	FAC
2. Liquidambar styraciflua	2		FAC
3. Rubus argutus	1		FAC
4.			
5.			
6.			
7.			
8.			
	18	= Total Cover	
50% of total cover: 9	20% of total cover: 3.6		

Herb Stratum (Plot size: 10×25)			
1. Phragmites australis	65	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

Woody Vine Stratum (Plot size: 20×50)			
1. Lonicera japonica	30	✓	FACU
2. Parthenocissus quinquefolia	20	✓	FACU
3.			
4.			
5.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (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: 1 NETF-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/3	98	7.5YR 4/4	2	C	M	Fine SaCl	
1-4	10YR 3/3	93	7.5YR 4/4	7	C	M	Fine SaCl	
4-12+	5YR 5/4	99	2.5YR 5/6	1	C	M	SaL	

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore City Sampling Date: 5/8/24
Applicant/Owner: MDTA State: MD Sampling Point: WETG
Investigator(s): EB, TT Section, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5
Subregion (LRR or MLRA): MLRA 149A Lat: 39.207451 Long: -76.545866 Datum: NAD83
Soil Map Unit Name: Udorthents, clayey, very deep, 0-15% slopes NWI classification: None
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:
Soils disturbed from 695 + BGE ROW PEMIA/B

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

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. Baccharis halimifolia	10	✓	FAC
2. Sambucus nigra	2		FACW
3.			
4.			
5.			
6.			
7.			
8.			
	12 = Total Cover		

50% of total cover: 6 20% of total cover: 2.4

Herb Stratum (Plot size: 15')			
1. Phragmites australis	40	✓	FACW
2. Holcus lanatus	30	✓	FACU
3. Toxicodendron radicans	10		FAC
4. Juncus effusus	5		OBL
5. Dichanthelium clandestinum	2		FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	87 = Total Cover		

50% of total cover: 43.5 20% of total cover: 17.4

Woody Vine Stratum (Plot size: 30')			
1. Smilax rotundifolia	5	✓	FAC
2. Toxicodendron radicans	5	✓	FAC
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: 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 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: 1WETG

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	95	5YR 4/6	5	C	M/PL	SiL	
4-8	10YR 5/3	80	7.5YR 5/6	20	C	M	C	
8-12+	2.5YR 4/6	95	7.5YR 5/8	5			SaCL	

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: AA Co Sampling Date: 5/8/24

Applicant/Owner: MDTA State: MD Sampling Point: WETA

Investigator(s): EB, TT Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 149A Lat: 39.206596 Long: -76.547079 Datum: NAD83

Soil Map Unit Name: Udorthents, clayey, very deep, 0-15% slopes NWI classification: None

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: Soils disturbed from L695 + B6E PEMIA/B

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): 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: IWETH

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. Baccharis haminifolia	8	✓	FAC
2. Liquidambar styraciflua	5	✓	FAC
3. Sambucus nigra	2		FACW
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		

50% of total cover: 7.5 20% of total cover: 3

Herb Stratum (Plot size: 15)			
1. Phragmites australis	80	✓	FACW
2. Onoclea sensibilis	10		FACW
3. Toxicodendron radicans	5		FAC
4. Lonicera japonica	5		FACU
5. Smilax rotundifolia	3		FAC
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: 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: 1-WETH

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 4/2	98	5YR 4/6	2	C	M	SCL	
8-12+	5YR 4/4	95	2.5YR 4/6	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: (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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore City Sampling Date: 5/8/24

Applicant/Owner: MDTA State: MD Sampling Point: WETH-UPL

Investigator(s): EB, TT Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): MLRA 149A Lat: 39.206297 Long: -76.547577 Datum: NAD83

Soil Map Unit Name: Udorthents, clayey, very deep, 0-15% slopes NWI classification: None

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:
Soils disturbed from 695 + BGE ROW

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): 0.25"*
Water Table Present?	Yes ✓	No ____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-6"

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:
Even though there is a HWT, surface hydrology is perched over dense clay.

* Surface water in ~5% of plot

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

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: 15)			
1. Phragmites australis	50	✓	FACW
2. Holcus lanatus	5		FAC
3. Juncus effusus	8		OBL
4. Toxicodendron radicans	20	✓	FAC
5. Parthenocissus quinquefolia	5		FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	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: 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: WETH-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	5YR 4/4	100					SaL	
7-12	2.5YR 4/6	93					C	
	7.5YR 5/8	7					C	
12-20+	WHITE PASTE N	8.5 (60)					C	
	2.5YR 2.5/4	40					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:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: AA Co Sampling Date: 5/8/24

Applicant/Owner: MDTA State: MD Sampling Point: WETI

Investigator(s): EB, TT Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression / Swale Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): MLRA 149A Lat: 39.205025 Long: -76.549892 Datum: NAD83

Soil Map Unit Name: Udorthents, clayey, very deep, 0-15% slopes NWI classification: None

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: PEM1A/B

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): 11
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: INET I

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. Populus alba	5	✓	–
2. Baccharis hamnifolia	10	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Herb Stratum (Plot size: 15)			
1. Phragmites australis	90	✓	FACW
2. Toxicodendron radicans	15		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105 = Total Cover		
50% of total cover: 54.5	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: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67.7 (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).

Populus alba does not have an indicator status but prefers more upland conditions. Plot meets dominance test at 67.7% if Populus alba assumed UPL.

SOIL

Sampling Point: WETI

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	95	7.5YR 4/4	5	C	M	SaCL	
4-10	7.5YR 5/3	95	5YR 5/4	5	C	M	SaCL	
10-16	CLAY FILL							

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: AA Co Sampling Date: 5/8/24

Applicant/Owner: MDTA State: MD Sampling Point: WETI-UPL

Investigator(s): EB, TT Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 149A Lat: _____ Long: _____ Datum: NAD83

Soil Map Unit Name: Udorthents, clayey, very deep, 0-15% slopes NWI classification: None

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:

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): 14"
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: WETI-UPL

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus alba	10	✓	–
2. Populus deltoides	5	✓	FAC
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)			
1. Populus alba.	50	✓	–
2. Baccharis haminifolia	20	✓	FAC
3. Diospyros virginiana	5		FAC
4.	0		
5.			
6.			
7.			
8.			
	75	= Total Cover	
50% of total cover: 37.5		20% of total cover: 15	

Herb Stratum (Plot size: 15)			
1. Populus alba	10		–
2. Toxicodendron radicans	25	✓	FAC
3. Ampelopsis brevipedunculata	15		UPL
4. Phragmites australis	5		FACW
5. Lonicera japonica	20		FACU
6. Panicum virgatum	2		FAC
7. Solidago sp.	3		–
8. Poacaea sp.	40	✓	–
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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (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).

Populus alba has no status, assumed UPL; unable to ID Poacaea sp., likely FACU or UPL species due to location. and lack of wetland hydrology + hydric soils.

SOIL

Sampling Point: WETI-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/3	98	5YR 4/4	2	C	M	SaCL	
4-12	5YR 4/4	95	2.5YR 5/6	5	C	M	SaC	
12-16+	10YR 4/2	95	7.5YR 5/6	5	C	M	SaC	

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore City Sampling Date: 5/3/24

Applicant/Owner: MdTA State: MD Sampling Point: 1WETJ-1

Investigator(s): D. Smith, K. Mathews Section, Township, Range:

Landform (hillslope, terrace, etc.): Intertidal Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): MLRA 149A Lat: 39.210446 Long: -76.535154 Datum: NAD83

Soil Map Unit Name: Udorthents, smoothed, 0-35% slopes NWI classification: E1UBL

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 1WETJ-1. Wetland is small patch of Phragmites between rocky shore areas. E2EM1

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): 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:

*40% of plot on incoming tide. No recent rain, but wetland is hydrologically influenced by twice daily tidal flooding.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WET 1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
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: 15')			
1. Phragmites australis	100	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
= Total Cover			
50% of total cover: ____ 20% of total cover: ____			
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).

SOIL Sampling Point: WETLAND

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18+	10YR 2/1	100					Silt loam	Tidal 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)
- ___ 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:

Tidal muck.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore City Sampling Date: 5/3/24
Applicant/Owner: MDTA State: MD Sampling Point: 1-WETJ-UPL
Investigator(s): D. Smith, K. Mathews Section, Township, Range:
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 3
Subregion (LRR or MLRA): MLRA 149A Lat: 39.21043 Long: -76.535253 Datum: NAD83
Soil Map Unit Name: Udorthents, smoothed, 0-35% slopes 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:
Upland plot for 1-WETJ + 1-WET
Photo 1WETJ-UPL-1

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:
Above MHW line but w/in storm surge zone.

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

Sampling Point: WETJ-UPL

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	65	Y	FAC
2. Koelreuteria paniculata	10		
3. Robinia pseudoacacia	18		UPL
4. Morus alba	5		FACU
5. Prunus serotina	5		FACU
6.			
7.			
8.			
	103	= Total Cover	

50% of total cover: 30.6 20% of total cover: 51.5

Sapling/Shrub Stratum (Plot size: 30')			
1. Baccharis halimifolia	5	Y	FAC
2. Lonicera maackii	3		FACU
3. Robinia pseudoacacia	5	Y	UPL
4. Acer negundo	3		FAC
5.			
6.			
7.			
8.			
	16	= Total Cover	

50% of total cover: 8 20% of total cover: 3.2

Herb Stratum (Plot size: 15')			
1. Phragmites australis	15	Y	FACW
2. Clematis terniflora	12	Y	FACU
3. Phalaris arundinacea	7		FACW
4. Toxicodendron radicans	12	Y	FAC
5. Robinia pseudoacacia	5		UPL
6. Parthenocissus quinquefolia	3		FACU
7. Lonicera japonica	2		FACU
8.			
9.			
10.			
11.			
12.			
	56	= Total Cover	

50% of total cover: 11.2 20% of total cover: 28

Woody Vine Stratum (Plot size:)			
1. Toxicodendron radicans	10	Y	FAC
2. Parthenocissus quinquefolia	5		FACU
3. Clematis terniflora	15	Y	FACU
4. Lonicera japonica	15	Y	FACU
5. Vitis sp.	5		
	50	= Total Cover	

50% of total cover: 10 20% of total cover: 25

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: 55.5 (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]
- ___ 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: WETJ-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5 yr 2.5/2	100					FSL	
5-12+	10R 5/6	100					C	Rejected by garbage

[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:

Considerable trash in boring

Tidal

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: ESK Rebuild City/County: Baltimore Sampling Date: 5/7/24

Applicant/Owner: MDTA State: MD Sampling Point: 2WETA

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

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

Subregion (LRR or MLRA): LRRS, MLRA 149A Lat: 39.226666 5°N Long: -76.514840 0°W Datum: NAD 83

Soil Map Unit Name: Udorthents, highway, 0 to 65 percent slopes (UcF) NWI classification: E2SS1

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 X 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: Wetland visited at mid-tide, used visual indicators of tidal boundary in lieu of tidal elevation data
- indicators include: physical markings, wrack line

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): varies	
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:

tidal scrub-shrub wetland, abutting emergent tidal wetland to west and Patapsco River to east

- Tide nearly one foot above normal elevation on this day

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

Sampling Point: 2WETA

Tree Stratum (Plot size: 10X20')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Sapling/Shrub Stratum (Plot size: 10X20')			
1. Baccharis halimifolia	80%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	80% = Total Cover		

50% of total cover: 40% 20% of total cover: 16%

Herb Stratum (Plot size: 10X20')			
1. Phragmites australis	40%	Y	FACW
2. Baccharis halimifolia	10%	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50% = Total Cover		

50% of total cover: 25% 20% of total cover: 10%

Woody Vine Stratum (Plot size: 10X20')			
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: 3/3 (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: 2WETA

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 2/2	80%					sandy loam	
	10YR 4/3	20%						
3-16"	2.5Y 6/2	95%	7.5YR 4/6	5%	C	M	loamy sand	

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore Sampling Date: 5/7/24

Applicant/Owner: MDTA State: MD Sampling Point: 2WETB

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

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

Subregion (LRR or MLRA): LRRS, MLRA 149A Lat: 39.2264587°N Long: -76.515097° W Datum: NAD83

Soil Map Unit Name: Udorthents, highway, 0 to 65 percent slopes (UcF) NWI classification: E2EM5

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 9346-47
•emergent tidal wetland at mid-tide; use visual indicators of tidal boundary in lieu of tidal elevation data; indicators include physical markings, wrack line; precise limit of tide difficult to determine due to heavy litter & driftwood deposition & dense phrag rhizomes

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): varies (tidal)

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:
* tide nearly one foot above normal elevation on this day

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

Sampling Point: 2WETB

Tree Stratum (Plot size: 20' radius)	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: 20' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Herb Stratum (Plot size: 20' radius)			
1. Phragmites australis	100%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100% = Total Cover		

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

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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 1/1 (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: 2WETB

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100%					muck	
3-12"	10YR 5/2	95%	5YR 4/6	5%	C	M	loamy sand	

[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:

root masses

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore Sampling Date: 5/3/24
Applicant/Owner: MDTA State: MD Sampling Point: 2-UPLA
Investigator(s): ET, LP Section, Township, Range:
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 1%
Subregion (LRR or MLRA): LRR S, MLRA 149A Lat: 39.2325554 °N Long: -76.5065712 Datum: NAD83
Soil Map Unit Name: Udorthents, highway, 0 to 65 percent slopes (UcF) NWI classification: N/A
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 X 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 ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: photos - 9329, 9330

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 ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:
Roadside ditch constructed in dense fill material allowing water to pond.
No hydric soils observed.

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

Sampling Point: 2 UPLA

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:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Herb Stratum (Plot size: 5x5)			
1. Ranunculus sceleratus	80%	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80% = Total Cover		

50% of total cover: 40% 20% of total cover: 16%

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: 1/1 (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).

SOIL

Sampling Point: 2-10 PLA

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 5/3	75%					Silty clay loam	gravel refusal at 10"
	7.5YR 4/6	25%						fill material

[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): 10"

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore Sampling Date: 5/7/24

Applicant/Owner: MDTA State: MD Sampling Point: 2WETA/B-UPL

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

Landform (hillslope, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 0%

Subregion (LRR or MLRA): LRR9, MLRA149A Lat: 39.2263219 °N Long: -76.5151510 °W Datum: NAD83

Soil Map Unit Name: Udorthents, highway, 0 to 65 percent slopes (UcF) 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? 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: 9348-50
berm between 2WETA + 2WETB + Patapsco 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): _____
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: 2WETLAND-UPL

Tree Stratum (Plot size: 10 x 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	20%	Y	FACU
2. Ulmus parvifolia	30%	Y	FACU
3. Robinia pseudoacacia	30%	Y	UPL
4.			
5.			
6.			
7.			
8.			
	80% = Total Cover		
50% of total cover: 40%	20% of total cover: 16%		

Sapling/Shrub Stratum (Plot size: 10 x 20')			
1. Amorpha fruticosa	5%	N	FACU
2. Rosa multiflora	15%	Y	FACU
3. Ligustrum sinense	15%	Y	FAC
4.			
5.			
6.			
7.			
8.			
	35% = Total Cover		
50% of total cover: 17.5%	20% of total cover: 7%		

Herb Stratum (Plot size: 10 x 20')			
1. Toxicodendron radicans	10%	N	FAC
2. Rumex crispus	10%	N	FAC
3. Cinna arundinacea	80%	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100% = Total Cover		
50% of total cover: 50%	20% of total cover: 20%		

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: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 2/4 (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 X

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

SOIL

Sampling Point: 2WETA/B-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	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: (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 X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore Sampling Date: 5/7/24

Applicant/Owner: MDTA State: MD Sampling Point: 2WETC

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

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

Subregion (LRR or MLRA): LRRS, MLRA 149A Lat: 39.2278169 °N Long: -76.5139756 °W Datum: NAD83

Soil Map Unit Name: Udorthents, highway, 0 to 65 percent slopes (UcF) NWI classification: E2SS1

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: 9353-56
*wetland visited at low tide
-areas surrounding wetlands include rock shoreline with no vegetation or soils; no upland point was collected

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): varies (tidal)
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:

* Tide nearly one foot above normal elevation on this day

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

Sampling Point: 2WETC

Tree Stratum (Plot size: 10x20')	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: 10x20')			
1. Baccharis hamlimifolia	50%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	50% = Total Cover		
50% of total cover: 25%	20% of total cover: 10%		
Herb Stratum (Plot size: 10x20')			
1. Spartina alterniflora	60%	Y	OBL
2. Baccharis hamifolia	10%	N	FAC
3. Phragmites australis	10%	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80% = Total Cover		
50% of total cover: 40%	20% of total cover: 16%		
Woody Vine Stratum (Plot size: 10x20')			
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: 2/2 (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: 2WETC

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	2.5Y 7/2	80	7.5YR 4/6	20%	C	M	loamy sand	stone refusal

[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: stone

Depth (inches): 4"

Hydric Soil Present? Yes ✓ No ____

Remarks:

deposited sediment atop of rocky shoreline

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore Sampling Date: 5/7/24

Applicant/Owner: MDTA State: MD Sampling Point: 2WETD

Investigator(s): LP, ET Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 1%

Subregion (LRR or MLRA): LRRS, MLRA 149A Lat: 39.2286799°N Long: -76.5117316°W Datum: NAD 83

Soil Map Unit Name: Udorthents, highway, 0 to 65 percent slopes (UcF) NWI classification: PEMS

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 X 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: Photos: 9358-59
toe of slope wetland at storm drain outfall - likely provides primary hydrology; perched above clay fill

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 ____	No X	Depth (inches): ____

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: 2WETD

Tree Stratum (Plot size: 5' radius)	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' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Herb Stratum (Plot size: 5' radius)			
1. Phragmites australis	85%	Y	FACW
2. Taxicodendron radicans	20%	N	FAC
3. Leersia oryzoides	20%	N	OBL
4. Lonicera japonica	5%	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	125 = Total Cover		

50% of total cover: 62.5% 20% of total cover: 25%

Woody Vine Stratum (Plot size: 5' 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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 1/1 (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: 2WETD

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 4/1	95%	2.5YR 3/4	5%	D	PL/M	sandy clay loam	
6-12"	2.5Y 6/4	90%	10YR 5/8	10%	C	M	loamy sand	

[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 DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: FSK Rebuild City/County: Baltimore Sampling Date: 5/7/24
Applicant/Owner: MDTA State: MD Sampling Point: 2WETD-UPL
Investigator(s): LP, ET Section, Township, Range:
Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 17
Subregion (LRR or MLRA): LRRS, MLRA 149A Lat: 39.228829 Long: -76.511785°W Datum: NAD83
Soil Map Unit Name: Udorthents, highway, 0 to 65 percent slopes (UcF) NWI classification: N/A
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 X 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 ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: photo 9360

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 ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

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

Sampling Point: 2WETD-UPL

Tree Stratum (Plot size: 5' radius)	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' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Herb Stratum (Plot size: 5' radius)			
1. Phragmites australis	75%	Y	FACW
2. Toxicodendron radicans	5%	N	FAC
3. Parthenocissus quinquefolia	2%	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	82% = Total Cover		

50% of total cover: 41% 20% of total cover: 16.4%

Woody Vine Stratum (Plot size: 5' 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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 1/1 (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: 2WETD-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 5/6	100%					sandy loam	
6-12"	5Y 8/1	80%	10YR 5/8	20%			silty clay	fill material

[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 X

Remarks:

→ Matrix color assumed to be a result of clay fill material rather than reducing conditions

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Key Bridge Rebuild City/County: Baltimore City Sampling Date: 5/27/25

Applicant/Owner: MDTA State: MD Sampling Point: WTP 1

Investigator(s): EB, TD Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Upland Island Local relief (concave, convex, none): Convex Slope (%): 1%

Subregion (LRR or MLRA): MLRA 149A Lat: 39.211662 Long: -76.534459 Datum: NAD83 (2011)

Soil Map Unit Name: Udorthents, smoothed, 0-35% slopes 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? 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:
Upland island in middle of 1-WETE

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: UTP-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Catalpa speciosa	5	✓	FACU
2. Juniperus virginiana	2	✓	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	7	= Total Cover	
50% of total cover: 3.5	20% of total cover: 1.4		

Sapling/Shrub Stratum (Plot size: 30')			
1. Robinia pseudoacacia	40	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 8		

Herb Stratum (Plot size: 15')			
1. Galium aparine	2		FACU
2. Bromus sp.	60	✓	N/A
3. Lonicera japonica	8		FACU
4. Phragmites australis	50	✓	FACW
5.			
6.			
7.			
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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (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.

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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 Bromus sp., however, even if it was FAC or wetter, the dominance test would not be met (2/5 = 40%)

SOIL

Sampling Point: UTP-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR2-2	100					L	w/ organics
2-12	10YR4-3	99	10YR4-1	1	D	M	SaC	
12-14+	5YR4-4	100					SaC	

[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:

Waters of the U.S. Data Sheet

Project: MDTA Inner Loop Rills	**Feature ID:** 1WC Patapsco River		**Cowardin Class:** E1UB
Date: 3/20/24	**State:** MD	**Last Flag Number:** N/A	**Stream Order:** N/A
Crew: SW/LAP	**County:** Balt City	**Photos:** 6568-69	**Use Class:** 1

Feature Hydrologic Class and Jurisdiction:

Hydrologic Class	USACE Jurisdiction	Jurisdictional Rationale			
		TNW	*Impoundment of:*	*Tributary*	*Other Waters*
✓ Tidal	TNW	Tidal	TNW	Relatively Permanent	Relatively Permanent
Perennial	Impoundment	Interstate	Tributary	Relatively Permanent Notes:	
Intermittent	✓ Tributary	✓ Navigable			
Ephemeral	Other Waters				
Other					

Hydrologic Connectivity	Upstream: outside SA	Downstream: outside SA	Adjacent/Abutting:

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

Shape (with respect to OHW)		Substrate				Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 50 ft.	✓ Silts	✓ Sands	Muck		RB: Scrub/shrub
Artificial (man-made)	Depth: 0-50 ft.	✓ Cobbles	✓ Gravel	Other:		
Manipulated (man-altered)	Bank Erosion/stability: stable	Bedrock	Concrete			LB: Scrub/shrub
Other:		Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ✓ ≤4:1				
Notes:						

Weather/Precipitation Conditions:

During Field Visit		Inches of Rain Within Last Week		weather station Tanyard Springs - KMDGLENB25 Monthly Drought Condition NCDC Divisional PDSI https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/divisional/mapping												State: MD Division: Upper Southern Month: Jan Year: 2024
✓	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)***

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)***

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:		

WB-4, WB-103A/B

Waters of the U.S. Data Sheet

Project: MDTA Inner Loop Rills		**Feature ID:** 1WA	**Stream Order:** R4UB1
Date: 3/20/24	**State:** MD	**Last Flag Number:**	**Use Class:** I
Crew: SW/EH	**County:** Balt city	**Photos:** 8092-93; on 3/20/24 6566-67	

Feature Hydrologic Class and Jurisdiction:

Hydrologic Class	Jurisdiction	Reason			
	Tidal		TNW (a)(1)	*TNW*	*Impoundment of:*	✓ *Tributary*	*Other Waters*
✓	Perennial		Impoundment (a)(2)		Tidal		TNW (a)(1)	✓ Relatively Permanent		Relatively Permanent
	Intermittent	✓	Tributary (a)(3)		Interstate		Impoundment (a)(2)		Significant Nexus		Significant Nexus
	Ephemeral		Other Waters (a)(5)		Navigable		Tributary (a)(3)	Similarly Situated Waters:		Similarly Situated Waters:
	Other						Adj. Wetland (a)(4)			

Hydrologic Connectivity	Upstream: culvert	Downstream: 1WC	Adjacent/Abutting: 1WETA, 1WB

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: Planted/disturbed
	Artificial (man-made)	Depth: 1-8"	✓ Cobbles	✓ Gravel	Other:	
✓	Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		LB: Hedgerow
	Other:	Mod. unstable	Side slope: ☐ ≥1:1 ☑ 2:1 ☑ 3:1 ☐ ≤4:1			

Notes: Gabion on either side of culvert going under I695, slow flow from culvert under road

Weather/Precipitation Conditions:

During Field Visit		Inches of Rain Within Last Week		Monthly Drought Condition NCDC Divisional PDSI https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/divisional/mapping													State: MD Division: Upper Southern Month: Jan Year: 2024
✓	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:

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME IWA	LOCATION east of Dock Rd @ 1695
STATION # _____ RIVERMILE _____	STREAM CLASS I
LAT 39.20900 LONG -76.541035	RIVER BASIN Patapsco / Baltimore Harbor
STORET #	AGENCY
INVESTIGATORS HT, TT	
FORM COMPLETED BY HT	DATE 5/16/24 TIME 1 AM (PM)	REASON FOR SURVEY FSK Rebuild

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking. Substrate clay/sand w/ fine sediment, lacking cover
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation. some hard veg in channel	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 7	20 19 18 17 16	15 14 13 12 11	10 9 8 (7) 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent. Small pool at culvert
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 12	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category: Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely. flows through culvert - rip rap stabilized.
SCORE 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 (4) 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods. stabilized w/ large gravel.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 5 (LB) Left Bank	10 9	8 7 6	(5) 4 3	2 1 0
SCORE 5 (RB) Right Bank	10 9	8 7 6	(5) 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining. mostly invasive species	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 3 (LB) Left Bank	10 9	8 7 6	5 4 (3)	2 1 0
SCORE 3 (RB) Right Bank	10 9	8 7 6	5 4 (3)	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities. disturbed by recent construction activities
SCORE 2 (LB) Left Bank	10 9	8 7 6	5 4 3	(2) 1 0
SCORE 2 (RB) Right Bank	10 9	8 7 6	5 4 3	(2) 1 0

Total Score 51

Waters of the U.S. Data Sheet

Project: MDTA Inner Loop Rills		**Feature ID:** 1WB	**Stream Order:** R4UB1
Date: 8/20/24	**State:** MD	**Last Flag Number:** WC-8	**Use Class:** 1
Crew: SW/EH	**County:** Balt City	**Photos:** 8090-99	

Feature Hydrologic Class and Jurisdiction:

Hydrologic Class	Jurisdiction	Reason			
	Tidal		TNW (a)(1)	*TNW*	*Impoundment of:*	*Tributary*	*Other Waters*
	Perennial		Impoundment (a)(2)		Tidal		TNW (a)(1)	✓ Relatively Permanent		Relatively Permanent
✓	Intermittent	✓	Tributary (a)(3)		Interstate		Impoundment (a)(2)		Significant Nexus		Significant Nexus
	Ephemeral		Other Waters (a)(5)		Navigable		Tributary (a)(3)	Similarly Situated Waters:		Similarly Situated Waters:
	Other						Adj. Wetland (a)(4)			

Hydrologic Connectivity	Upstream: 1WETC	Downstream: 1WA	Adjacent/Abutting: 1WETB

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: Hedgerow
Artificial (man-made)	Depth: 1-4"	Cobbles	✓ Gravel	Other:	
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete		LB: Hedgerow
Other:	stable	Side slope: ☐ ≥1:1 ☐ 2:1 ☐ 3:1 ☑ ≤4:1			

Notes: 1WB flows toward 1WA, but stopped by debris jam @ gabion wall

Weather/Precipitation Conditions: adj. to WB. Red clay substrate

During Field Visit		Inches of Rain Within Last Week		Monthly Drought Condition NCDC Divisional PDSI https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/divisional/mapping	State: MD Division: Upper Southern Month: Jan Year: 2024
✓	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:

Modified Environmental Protection Agency Rapid Bioassessment Protocol (EPA RBP) Habitat Assessment Field Data Sheet (Low Gradient Ephemeral/Intermittent Streams)

RAPID HABITAT ASSESSMENT: LOW GRADIENT Ephemeral/Intermittent >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

Station ID/ Stream Name	1WB			LAT (DD)	39.208974
Reach Length (m)	57	Date	5/16/24	LONG (DD)	-76.541337

HABITAT PARAMETER	CATEGORY: Optimal	Sub-optimal	Marginal	Poor
1. SUBSTRATE/ DIVERSITY **AVAILBLE COVER FOR AMPHIBIANS CRAYFISH** **SCORE:** 3	*Greater than 50% of substrate consisting of mix of snags, tree roots or other stable habitat providing cover for amphibians and aquatic or terrestrial invertebrates. LWD in moderate to advanced stage of decay and within- active channel; Substrate roughness capable of trapping lots of organic matter. If moss covered, rate high.*	*30 to 50% cover and mix of diverse stable habitat; well suited for full cover potential; adequate habitat for maintenance of populations; presence of additional LWD in the form of new fall. Substrate roughness still capable of trapping organic matter.*	*10 to 30% mix of stable cover; habitat availability less than desirable; substrate frequently disturbed or removed. LWD low in density and/or may be new fall or in early decay stage. Some areas suitable for trapping organic matter. If lg. wood is absent, score low.*	*Less than 10% stable cover; lack of habitat is obvious; substrate unstable or lacking. Few areas suitable for trapping organic matter.* clay/sand w/ fine [illegible]
Rate in Channel and Toe of Banks				
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 (3) 2 1 0
2. POOL SUBSTRATE CHARACTER-IZATION **In dry channels, pool areas should still be observable** **SCORE:** 6	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged (or remnant) aquatic vegetation are common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged (or remnant) vegetation are present.	All mud or clay or sand bottom; little or no root mat; no submerged (or remnant) vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1 0
3. CHANNEL ALTERATION **SCORE:** 11	Channelization or dredging absent of minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging (>than past 20 years) may be present, but no evidence of recent channelization.	Channelization may be extensive; embankments or shoring structures present on both banks; 40 to 80% of the stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0
4. SEDIMENT DEPOSITION **SCORE:** 6	Little or no enlargement of "islands" or point bars and less than 20% of the bottom affected by fine sediment deposition. Leaf packs and woody debris with minimal silt covering.	Some new increase in bar formation, mostly from sand, or fine sediment; 20 to 50% of the bottom is affected; slight deposition in pools. Leaf packs with moderate silt covering.	Moderate deposition of new sand, or fine sediment on old and new bars; 50 to 80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent. Leaf packs with heavier silt covering.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1 0
5. CHANNEL SINUOSITY **SCORE:** 3	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line.	The bends in the stream increase the stream length 2 to 3 times longer than if it was in a straight line.	the bends in the stream increase the stream length up to 2 times longer than if it was in a straight line.	Channel is straight; waterway has been channelized for a long distance.
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 (3) 2 1 0

Appendix 1: Modified Environmental Protection Agency Rapid Bioassessment Protocol (EPA RBP)
Habitat Assessment Field Data Sheet (Low Gradient Ephemeral/Intermittent Streams)

***RAPID HABITAT ASSESSMENT*: LOW GRADIENT >>>>>>>>>>>>>>>>>>>>>>>>>>**	**Reviewers Initials**	HT, JT

	Optimal	**Sub-optimal**	**Marginal**	**Poor**
6. BANK STABILITY (score each bank) *determine left/ right by facing downstream	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems (<5% of bank affected).	Moderately stable; infrequent, small areas of erosion mostly healed over; 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
LEFT: 6	10 9	8 7 (6)	5 4 3	2 1 0
RIGHT: 6	10 9	8 7 (6)	5 4 3	2 1 0
7. BANK VEGETATIVE PROTECTION **SCORE:** 14	More than 90% of the streambank surfaces and immediate riparian zones covered by vegetation including trees, understory shrubs, and non-woody plants (herbs, grasses, ferns, mosses); vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces are covered by vegetation, but one class of plants is not well represented; disruption evident, but not affecting plant growth potential to extent; more than one-half of the potential plant stubble height remaining. invasives dominant	50-70% of the streambank surfaces are covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less that one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces are covered by vegetation; disruption of streambank vegetation very high; vegetation has been removed to 2 inches or less in average stubble height.
	If assessed in winter or early spring look for remnants of herbs, and saplings.			
LEFT:	10 9	8 (7) 6	5 4 3	2 1 0
RIGHT:	10 9	8 (7) 6	5 4 3	2 1 0
8. WIDTH OF UNDISTURBED VEG. ZONE (undisturbed veg. Is trees, shrubs, and non-woody macro-phytes)	Width of undisturbed vegetative zone is >18 meters; human activities (parking lots, roadbeds, clearcuts, lawns, or crops) have not impacted this zone.	Zone width is between 12 and 18 meters; human activities have only minimally impacted this zone.	Zone width is between 6 and 12 meters; human activities have impacted the zone a great deal.	Width of zone is less than 6 meters; little or no undisturbed vegetation due to man-induced activities.
LEFT: 3	10 9	8 7 6	5 4 (3)	2 1 0
RIGHT: 3	10 9	8 7 6	5 4 (3)	2 1 0

TOTAL: (max=160)	**Max Pool Depth (if water is present; otherwise "NA")** 15 **cm**	**Total from front** 29 **+ Total from back** 32 **=** 61
	Average Channel Width (Toe of Banks) 1.5 **m**	**Score Percentage= Total Score /160 X 100** 38 **%**

Average Width Intact Rip Vegetative Zone (m)	**Left** m	**Right** m

→ **What is the dominant vegetation type in the reach?** ☒ **Deciduous** ☐ **Coniferous (pine/cypress)** ☐ **Mixed (>10%)**	**Estimated age of forest:** ___ *>50 yrs* ___ *25-50 yrs* X *5-25 yrs* ___ *<5 yrs* **Number of strata** *(e.g, canopy, subcanopy, shrub, herb (4 max))* 3

Stream Surface Shading (%) (average of lower, middle, upper reach)	**Indicate % based on cloudless day in summer at noon. Fill in square that applies.**		
☐ **Fully exposed (0-25%)**	☐ **Partly shaded (25-50%)**	☒ **Partly exposed (50-75%)**	☐ **Fully shaded (75-100%)**
-or- % Canopy (Densiometer)	**Compass Bearing (facing downstream) (0-360°)**		

Wetland Function-Value Evaluation Form

Total area of wetland 6.2 ac Human made? Y Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Industrial Distance to nearest roadway or other development 50'

Dominant wetland systems present PEMIF 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. WetE

Latitude 39.211816 Longitude -76.53388

Prepared by: DRS, KM Date 5/3/21

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	✓		2		Impoundment adjacent, but unable to determine if connected to Patapsco River
Sediment/Toxicant Retention	✓		1, 2, 3, 4, 5, 7, 8, 9	✓	See note above about water course connection Recieves runoff from access roads + holds water year round
Nutrient Removal		✓			
Production Export		✓			
Sediment/Shoreline Stabilization		✓			
Wildlife Habitat	✓		3, 7, 9, 10, 11, 12, 13, 17, 18, 19, 20, 21,	✓	Large phrag marsh surrounded by forest + shrubs, Direct connection to Patapsco River
Recreation		✓			
Educational/Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes:

* Refer to backup list of numbered considerations.

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 Utility ROW, Transportation 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? 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. 1WET-G

Latitude 39.20745 Longitude -76.545864

Prepared by: EB Date 5/8/24

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	✓		1,2,4,5,7,9		
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 Function-Value Evaluation Form

Total area of wetland 2.56ac Human made? Yes Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Transportation, Railroad, Industrial 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? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 1 WET-I

Latitude 39.205025 Longitude -76.549892

Prepared by: EB Date 5/8/24

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	✓		1,2,4,5,7,9		
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.

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1FS1		**Project:** MDTA Inner Loop Rills	
Owner/Applicant: MDTA		**State:** MD	**County:** Balt. City
Date: 2/20/24	**Prepared by:** SKY/EH	**Photos:** F081-84	

Type of Community:	**Forest Stand Area:**
Stand Successional Stage: ☑ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 30%

Existing Vegetation

Dominant Species in Canopy:	**Size Class:**	**Notes:**
Bradford pear Siberian elm Black locust	☑ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	Few scattered 6-11" trees inclusion of box elder @ bottom of slope near WC
Dominant Species in Understory:		**Notes:**
Bacchanis Amur honeysuckle smooth sumac		
Dominant Species in Herbaceous Layer:		**Notes:**
Broom grass Japanese honeysuckle Phragmites Switchgrass		

Downed Woody Debris:	**Invasive Species Cover:**	**Invasive Species Present:**
☐ High ☐ Medium ☑ Low	☑ High ☐ Medium ☐ Low	

General Stand Conditions:

Disturbed roadside hedgerow on slope to I-695.

Overall Condition: POOR **Vines:** Moderate

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1FS2		**Project:** MDTA Inner Loop Rills	
Owner/Applicant: MDTA		**State:** MD	**County:** Balt City
Date: 8/20/24	**Prepared by:** SLY/EH	**Photos:** 8094-95, 8105-06	

Type of Community:	**Forest Stand Area:**
Stand Successional Stage: ☑ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 40%

Existing Vegetation

Dominant Species in Canopy:	**Size Class:**	**Notes:**
Black locust Tree-of-heaven White mulberry Siberian elm	☐ 2-6" ☑ 6-11" ☑ 12-20" ☐ 20-30" ☐ >30"	
Dominant Species in Understory:		**Notes:**
Amur honeysuckle oriental bittersweet Tree-of-heaven Poisonivy Baccharis Black locust japanese honeysuckle		
Dominant Species in Herbaceous Layer:		**Notes:**
English ivy common mullein Japanese honeysuckle grape sp.		Very sparse understory in some areas little herbaceous growth

Downed Woody Debris:	**Invasive Species Cover:**	**Invasive Species Present:**
☐ High ☑ Medium ☐ Low	☑ High ☐ Medium ☐ Low	

General Stand Conditions:

Disturbed forest on south side of WC. High level of invasive species

poor condition forest between fence + WC

Overall Condition: Poor **Vines:** High

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1FS3		**Project:** MDTA Inner Loop Rills Project	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 3/20/24	**Prepared by:** [redacted], SLY, LP	**Photos:** 6554-55	

Type of Community:	**Forest Stand Area:**
Stand Successional Stage: ☑ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 40%

Existing Vegetation

Dominant Species in Canopy:	**Size Class:**	**Notes:**
Bradford pear Black locust	☑ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	inclusion of 1 18" pin oak.

Dominant Species in Understorey:	**Notes:**
Amur honeysuckle Multiflora rose	sumac on edge

Dominant Species in Herbaceous Layer:	**Notes:**
Phragmites Japanese honeysuckle	

Downed Woody Debris:	**Invasive Species Cover:**	**Invasive Species Present:**
☐ High ☐ Medium ☑ Low	☑ High ☐ Medium ☐ Low	

General Stand Conditions:

Disturbed hedgerow north of 695 + south of powerlines.

High invasive species cover.

Poor condition

Vims = moderate

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: FS4		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/6/24	**Prepared by:** EB, GS	**Photos:** East	

Type of Community: forest BLACK LOCUST / TREE OF HEAVEN	**Forest Stand Area:** 70731.39
Stand Successional Stage: ☑ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 75 %

Existing Vegetation

Dominant Species in Canopy: Robinia pseudoacacia, Ailanthus altissima, Morus alba, Liquidambar styraciflua	**Size Class:** ☐ 2-6" ☑ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Some vines climbing trees,
Dominant Species in Understory: Lonicera maackii, Rubus sp. Lonicera japonica, Toxicodendron radicans, Celastrus orbiculatus, Hedera helix Amorpha fruticosa		**Notes:**
Dominant Species in Herbaceous Layer: Vines acting as groundcover		**Notes:**

Downed Woody Debris: ☐ High ☑ Medium ☐ Low	**Invasive Species Cover:** ☑ High ☐ Medium ☐ Low	**Invasive Species Present:** AIAL, MOAL, LOMA, LOJA, CEOR HEHE

General Stand Conditions:

Many invasives in the understory, trees in fair health, low diversity.

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: IFS5		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** Northwest	

Type of Community: forest SWEET GUM/COMMON PERSIMMON	**Forest Stand Area:** 32372.61 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 25%

Existing Vegetation

Dominant Species in Canopy:
Liquidambar styraciflua*
Diospyrus virginiana
Robinia psuedoacacia*
Pyrus calleryana.

Size Class:
☒ 2-6"
☐ 6-11"
☐ 12-20"
☐ 20-30"
☐ >30"

Notes:
Robinia psuedoacacia & morus alba also common throughout
Pyrus calleryana.

Dominant Species in Understory:
Baccharis halimifolia, Lonicera maackii
Pyrus calleryana, morus alba
Celastros orbiculatis, Toxicodendron radicans
Diospyrus virginiana.

Notes:
Elaeagnus umbellata, Vitis sp,
Rubus sp, Parthenocissus quinquefolia — also common

Dominant Species in Herbaceous Layer:
Lonicera japonica, Pyrus calleryana,
Celastros orbicolatis, Toxicodendron radicans
vines dominant as groundcover

Notes:
Phragmites australis scattered throughout
Parthenocissus quenquefolia also common.

Downed Woody Debris:
☐ High
☒ Medium
☐ Low

Invasive Species Cover:
☒ High
☐ Medium
☐ Low

Invasive Species Present:
PYCA, MOAL, BAHA, LOMA, CEOR, ELUM, LOJA, PHAU

General Stand Conditions:

Poor - invasive species dominant throughout, heavy vine coverage, trees stressed/damaged by vines

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: FS6		**Project:** FSK Reboild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:**	

Type of Community: forest BLACK LOCUST / SWEET GUM		**Forest Stand Area:** 54610.22 ft²	
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature		**Percent Canopy Closure:** 25%	

Existing Vegetation

Dominant Species in Canopy: Robinia pseudoacacia, Liquidambar styraciflua	**Size Class:** ☐ 2-6" ☒ 6-11" ☒ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Diospyros virginiana, Pyrus calleryana, Ailathus altissima – also common
Dominant Species in Understory: Pyrus calleryana, Robinia pseudoacacia, Lonicera maackii, Baccharis halimifolia, Vitis sp. Celastrus orbiculatis, Ampelopsis brevipedunculata		**Notes:**
Dominant Species in Herbaceous Layer: Celastrus orbiculatis, Lonicera japonica, Rubus sp., Parthenocissus quinquefolia, Ampelopsis brevipedunculata		**Notes:** - scattered Phragmites australis & Rosa multiflora, Artemisia vulgare - vines dominate groundcover

Downed Woody Debris: ☐ High ☒ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, AIAL, LOMA, BAHA, CEOR, LOJA, ROMU, PHAU

General Stand Conditions:

POOR - invasive species dominant throughout, heavy vine coverage, trees stressed/damaged by vines

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: IFS7		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** Northwest	

Type of Community: forest Black Locust/Sweet-gum	**Forest Stand Area:** 44252.41 ft²
Stand Successional Stage: ☐ Early ☒ Mid ☐ Mature	**Percent Canopy Closure:** 60%

Existing Vegetation

Dominant Species in Canopy: Robinia pseudoacacia Liquidambar styraciflua Quercus phellos Pyrus calleryana	**Size Class:** ☐ 2-6" ☒ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Celtis occidentalis Pyrus calleryana. few larger trees scattered throughout
Dominant Species in Understory: Pyrus calleryana, Robinia pseudoacacia, Lonicera japonica, Lonicera maackii, Rosa multiflora, Vitis sp, Celastrus orbiculata Parthenocissus quinquefolia.		**Notes:**
Dominant Species in Herbaceous Layer: Phragmites australis, Rosa multiflora vitis sp, Lonicera japonica, Celastrus orbiculatis, Ampelopsis brevipedonculata		**Notes:** - Artemisia vulgaris - common along stand edges. - vines dominate ground cover

Downed Woody Debris: ☐ High ☒ Medium ☐ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, LOJA, ROMU, PHAU, CEOR, ARVU, AMBR, LOMI

General Stand Conditions:

Poor - invasive species dominant throughout understory + herb layer.

Vines climbing trees + shrubs

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: FS 8		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:**	**Photos:** West, South	

Type of Community: forest SWEETGUM/WHITE PINE	**Forest Stand Area:** 23292.82 ft²
Stand Successional Stage: ☐ Early ☒ Mid ☐ Mature	**Percent Canopy Closure:** 50%

Existing Vegetation

Dominant Species in Canopy: Liquidambar styraciflua *, Pinus strobus*, Diospyros virginiana, Robinia pseudoacacia, Pyrus calleryaana	**Size Class:** ☐ 2-6" ☒ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** few larger white pines scattered throughout, morus albus
Dominant Species in Understory: ~~Ampelopsis brevipedunculata~~ Baccharis halimifolia, Lonicera maackii, Lonicera japonica, Vitis sp., Celastrus orbiculatis, Toxicodendron radicans, Rubus sp., Rosa multiflora		**Notes:** Eleagnus umbellata, Rhus typhina, Ailanthus altissima
Dominant Species in Herbaceous Layer: Phragmites australis, Toxicodendron radicans, Lonicera japonica, Parthenocissus quinquefolia, Vitis sp., Ampelopsis brevipedunculata		**Notes:** -Phragmites australis -vines dominant as ground cover

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, MOAL, BAHA, LOJA, AMBR, LOMA, CEOR, RORU, PHAU

General Stand Conditions:

Poor - invasives dominant throughout, heavy vine coverage

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1FS9		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** N	

Type of Community: forest BLACK CHERRY/BLACK LOCUST	**Forest Stand Area:** 42097.70
Stand Successional Stage: ☐ Early ☒ Mid ☐ Mature	**Percent Canopy Closure:** 75%

Existing Vegetation

Dominant Species in Canopy: Prunus serotina Robinia pseudoacacia Pyrus calleryana	**Size Class:** ☐ 2-6" ☒ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Quercus alba & Carya tomentosa also common; Ailanthus altissima scattered along stand edges Paulownia tomentosa scattered
Dominant Species in Understory: Ampelopsis brevipedunculata Pyrus calleryana, Prunus serotina, Vitis sp., Ilex opaca, Toxicodendron radicans, Rosa multiflora, Lonicera japonica, Celastrus orbiculatis, Parthenocissus quinquefolia		**Notes:** Euonymus hamiltonii
Dominant Species in Herbaceous Layer: Lonicera japonica, Rosa multiflora, Toxicodendron radicans, Parthenocissus quinquefolia, Celastrus orbiculatis		**Notes:** scattered Phragmites australis along stand edges.

Downed Woody Debris: ☐ High ☒ Medium ☐ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, PATO, AMBR, BATA, ROMU, LOJA, CEOR, PHAU Spotted lantern fly

General Stand Conditions:

Fair - invasive species dominant, vines climbing trees, moderate species diversity

eastern portion of stand slightly younger but similar species & condition.

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1FS1D		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** East	

Type of Community: forest - TULIPTREE / TREE OF HEAVEN	**Forest Stand Area:** 34196.53 ft²
Stand Successional Stage: ☐ Early ☒ Mid ☐ Mature	**Percent Canopy Closure:** 80%

Existing Vegetation

Dominant Species in Canopy: Liriodendron tulipifera, Ailanthus altissima, Liquidambar styraciflua, Prunus serotina	**Size Class:** ☐ 2-6" ☐ 6-11" ☒ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Paulownia tomentosa, Diospyros virginiana, Juniperus virginiana, Morus alba
Dominant Species in Understory: Hedra helix, Morus alba, Lonicera maackii, Lonicera japonica, Eleagnus umbellata, Toxicodendron radicans, Celastrus orbiculatus, Campsis radicans, Rosa multiflora, Rubus sp, Ailanthus altissima		**Notes:**
Dominant Species in Herbaceous Layer: Lonicera japonica, Toxicodendron radicans, Celastrus orbiculatus, Alliaria petiolata, Hedra helix		**Notes:** vines dominant ground cover

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** AIAL, MOAL, PATO, HEHE, LOMA, LIJA, ELUM, CEOR, ROMU, ALPE, spotted lantern fly

General Stand Conditions: fair - poor

Stand dominated by invasive species, vines growing over most trees causing stress/damage

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: FS11		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** East	

Type of Community: Forest - Black Locust / Callery Pear	**Forest Stand Area:** 101908.71 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 50%

Existing Vegetation

Dominant Species in Canopy: Robinia pseudoacacia Pyrus calleryana Liquidambar styraciflua Diospyrus virginiana	**Size Class:** ☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Ailanthus altissima & Paulonia tomentosa; Juniperus virginiana Quercus phellos - scattered
Dominant Species in Understory: Baccharis halimifolia, Lonicera maackii, Pyrus calleryana, Vitis sp. Liquidambar styraciflua, Ampelopsis brevipedunculata, Toxicodendron radicans		**Notes:** Eleagnus umbellata
Dominant Species in Herbaceous Layer: Celastrus orbiculatis, Lonicera japonica, Rosa multiflora, Toxicodendron radicans Rubus sp., Artemisia volgare		**Notes:** Phragmites australis - scattered & along stand edge Vines dominant as ground cover

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, AIAL, PATO, BAHA, ELUM, LOMA, AMBR, CEOR, LOJA, ROMU, ARVU

General Stand Conditions:

Poor - invasive species dominant throughout, vines climbing & stressing / damaging trees.

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: FS12		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** South west	

Type of Community: Forest Willow oak/ Black locust	**Forest Stand Area:** 57918.32 ft2
Stand Successional Stage: ☐ Early ☒ Mid ☐ Mature	**Percent Canopy Closure:** 75%

Existing Vegetation

Dominant Species in Canopy: Quercus phellos Robinia pseudoacacia Liquidambar styraciflua	**Size Class:** ☐ 2-6" ☐ 6-11" ☐ 12-20" ☒ 20-30" ☐ >30"	**Notes:** Quercus falcata, Prunus serotina, Pyrus Calleryana, Quercus rubra, Morus alba, Acer rubrum also common - few specimen trees
Dominant Species in Understory: Toxicodendron radicans Lonicera japonica, Rosa multiflora, Baccharis halimifolia, Smilax rotundifolia, Ilex opaca, Parthenocissus quinquefolia, Celastrus orbiculatis, Rubus sp		**Notes:**
Dominant Species in Herbaceous Layer: Lonicera japonica Hedra helix, Toxicodendron radicans, Celastrus orbiculatis, solidago sp.		**Notes:** Phragmites australis - scattered along stand edge

Downed Woody Debris: ☐ High ☒ Medium ☐ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, MOAL, LOJA, ROMO, BAHA, CEOR, LOJA, HEHE PHAU

General Stand Conditions:

Fair - mod species diversity, canopy trees generally in good health, invasive species are prevelant throughout, vines climbing some trees.

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1F513		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/16/24	**Prepared by:** HT, TT	**Photos:** SW	

Type of Community: forest WILLOW OAK/SOUTHERN RED OAK		**Forest Stand Area:** 15412.85 ft²	
Stand Successional Stage: ☐ Early ☒ Mid ☐ Mature		**Percent Canopy Closure:** 90	

Existing Vegetation

Dominant Species in Canopy: Quercus phellos Quercus falcata Quercus alba Liquidambar styraciflua	**Size Class:** ☐ 2-6" ☐ 6-11" ☒ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Acer rubrum also common Prunus serotina, some larger trees throughout
Dominant Species in Understory: Smilax rotundifolia, Parthenocissus quinquefolia, Toxicodendron radicans, Campsis radicans, Rosa multiflora, Rubus sp., Vaccinium corymbosum		**Notes:** open understory in the interior forest.
Dominant Species in Herbaceous Layer: Lonicera japonica, Parthenocissus quinquefolia, Toxicodendron radicans		**Notes:** Phragmites australis dominant along stand edge

Downed Woody Debris: ☐ High ☒ Medium ☐ Low	**Invasive Species Cover:** ☐ High ☒ Medium ☐ Low	**Invasive Species Present:** ROMU, LOJA, PHAU

General Stand Conditions: Fair

interior forest is diverse with an open understory

Stand edge is more disturbed with heavier vine/ invasive cover

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1H2		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/6/24	**Prepared by:** EB, GS	**Photos:** West	

Type of Community: Hedgerow	**Forest Stand Area:** 206,766.28 ft²
Stand Successional Stage: ☑ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 20%

Existing Vegetation

Dominant Species in Canopy: Robinia pseudoacacia, Morus alba, Acer negundo, Ailanthus altissima, Pyrus calleryana, Ulmus americana, Quercus phellos, Quercus palustris	**Size Class:** ☑ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Scattered trees throughout, does not meet definition of a forest. Trees are in fair health, some are being overtaken by vines
Dominant Species in Understory: Amorpha fruticosa, Rosa multiflora, Koelreuteria paniculata, Lonicera maackii, Baccharis halimifolia, Viburnum sp., Toxicodendron radicans, Lonicera japonica, Hedera helix, Parthenocissus quinquefolia, Celastrus orbiculatus		**Notes:**
Dominant Species in Herbaceous Layer: None, vines acting as groundcover		**Notes:**

Downed Woody Debris: ☐ High ☑ Medium ☐ Low	**Invasive Species Cover:** ☑ High ☐ Medium ☐ Low	**Invasive Species Present:** MOAL, AIAL, PYCA, ROMU, LOMA, LOJA, HEHE, CEOR

General Stand Conditions:
Many invasive species in canopy + understory. Trees in fair health with many climbing vines.

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1H3		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** North	

Type of Community: hedgerow	**Forest Stand Area:** 10755.92 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 15%

Existing Vegetation

Dominant Species in Canopy: Pyrus calleryana, Robinia pseudoacacia, Liquidambar styraciflua, Ailanthus altissima	**Size Class:** ☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Ailanthus altissima & morus alba also common throughout. Rhus typhena - clusters
Dominant Species in Understory: Baccharis halimifolia, Lonicera maackii, Ailanthus altissima, Lonicera japonica, Celastrus orbiculatis, Toxicodendron radicans		**Notes:** Toxicodendron radicans & Rubus sp. also common & Vitis sp.
Dominant Species in Herbaceous Layer: Lonicera japonica, Celastrus orbiculatis, Toxicodendron radicans, Parthenocissus quinquefolia		**Notes:** Phragmites australis scattered along edges & throughout. vines are dominant ground cover

Downed Woody Debris: ☐ High ☒ Medium ☐ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, AIAL, MOAL, BAHA, LOMA, LOJA, CEOR, PHAU

General Stand Conditions:

Poor – heavy invasive cover; vines covering most woody veg & stressing/damaging native tree species

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1H4		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/16/24	**Prepared by:** HT, HH	**Photos:** North west	

Type of Community: hedgerow	**Forest Stand Area:** 109097.44 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 15%

Existing Vegetation

Dominant Species in Canopy: Robinia pseudoacacia Liquidambar styraciflua Pyrus calleryana	**Size Class:** ☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** trees are scattered in some areas Pinus strobus, Paulonia tomentosa morus alba
Dominant Species in Understory: Amelopsis brevipedunculata Baccharis halimifolia, Liquidambar styraciflua, Pyrus calleryana, Lonicera maackii, Celastrus orbiculatis, Toxicodendron radicans, Parthenocissus quinquefolia		**Notes:** Elaeagnus umbellata, Vitis sp, Rubus sp - also common
Dominant Species in Herbaceous Layer: Celastrus orbiculatis, Toxicodendron radicans, Parthenocissus quinquefolia, Baccharis halimifolia, Lonicera japonica		**Notes:** Phragmites australis along stand edges & scattered throughout

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, BAHA, LOMA, CEOR, ELUM, LOJA

General Stand Conditions:

Poor - invasives species dominant, heavy vine coverage stressing/damaging trees

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1H5		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** Southeast	

Type of Community: Hedgerow	**Forest Stand Area:** 17775.93 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 25%

Existing Vegetation

Dominant Species in Canopy:	**Size Class:**	**Notes:**
Pyrus calleryana Populus alba Robinia pseudoacacia Liquidambar styraciflua	☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	Diospyrus virginian Prunus serotina
Dominant Species in Understorey: Rosa multiflora Baccharis halimifolia, Lonicera maackii, Toxicodendron radicans, Lonicera japonica, Parthenocissus quinquefolia, Eleagnus umbellata, Ampelopsis brevipedunculata		**Notes:** Celastrus orbiculatis
Dominant Species in Herbaceous Layer: Phragmites australis, Ampelopsis brevipedunculata, Lonicera japonica, Toxicodendron radicans		**Notes:** vines dominant as ground cover

Downed Woody Debris:	**Invasive Species Cover:**	**Invasive Species Present:**
☐ High ☒ Medium ☒ Low	☒ High ☐ Medium ☐ Low	PYCA, BAHA, ROMO, LOMA, CEOR LOJA, ELUM, AMBR, PHAU

General Stand Conditions:

- lacking density of trees to classify as a forest, but borderline
- invasive species dominant, vines climbing

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1H6		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore City
Date: 5/10/24	**Prepared by:** HT, HH	**Photos:** northeast	

Type of Community: Hedgerow	**Forest Stand Area:** 23315.56
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 15%

Existing Vegetation

Dominant Species in Canopy: Pyrus calleryana, Liquidambar Styraciflua Diospyros virginiana Prunus serotina	**Size Class:** ☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:** Juniperus virginiana, Acer rubrum, Quercus phellos scattered throughout.
Dominant Species in Understory: Baccharis halimifolia, Rosa multiflora, Lonicera japonica, Vitis sp. orbiculatis, Lonicera maackii, Rubus sp. Ampelopsis brevipedunculata.		**Notes:** Eleagnus umbellata. also common
Dominant Species in Herbaceous Layer: Vitis sp, Rosa multiflora, Lonicera japonica, Celastrus orbiculatis, phragmites australis, Ampelopsis brevipedunculata		**Notes:** vines are dominant groundcover

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** PYCA, PATO, BAHA, LOMA, LOJA, ROMU, CEOR

General Stand Conditions:

Poor - invasive species dominant, vines covering most trees

trees scattered with tree saplings and shrubs dense throughout

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 1H1		**Project:** MDTA Inner Loop Rills	
Owner/Applicant: MDTA		**State:** MD	**County:** Balt City
Date: 2/20/24	**Prepared by:** SWS/EH	**Photos:** 8102	

Type of Community:	**Forest Stand Area:**
Stand Successional Stage: ☑ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 25%

Existing Vegetation

Dominant Species in Canopy:	**Size Class:**	**Notes:**
Bradford pear	☑ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	

Dominant Species in Understorey:	**Notes:**
Baccharis	

Dominant Species in Herbaceous Layer:	**Notes:**
Japanese honeysuckle Phragmites on edge	

Downed Woody Debris:	**Invasive Species Cover:**	**Invasive Species Present:**
☐ High ☐ Medium ☑ Low	☑ High ☐ Medium ☐ Low	

General Stand Conditions:

Small hedgerow on highway slope

Overall Condition: Poor **Vines:** Moderate

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H1		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/3/24	**Prepared by:** LP, ET	**Photos:** 9335	

Type of Community: Hedgerow	**Forest Stand Area:** 3,119 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 30%

Existing Vegetation

Dominant Species in Canopy:	**Size Class:**	**Notes:**
• Tree of Heaven • white mulberry	☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	

Dominant Species in Understory:	**Notes:**
• poison ivy • tree of heaven • baccharis hamifolia • false indigo	

Dominant Species in Herbaceous Layer:	**Notes:**
• poison ivy • Japanese honeysuckle • fescue sp.	

Downed Woody Debris:	**Invasive Species Cover:**	**Invasive Species Present:**
☐ High ☐ Medium ☒ Low	☒ High ☐ Medium ☐ Low	• Tree of heaven • white mulberry • Japanese honeysuckle

General Stand Conditions: high invasive sp. cover, poor quality, narrow hedgerow between road + river

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H2		**Project:** FSK Rebuild	
Owner/Applicant:		**State:** MD	**County:** Baltimore
Date: 5/3/24	**Prepared by:** LP, ET	**Photos:** 9339	

Type of Community: Hedgerow	**Forest Stand Area:** 1,574 ft 2
Stand Successional Stage: [X] Early [ ] Mid [ ] Mature	**Percent Canopy Closure:** 40 %

Existing Vegetation

Dominant Species in Canopy: • tree of heaven	**Size Class:** [X] 2-6" [ ] 6-11" [ ] 12-20" [ ] 20-30" [ ] >30"	**Notes:**
Dominant Species in Understory: • tree of heaven • poison ivy		**Notes:**
Dominant Species in Herbaceous Layer: • poison ivy • virginia creeper • japanese honeysuckle		**Notes:**

Downed Woody Debris: [ ] High [ ] Medium [X] Low	**Invasive Species Cover:** [X] High [ ] Medium [ ] Low	**Invasive Species Present:** • tree of heaven • Japanese honeysuckle

General Stand Conditions: high invasive cover, poor quality

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H3		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/3/24	**Prepared by:** LP, ET	**Photos:** 9340	

Type of Community: Hedgerow	**Forest Stand Area:** 1,159ft2
Stand Successional Stage: [X] Early [ ] Mid [ ] Mature	**Percent Canopy Closure:** 50%

Existing Vegetation

Dominant Species in Canopy: • Golden raintree	**Size Class:** [X] 2-6" [ ] 6-11" [ ] 12-20" [ ] 20-30" [ ] >30"	**Notes:**
Dominant Species in Understory: • Golden Raintree • Black cherry		**Notes:**
Dominant Species in Herbaceous Layer: • Golden Raintree • fescue sp. • japanese honeysuckle		**Notes:**

Downed Woody Debris: [ ] High [ ] Medium [X] Low	**Invasive Species Cover:** [X] High [ ] Medium [ ] Low	**Invasive Species Present:** • Golden Raintree • japanese honeysuckle

General Stand Conditions: high invasive cover, poor quality

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H4		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/3/24	**Prepared by:** LP, ET	**Photos:** photo # 9369	

Type of Community: Hedgerow	**Forest Stand Area:** 10,600 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 50%

Existing Vegetation

Dominant Species in Canopy: • White mulberry	**Size Class:** ☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:**
Dominant Species in Understory: • poison ivy • baccharis halimifolia • White mulberry		**Notes:**
Dominant Species in Herbaceous Layer: • poison ivy • virginia creeper • fescue sp. • japanese honeysuckle		**Notes:**

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** • white mulberry • japanese honeysuckle

General Stand Conditions: high invasive cover, poor quality

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H5		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/3/24	**Prepared by:** LP, ET	**Photos:** photo – 9370	

Type of Community: Hedgerow	**Forest Stand Area:** 2,100ft2
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 40%

Existing Vegetation

Dominant Species in Canopy: • Siberian elm	**Size Class:** ☐ 2-6" ☒ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:**
Dominant Species in Understory: • baccharis hamiltifolia • Siberian elm • poison ivy		**Notes:**
Dominant Species in Herbaceous Layer: • common mugwort • poison ivy • Japanese honeysuckle • virginia creeper		**Notes:**

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** • Siberian elm • Japanese honeysuckle • common mugwort

General Stand Conditions: high invasive cover, poor quality

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H6		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/7/24	**Prepared by:** LP, ET	**Photos:** 9351 - 52	

Type of Commuuity: Hedgerow	**Forest Stand Area:** 5,037 ft2
Stand Successional Stage: [X] Early [ ] Mid [ ] Mature	**Percent Canopy Closure:** 40%

Existing Vegetation

Dominant Species in Canopy: white mulberry, chinese elm, black locust	**Size Class:** [ ] 2-6" [X] 6-11" [ ] 12-20" [ ] 20-30" [ ] >30"	**Notes:**
Dominant Species in Understory: chinese privet, multiflora rose, false indigo,		**Notes:**
Dominant Species in Herbaceous Layer: curly dock, wood reed, poison ivy		**Notes:**

Downed Woody Debris: [ ] High [ ] Medium [X] Low	**Invasive Species Cover:** [X] High [ ] Medium [ ] Low	**Invasive Species Present:** · chinese elm · white mulberry · chinese privet · multiflora rose

General Stand Conditions:
poor condition hedgerow on berm between river & wetland.

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: T2H7		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/7/24	**Prepared by:** UP, ET	**Photos:** 9357	

Type of Community: Hedgerow	**Forest Stand Area:** 3,894 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 40%

Existing Vegetation

Dominant Species in Canopy: black locust, tree of heaven, Chinese elm,	**Size Class:** ☒ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:**
Dominant Species in Understory: tree of heaven, black cherry, baccharis halimifolia Chinese privet		**Notes:**
Dominant Species in Herbaceous Layer: virginia creeper, poison ivy, japanese honeysuckle		**Notes:**

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** • Tree of heaven • Chinese elm • Chinese privet • Japanese honeysuckle

General Stand Conditions:
poor quality, high invasives

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H8		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/7/24	**Prepared by:** LP, ET	**Photos:** 9363-64	

Type of Community: Hedgerow	**Forest Stand Area:** 91,902 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 50%

Existing Vegetation

Dominant Species in Canopy: tree of heaven, white mulberry, bradford pear, sweet gum, black locust, cottonwood	**Size Class:** ☐ 2-6" ☒ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:**
Dominant Species in Understory: tree of heaven, false indigo, baccharis, hahmifolia, black locust, sweet gum		**Notes:**
Dominant Species in Herbaceous Layer: poison ivy, virginia creeper, japanese honeysuckle, phragmites australis, rice cut grass		**Notes:**

Downed Woody Debris:	**Invasive Species Cover:**	**Invasive Species Present:**
☐ High ☐ Medium ☒ Low	☒ High ☐ Medium ☐ Low	• Tree of heaven • white mulberry • bradford pear • Japanese honeysuckle • Phragmites australis

General Stand Conditions: poor quality, high invasive, some MDTA planting areas excluded from hedgerow

- Tree density does not meet definition of forest

WALK-THROUGH FOREST STAND ANALYSIS

Forest Stand ID: 2H9		**Project:** FSK Rebuild	
Owner/Applicant: MDTA		**State:** MD	**County:** Baltimore
Date: 5/7/24	**Prepared by:** LP, ET	**Photos:** 9368	

Type of Community: Hedgerow	**Forest Stand Area:** 5,022 ft²
Stand Successional Stage: ☒ Early ☐ Mid ☐ Mature	**Percent Canopy Closure:** 50%

Existing Vegetation

Dominant Species in Canopy: Tree of heaven, black locust, persimmon,	**Size Class:** ☐ 2-6" ☐ 6-11" ☐ 12-20" ☐ 20-30" ☐ >30"	**Notes:**
Dominant Species in Understory: golden rain tree, tree of heaven, multiflora rose, false indigo bush, baccharis halimifolia		**Notes:**
Dominant Species in Herbaceous Layer: poison ivy, virginia creeper, japanese honeysuckle, catchweed bedstraw		**Notes:**

Downed Woody Debris: ☐ High ☐ Medium ☒ Low	**Invasive Species Cover:** ☒ High ☐ Medium ☐ Low	**Invasive Species Present:** - Tree of heaven - Golden rain tree - Multiflora rose - Japanese honeysuckle

General Stand Conditions: poor quality, high invasive cover

APPENDIX E: PHOTOGRAPH LOG

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

WETLAND DELINEATION PHOTOGRAPHS

Photo 1 – Looking southwest at 1WETB

Photo 3 – Looking southwest at 1WETD

Photo 2 – Looking northeast at 1WETC

Photo 4 – Looking west at 1WETE

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 5 – Looking northeast at 1WETF

Photo 7 – Looking east at 1WETH

Photo 6 – Looking southwest at 1WETG

Photo 8 – Looking northwest at 1WETI

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 9 – Looking south at 1WETJ

Photo 11 – Looking southwest at 2WETB

Photo 10 – Looking southwest at 2WETA

Photo 12 – Looking northeast at Photo 2WETC

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 13 – Looking northeast at 2WETD

Photo 14 – Looking southwest at UTP-1

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

FOREST STAND PHOTOGRAPHS

Photo 1: Looking west at 1FS1

Photo 2: Looking southwest at 1FS2

Photo 3: Looking northeast at 1FS3

Photo 4: Looking east at 1FS4

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 5: Looking northwest at 1FS5

Photo 6: Looking northwest at 1FS6

Photo 7: Looking west at 1FS7

Photo 8: Looking south at 1FS8

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

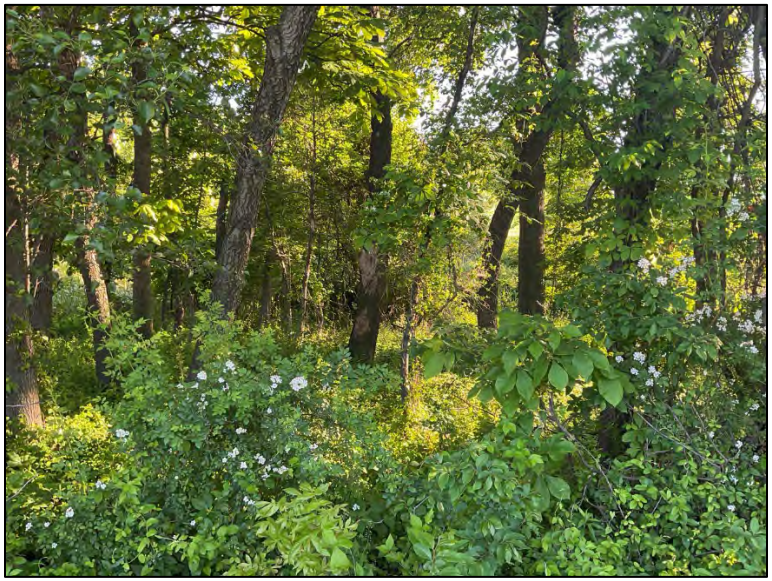

Photo 9: Looking north at 1FS9

Photo 11: Looking east at 1FS11

Photo 10: Looking east at 1FS10

Photo 12: Looking southwest at 1FS12

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 13: Looking southwest 1FS13

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

HEDGEROW PHOTOGRAPHS

Photo 1: Looking north at 1H1

Photo 2: Looking west at 1H2

Photo 3: Looking north at 1H3

Photo 4: Looking northwest at 1H4

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 5: Looking southwest at 1H5

Photo 6: Looking west at 1H6

Photo 7: Looking at 2H1

Photo 8: Looking at 2H2

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 9: Looking at 2H3

Photo 11: Looking at 2H5

Photo 10: Looking at 2H4

Photo 12: Looking at 2H6

Appendix E: Francis Scott Key Bridge Rebuild Project
Photograph Log

Photo 13: Looking at 2H7

Photo 15: Looking at 2H9

Photo 14: Looking at 2H8

APPENDIX F: HEDGEROW SUMMARY TABLE

Appendix F: Francis Scott Key Bridge Rebuild Project
Hedgerow Summary Table

Hedgerow ID	Dominant Species in Canopy	Size Class	Dominant Species in Understory	Dominant Species in Herbaceous Layer	Comments
1H1 (NRI Map Sheets 2 and 3)	*Pyrus calleryana*	2-6”	*Baccharis halimifolia*	*Lonicera japonica* *Phragmites australis*	Small hedgerow on highway slope.
1H2 (NRI Map Sheets 3 and 4)	*Robinia pseudoacacia* *Morus alba* *Acer negundo* *Ailanthus altissima* *Pyrus calleryana* *Ulmus americana* *Quercus phellos* *Quercus palustris*	2-6”	*Baccharis halimifolia* *Rosa multiflora* *Amorpha fruticosa* *Koelreuteria paniculata* *Lonicera maackii* *Viburnum* sp. *Toxicodendron radicans* *Lonicera japonica* *Hedera helix* *Parthenocissus quinquefolia* *Celastrus orbiculatus*	*Toxicodendron radicans* *Lonicera japonica* *Hedera helix* *Parthenocissus quinquefolia* *Celastrus orbiculatus*	High invasive species cover in canopy and understory. Trees in fair health with many climbing vines.
1H3 (NRI Map Sheet 2)	*Robinia pseudoacacia* *Liquidambar styraciflua*	2-6”	*Baccharis halimifolia* *Lonicera maackii* *Ailanthus altissima* *Lonicera japonica* *Celastrus orbiculatus* *Toxicodendron radicans*	*Lonicera japonica* *Celastrus orbiculatus* *Toxicodendron radicans* *Parthenocissus quinquefolia*	Poor condition with high invasive cover; vines covering most of the woody vegetation and damaging native tree species
1H4 (NRI Map Sheets 1 and 2)	*Robinia pseudoacacia* *Liquidambar styraciflua* *Pyrus calleryana*	2-6”	*Rosa multiflora* *Baccharis halimifolia* *Ampelopsis brevipedunculata* *Liquidambar styraciflua* *Pyrus calleryana* *Lonicera maackii* *Elaeagnus umbellata* *Celastrus orbiculatus* *Toxicodendron radicans* *Lonicera japonica* *Parthenocissus quinquefolia*	*Phragmites australis* *Ampelopsis brevipedunculata* *Toxicodendron radicans* *Lonicera japonica*	Poor condition with high invasive species and vine coverage which are causing damage to trees.
1H5 (NRI Map Sheet 1)	*Pyrus calleryana* *Populus alba* *Robinia pseudoacacia* *Liquidambar styraciflua*	2-6”	*Rosa multiflora* *Baccahris halimifolia* *Lonicera maackii* *Toxicodendron radicans* *Lonicera japonica* *Parthenocissus quinquefolia* *Eleagnus umbellata* *Ampelopsis brevipedunculata* *Celastrus orbiculatus*	*Phragmites australis* *Ampelopsis brevipedunculata* *Lonicera japonica* *Toxicodendron radicans*	Did not qualify as a forest due to tree density. High invasive species and heavy vine coverage.
1H6 (NRI Map Sheet 1)	*Pyrus calleryana* *Liquidambar styraciflua* *Diospyros virginiana* *Prunus serotina*	2-6”	*Baccharis halimifolia* *Rosa multiflora* *Lonicera japonica* *Lonicera maackii* *Ampelopsis brevipedunculata* *Vitis* sp. *Rubus* sp.	*Vitis* sp. *Rosa multiflora* *Lonicera japonica* *Celastrus orbiculatus* *Phragmites australis* *Ampelopsis brevipedunculata*	Poor condition with high invasive species and vines covering most trees. Trees are scattered with saplings and shrubs throughout.
2H1 (NRI Map Sheet 6)	*Ailanthus altissima* *Morus alba*	2-6”	*Toxicodendron radicans* *Ailanthus altissima* *Baccharis halimifolia* *Amorpha fruticosa*	*Toxicodendron radicans* *Lonicera japonica* *Festuca* sp.	High invasive cover, poor quality, narrow hedgerow between road and the river
2H2 (NRI Map Sheet 5)	*Ailanthus altissima*	2-6”	*Ailanthus altissima* *Toxicodendron radicans*	*Toxicodendron radicans* *Parthenocissus quinquefolia* *Lonicera japonica*	High invasive cover, poor quality

Hedgerow ID	Dominant Species in Canopy	Size Class	Dominant Species in Understory	Dominant Species in Herbaceous Layer	Comments
2H3 (NRI Map Sheet 5)	*Koelreuteria paniculata*	2-6”	*Koelreuteria paniculata* *Prunus serotina*	*Koelreuteria paniculata* *Festuca* sp. *Lonicera japonica*	High invasive cover, poor quality
2H4 (NRI Map Sheets 5 and 6)	*Morus alba*	2-6”	*Toxicodendron radicans* *Baccharis halimifolia* *Morus alba*	*Toxicodendron radicans* *Parthenocissus quinquefolia* *Festuca* sp. *Lonicera japonica*	High invasive cover, poor quality
2H5 (NRI Map Sheet 6)	*Ulmus pumila*	6-11”	*Baccharis halimifolia* *Ulmus pumila* *Toxicodendron radicans*	*Artemisia vulgaris* *Toxicodendron radicans* *Lonicera japonica* *Parthenocissus quinquefolia*	High invasive cover, poor quality
2H6 (NRI Map Sheet 6)	*Morus alba* *Robinia pseudoacacia* *Ulmus parvifolia*	6-11”	*Ligustrum sinense* *Rosa multiflora* *Amorpha fruticosa*	*Cinna arundinacea* *Toxicodendron radicans* *Rumex crispus*	Poor condition hedgerow on berm between Patapsco River and wetland
2H7 (NRI Map Sheet 6)	*Robinia pseudoacacia* *Ailanthus altissima* *Ulmus parvifolia*	2-6”	*Ailanthus altissima* *Prunus serotina* *Baccharis halimifolia* *Ligustrum sinense*	*Parthenocissus quinquefolia* *Toxicodendron radicans* *Lonicera japonica*	High invasive cover, poor quality
2H8 (NRI Map Sheets 6 and 7)	*Ailanthus altissima* *Morus alba* *Pyrus calleryana* *Liquidambar styraciflua* *Robinia pseudoacacia* *Populus deltoides*	6-11”	*Ailanthus altissima* *Amorpha fruticosa* *Baccharis halimifolia* *Liquidambar styraciflua* *Robinia pseudoacacia*	*Toxicodendron radicans* *Parthenocissus quinquefolia* *Lonicera japonica* *Phragmites australis* *Leersia oryzoides*	High invasive cover, poor quality. MDTA planting areas were excluded from hedgerow. Tree density does not meet definition of a forest
2H9 (NRI Map Sheet 7)	*Ailanthus altissima* *Robinia pseudoacacia* *Diospyros virginiana*	2-6”	*Koelreuteria paniculata* *Ailanthus altissima* *Rosa multiflora* *Amorpha fruticosa* *Baccharis halimifolia*	*Toxicodendron radicans* *Parthenocissus quinquefolia* *Lonicera japonica* *Galium aparine*	High invasive cover, poor quality

APPENDIX G: TREE TABLE

APPENDIX G: FRANCIS SCOTT KEY BRIDGE REBUILD PROJECT
TREE AND SHRUB TABLE

Tree ID*	Common Name	Scientific Name	DBH	Condition	Comment
1T1	**Eastern cottonwood**	***Populus deltoides***	**30**	**Fair**	**Broken branches, heavy vines, twin trunks 30" & 29"**
1T2	White mulberry	*Morus alba*	14	Poor	Significant lean, growing partially horizontal, heavy vine load, dead branches
1T3	Tree of heaven	*Ailanthus altissima*	4	Fair	Lean, vines on lower trunk
1T4	Black cherry	*Prunus serotina*	11	Fair/Poor	Vines in lower crown, broken branches
1T5	Black cherry	*Prunus serotina*	6	Fair/Poor	Minor trunk decay, vines on trunk
1T6	Black cherry	*Prunus serotina*	8	Fair/Poor	Minor trunk decay, vines on trunk
1T7	Bradford pear	*Pyrus calleryana*	10	Fair/Poor	overtopped by vines, exposed roots on slope, twin trunks 10" & 7"
1T8	Common hackberry	*Celtis occidentalis*	16	Fair/Poor	Heavy vines in lower canopy, slight lean, exposed roots on slope
1T9	Siberian elm	*Ulmus pumila*	28	Fair/Poor	High vine load in lower crown, some broken branches, exposed roots on slope
1T10	White mulberry	*Morus alba*	8	Fair	Healed trunk wounds, dead branches
1T11	Black locust	*Robinia pseudoacacia*	23	Poor	Heavy vines on trunk and crown, significant broken branches, exposed roots on slope, dead secondary leader
1T12	Black locust	*Robinia pseudoacacia*	8	Fair/Poor	Heavy vines on trunk, broken branches, some bark damage
1T13	Black locust	*Robinia pseudoacacia*	2	Fair	Lean overtopped by adjacent vegetation
1T14	Black locust	*Robinia pseudoacacia*	8	Poor	Heavy vine load into crown, main tree tipped over
1T15	Black locust	*Robinia pseudoacacia*	14	Poor	Extensive vines into crown of tree, dead secondary trunk
1T16	Bradford pear	*Pyrus calleryana*	6	Fair	Vines in lower canopy, broken branches, growing on slope
1T17	Eastern cottonwood	*Populus deltoides*	12	Fair	Minor dead branches, minor vines on trunk
1T18	Common persimmon	*Diospyros virginiana*	2	Fair	Irregular trunk
1T19	Black cherry	*Prunus serotina*	4	Fair	Lean, broken branches
1T20	Black cherry	*Prunus serotina*	5	Poor	Overtopped by vines, trunk dammage
1T21	Callery pear	*Pyrus calleryana*	9	Fair	With vines, secondary leaders 7.5" & 2"
1T22	**Willow oak**	***Quercus phellos***	**32**	**Good**	
1T23	**Willow oak**	***Quercus phellos***	**30**	**Good/Fair**	**Fused with a sweetgum**
1T24	**Willow oak**	***Quercus phellos***	**32**	**Good**	
1T25	**Willow oak**	***Quercus phellos***	**35**	**Good**	
1T26	**Willow oak**	***Quercus phellos***	**32**	**Good**	
1T27	**Willow oak**	***Quercus phellos***	**31**	**Fair**	**Reduced canopy**
1T28	**Willow oak**	***Quercus phellos***	**34**	**Good**	
1T29	American elm	*Ulmus americana*	5	Good	
1T30	Persimmon	*Diospyros virginiana*	2	Good	
1T31	Siberian elm	*Ulmus pumila*	1	Good	
1T32	Siberian elm	*Ulmus pumila*	1	Fair	
1T33	Siberian elm	*Ulmus pumila*	1	Poor	Trunk rot
1T34	Siberian elm	*Ulmus pumila*	6	Fair	Trunk rot
1T35	Siberian elm	*Ulmus pumila*	6	Good	
1T36	Staghorn sumac	*Rhus typhina*	1	Fair	
1T37	Staghorn sumac	*Rhus typhina*	1	Fair	
1T38	Staghorn sumac	*Rhus typhina*	1	Fair	
2T1	Hawthorn sp.	*Crataegus* sp.	3	Good/Fair	deadwood
2T2	Hawthorn sp.	*Crataegus* sp.	3	Poor	half dead
2T3	Hawthorn sp.	*Crataegus* sp.	3	Good/Fair	deadwood
2T4	Willow Oak	*Quercus phellos*	10	Good/Fair	deadwood
2T5	Black Willow	*Salix nigra*	7	Fair	deadwood, vines, 6" and 5" secondary leaders
2T6	White Mulberry	*Morus alba*	3	Good	
2T7	Eastern Red Cedar	*Juniperus virginiana*	9	Good	
2T8	White Mulberry	*Morus alba*	6	Good	
2T9	White Mulberry	*Morus alba*	3	Good	
2T10	Common Yew	*Taxus baccata*	4	Good	pruned
2T11	Common Yew	*Taxus baccata*	4	Good	pruned
2T12	Common Yew	*Taxus baccata*	4	Good	pruned
2T13	Common Yew	*Taxus baccata*	4	Good	pruned
2T14	Common Yew	*Taxus baccata*	4	Good	pruned
2T15	Common Yew	*Taxus baccata*	4	Good	pruned
2T16	Small-Leaved Lime	*Tilia cordata*	15	Good	
2T17	Smokebush	*Cotinus coggygria*	2	Fair	deadwood
2T18	Bradford Pear	*Pyrus calleryana*	11	Good	
2T19	Red Pine	*Pinus resinosa*	10	Good	
2T20	Red Pine	*Pinus resinosa*	10	Good	
2T21	Red Pine	*Pinus resinosa*	8	Good	
2T22	Red Pine	*Pinus resinosa*	8	Good	
2T23	Red Pine	*Pinus resinosa*	8	Good	
2T24	Red Pine	*Pinus resinosa*	10	Good	
2T25	Red Pine	*Pinus resinosa*	12	Good	
2T26	Red Pine	*Pinus resinosa*	10	Good	
2T27	Red Pine	*Pinus resinosa*	6	Good	
2T28	Red Pine	*Pinus resinosa*	7	Good	
2T29	Small-Leaf Lime	*Tilia cordata*	14	Good	
2T30	Japanese Pagoda	*Styphnolobium japonicum*	17	Fair/Poor	extensive deadwood
2T31	Japanese Pagoda	*Styphnolobium japonicum*	11	Fair	deadwood
2T32	Japanese Pagoda	*Styphnolobium japonicum*	15	Fair	deadwood
2T33	Red Pine	*Pinus resinosa*	11	Fair	heavy vines
2T34	Red Pine	*Pinus resinosa*	13	Fair	10" secondary leader, heavy vines

Tree ID*	Common Name	Scientific Name	DBH	Condition	Comment
2T35	Tree of Heaven	*Ailanthus altissima*	6	Fair	heavy vines
2T36	Common Persimmon	*Diospyros virginiana*	7	Good	
2T37	Hackberry	*Celtis occidentalis*	6	Poor	extensive deadwood
2T38	Tree of Heaven	*Ailanthus altissima*	8	Fair	broken leader
2T39	Tree of Heaven	*Ailanthus altissima*	6	Fair	vines
2T40	Common Persimmon	*Diospyros virginiana*	2	Good	
2T41	Hackberry	*Celtis occidentalis*	3	Fair	heavy vines
2T42	Common Persimmon	*Diospyros virginiana*	6	Good	
2T43	Common Persimmon	*Diospyros virginiana*	3	Good	
2T44	Common Persimmon	*Diospyros virginiana*	3	Good	
2T45	Siberian Elm	*Umus pumilla*	24	Fair	heavy vines
2T46	Tree of Heaven	*Ailanthus altissima*	12	Fair	deadwood
2T47	Tree of Heaven	*Ailanthus altissima*	5	Good	
2T48	Tree of Heaven	*Ailanthus altissima*	8	Good/Fair	deadwood
2T49	Tree of Heaven	*Ailanthus altissima*	4	Good/Fair	deadwood
2T50	Tree of Heaven	*Ailanthus altissima*	3	Good/Fair	deadwood
2T51	Tree of Heaven	*Ailanthus altissima*	14	Good/Fair	deadwood
2T52	Tree of Heaven	*Ailanthus altissima*	4	Good	
2T53	Tree of Heaven	*Ailanthus altissima*	2	Good	
2T54	Black Locust	*Robinia pseudoacacia*	14	Fair/Poor	extensive trunk damage
2T55	Tree of Heaven	*Ailanthus altissima*	6	Fair	deadwood
2T56	Tree of Heaven	*Ailanthus altissima*	5	Fair	deadwood
2T57	Tree of Heaven	*Ailanthus altissima*	5	Fair	deadwood
2T58	Tree of Heaven	*Ailanthus altissima*	8	Fair/Poor	extensive deadwood
2T59	Tree of Heaven	*Ailanthus altissima*	13	Poor	extensive deadwood, broken leader
2T60	**Willow Oak**	***Quercus phellos***	**2**	**Fair**	**deadwood, sprouting**
2T61	**Willow Oak**	***Quercus phellos***	**2**	**Poor**	**mostly dead**
2T62	**Willow Oak**	***Quercus phellos***	**2**	**Fair/Poor**	**deadwood, sprouting**
2T63	**Red Maple**	***Acer rubrum***	**2**	**Poor**	**mostly dead**
2T64	**Bradford Pear**	***Pyrus calleryana***	**2**	**Good**	
2T65	**Red Maple**	***Acer rubrum***	**2**	**Fair/Poor**	**extensive deadwood**
2T66	**Red Maple**	***Acer rubrum***	**2**	**Fair/Poor**	**extensive deadwood**
2T67	**Kentucky Yellowwood**	***Cladrastris kentukea***	**2**	**Good**	
2T68	**Kentucky Yellowwood**	***Cladrastris kentukea***	**2**	**Fair**	**deadwood, trunk damage**
2T69	**Kentucky Yellowwood**	***Cladrastris kentukea***	**2**	**Fair**	**deadwood, trunk damage**
2T70	**Kentucky Coffee Tree**	***Gymnocladus dioicus***	**2**	**Good**	
2T71	**Kentucky Coffee Tree**	***Gymnocladus dioicus***	**2**	**Good**	
2T72	**Kentucky Coffee Tree**	***Gymnocladus dioicus***	**2**	**Good**	
2T73	**Kentucky Coffee Tree**	***Gymnocladus dioicus***	**2**	**Fair/Poor**	**extensive deadwood**
2T74	**Kentucky Coffee Tree**	***Gymnocladus dioicus***	**2**	**Fair/Poor**	**extensive deadwood**
2T75	Siberian Elm	*Ulmus pumila*	7	Good	
2T76	Tree of Heaven	*Ailanthus altissima*	3	Good	
2T77	Tree of Heaven	*Ailanthus altissima*	3	Good	
2T78	Tree of Heaven	*Ailanthus altissima*	4	Good	
2T79	Tree of Heaven	*Ailanthus altissima*	8	Good/Fair	deadwood
2T80	American Elm	*Ulmus americana*	6	Good	
2T81	Tree of Heaven	*Ailanthus altissima*	3	Good	
2T82	Black Locust	*Robina pseudoacacia*	4	Fair/Poor	extensive deadwood
1S1	Grounseltree	*Baccharis halimifolia*	<1.5	Good	
1S2	Groundseltree	*Baccharis halimifolia*	<1.5	Good	
1S3	Groundseltree	*Baccharis halimifolia*	<1.5	Good	
1S4	Groundseltree	*Baccharis halimifolia*	<1.5	Good	
1S5	White Mulberry	*Morus alba*	<1.5	Good	
1S6	Unknown Boxwood	*Buxus* sp.	<1.5	Good	
1S7	Japanese Pagoda	*Styphnolobium japonicum*	<1.5	Good	
1S8	False Indigo	*Amorpha fruticosa*	<1.5	Good	
1S9	False Indigo	*Amorpha fruticosa*	<1.5	Good	
1S10	False Indigo	*Amorpha fruticosa*	<1.5	Good	
1S11	Tree of Heaven	*Ailanthus altissima*	<1.5	Good	
1S12	Tree of Heaven	*Ailanthus altissima*	<1.5	Good	
1S13	Eastern Redbud	*Cercis canadensis*	<1.5	Good	
1S14	Eastern Redbud	*Cercis canadensis*	<1.5	Good	
1S15	Eastern Redbud	*Cercis canadensis*	<1.5	Good	
1S16	Eastern Redbud	*Cercis canadensis*	<1.5	Good	

*Specimen trees shown in bold.

APPENDIX D: MARYLAND STREAM MITIGATION FRAMEWORK (MSMF) CALCULATOR RESULTS

STREAM IMPACT CALCULATOR

BACKGROUND INFORMATION

Corps Project ID #:	NAB-2024-61017-M46	Corps PM:	Nicole Nasteff
Project Name:	Francis Scott Key Bridge	Date:	6-Apr-25
Lat/Long:	39.2185749°N, 76.5262528°W	Sponsor:	
County:	Baltimore City	Collaborators:	

TOTAL STREAM LOSSES (Functional Feet) **-54**

Raw Change in Reach Value (Functional Feet)											Stream Impact Adjustments		Stream Losses (Functional Feet)	REMARKS (Include reach coordinates)
Reach Name	Physiographic Region	Evaluation	Activity	Resource Type	Reach Length (feet)	Stream Quality	Channel Thread	Drainage Area (sqmi)	Raw Reach Value (Functional Feet)	Raw Change in Value (Functional Feet)	Site Sensitivity	Mitigation Ratio		
1WA	Coastal Plain	Existing	Preliminary Resource Evaluation	Perennial Headwater	112	26%	Primary	0.1	12	-12	0	Proposed Mitigation Type	-15	
							1	0.42			0%	Mitigation Bank		
	Coastal Plain	Proposed	Fill	Perennial Headwater	112	0%	Primary	0.1	0		0	1.3		
							1	0.42						
1WB	Coastal Plain	Existing	Preliminary Resource Evaluation	Intermittent	187	38%	Primary	0.1	30	-30	0	Proposed Mitigation Type	-39	
							1	0.42			0%	Mitigation Bank		
	Coastal Plain	Proposed	Fill	Select from Dropdown	187	0%	Primary	0.1	0		0	1.3		
							1	0.42						

APPENDIX E: MITIGATION BANK CREDIT AVAILABILITY

Ecotone UMBI - Pheasant Run wetland and stream bank

Chair:	USACE
Instrument signed by:	USACE
USACE District:	Baltimore
FWS Field Office:	Chesapeake Bay
NMFS Region:	Northeast
BLM State Office:	Eastern States
BLM District Office:	Northeastern States District Office
State:	Maryland
County:	Baltimore [MD]
USACE Permit/Tracking No.:	2019-00180
Total Acres:	44.00
Status/Date:	Approved 09/30/2024
Establishment Date:	09/30/2024
Type:	Private Commercial
On Public Lands:	No
On Tribal Lands:	No
Comments:	West of Baldwin Mill Rd, North of Patterson Rd, Baldwin, Baltimore County, MD 21013. MBI approval. Initial credit release pending for receipt of documentation.

Bank Credit Classifications

Wetland
- PFO - Palustrine Forested

Stream
- Ephemeral Stream
- Functional Feet
- Intermittent Stream
- Perennial Stream

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OpenLayers Map

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Show Service Area
Active Service Areas Only All Service Areas
Rank Primary Secondary

Credit Ledger Summary

Last Transaction: Jul 01,2025

ATTENTION
Credit reservations and pending transactions are NOT reflected in the Available Credits total. Potential purchasers MUST contact the Sponsor to verify credit availability.

Credit Classification	Jurisdiction	Available Credits	Withdrawn Credits	Released Credits	Potential Credits	Percent Released
Wetland						
PFO - Palustrine Forested	Federal	9.6925	0	9.6925	25.85	37.5%
Stream						
Functional Feet	Federal	801	0	801	2135	37.5%

Peige Wetland Mitigation Bank

Chair:	USACE
Instrument signed by:	
USACE District:	Baltimore
FWS Field Office:	Chesapeake Bay
NMFS Region:	Northeast
BLM State Office:	Eastern States
BLM District Office:	Northeastern States District Office
State:	Maryland
County:	Baltimore (MD)
USACE Permit/Tracking No.:	2016-01568
Total Acres:	14.00
Status/Date:	Approved 12/10/2020
Establishment Date:	12/10/2020
Type:	Private Commercial
On Public Lands:	No
Comments:	Site Address: 701 Luthardt Road, Middle River, MD 21220

Bank Credit Classifications

Wetland
- PFO - Palustrine Forested

Contact Information

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Show Service Area
Active Service Areas Only All Service Areas
Rank Primary Secondary

Credit Ledger Summary

Last Transaction: Jun 27,2025

ATTENTION
Credit reservations and pending transactions are **NOT** reflected in the Available Credits total. Potential purchasers **MUST** contact the Sponsor to verify credit availability.

Credit Classification	Jurisdiction	Available Credits	Withdrawn Credits	Released Credits	Potential Credits	Percent Released
Wetland						
PFO - Palustrine Forested	Federal	.65067	8.61803	9.2687	14.24	65.1%