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Bank Sponsor: NextEra Energy Marketing, LLC

Prospectus Eccleston Mitigation Bank Baltimore County, Maryland



Submitted To:

Maryland Interagency Review Team

U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Department of Interior: Fish and Wildlife Service
Maryland Department of the Environment
Maryland Department of Planning
Maryland Department of Natural Resources
Maryland Board of Public Works
National Oceanic and Atmospheric Administration
Fisheries, Habitat Conservation Division
Maryland Critical Area Commission

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1. Preamble

This document is organized per the CFR 332.8(d)(2) guidelines for *Information for a Complete Mitigation Bank Prospectus*; it includes relevant sections based on Interagency Review Team (IRT) pre-decision comments to support the needs set forth in CFR and the 2008 Final Mitigation Rule, as well as Maryland Department of the Environment (MDE) requirements for the development and monitoring of wetland restoration projects.

2. Introduction, Objectives and Basic Bank Information

This prospectus details the Proposed Eccleston Mitigation Bank (hereafter, “Bank”), the primary purpose of which is to provide compensatory stream and wetland mitigation for unavoidable impacts to streams and nontidal wetlands authorized under Section 404 of the Clean Water Act and Maryland’s Non-Tidal Wetland Protection Act. The Bank is proposed as a commercial wetland and stream mitigation bank, able to sell credit to any potential purchaser within the proposed service area and on a case by case basis elsewhere in the State of Maryland. The proposed Bank site is located directly south, east, and west of 2501 Greenspring Valley Road, Owings Mills, MD 21117, latitude 39.407828, longitude -76.734177, on a parcel that is 99.1067 acres in size. The owner of the parcel is the Eccleston Land Company, Inc (ELC).

Secondary purposes of the Bank include:

- Provide mitigation for impacts under the Maryland Forest Conservation Act;
- Provide Total Maximum Daily Load (TMDL) pollutant reductions under the Clean Water Act.

Inclusion of secondary bank purposes is a common practice known as “credit bundling,” where credits are sold for a specific purpose and discretely tracked under the credit ledger. Credits will not be sold using the same specific linear feet of stream or acreage of wetland. Any other non-404 credit sales will be coordinated with IRT for appropriate use and debiting.

The long-term ownership of the Bank site will remain with the ELC. A “To Be Determined” (TBD) Limited Liability Company (LLC) will be the Bank Sponsor. The TBD LLC will be provided in the pending Draft Mitigation Banking Instrument (MBI). The owner of the LLC will be NextEra Energy Marketing, LLC or an affiliate or subsidiary of NextEra Energy Marketing, LLC (“NEM”). NEM is a subsidiary of NextEra Energy Resources, LLC, which is a direct wholly-owned subsidiary of NextEra Energy, Inc. (“NEE”). NEE is a publicly traded, Fortune 100 energy company with substantial financial resources. NEM will provide the capital to establish and complete the proposed Bank.

The Bank Sponsor contact is:
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The pre-decision details of the easement have been negotiated with the IRT, and a draft copy is included in this Prospectus (Appendix A).

An IRT-approved, third-party, non-profit entity will be responsible for the long-term oversight of the conservation easement. ELC will remain the owner of the entire parcel land will not be responsible for the monitoring, maintenance, or construction of the mitigation work. ELC will maintain their passive use rights on the parcel. Agriculture will continue in areas outside the proposed mitigation easement area. ELC employs a property steward who is responsible for managing the hunters' activities and maintains the site integrity as needed.

A consultant team is contracted to provide all services required to complete the Bank Development; this team includes engineers and scientists skilled in the assessment, design, and monitoring approaches necessary to complete a mitigation bank in the State of Maryland, with experience on multiple mitigation sites within the state.

The adjacent property owners list has been submitted to the IRT under a separate cover. The appropriate local regulating authorities include the Baltimore County Soil Conservation District, Baltimore County Department of Environmental Protection and Sustainability, and potentially other Baltimore County agencies to be determined through the Mitigation Banking Instrument (MBI) process.

The project contacts are:
Mr. Chandler Denison, 443-765-0053
Mr. Jim Morris, P.E., 717-891-2239
maryland.mitigation@gmail.com

3. Site Selection and Existing Site Impairments

i. Site Selection

The proposed Bank site is viable for numerous reasons. The property on which the Bank will be located is not protected by any easements or covenants, potentially allowing future development and jeopardizing the habitat thereon. Land uses upstream from the property include low density residential, a golf course, and small agricultural practices. Additionally, the Bank site is in one of the most impaired tributaries in the state, as the Jones Falls watershed is impacted by multiple Total Maximum Daily Loads (TMDLs).

Improving this tributary will have downstream benefits for the residents of Baltimore County and Baltimore City. Also, the upper Jones Falls is considered a blue-ribbon trout stream by Maryland Department of Natural Resources. Improving this section of the Jones Falls will further improve trout habitat in the tributary and increase the habitat for prey species that trout feed upon.

The proposed Bank site is in a large farm field; thus, the restoration, enhancement and preservation will improve environmental resources and define clear monitored boundaries for farming practices. Finally, the site was also chosen for environmental justice issues. The Jones Falls flows through many economically-disparate parts of the county and city before draining into the Baltimore Harbor. Many individuals from a wide range of socioeconomic backgrounds live near and/or enjoy the tributary as it flows through their communities. Restoration along this tributary will improve water quality and thus benefit all residents along, and users of, the waterway and the Harbor.

ii. Site Impairments

Investigation of the site has revealed several principle impairments to the wetlands and waterways on the site:

- Straightening of Streams
 - Historic aerial investigation reveals streams were channelized multiple times. Streams include low sinuosity.
- Impairment of Stream Substrates
 - Channelization has disrupted the natural sediment transport processes. In many locations, the stream is perched above or incised below the native basal gravel layer, which is the original gravel substrate of the stream prior to impairment.
- Impoundments and Associated Legacy Sediment
 - Existing impoundments as well as historic and now-breached impoundments have disconnected the stream from its floodplain, leaving high banks of sediment less than 400 years old.
- Diversion of Stream Baseflow
 - Channel baseflow remains diverted from the Jones Falls mainstem for approximately 1,500 LF, impairing base flow habitat.
- Deforestation of Stream Buffer
 - The entire site was deforested within the last 60 years as shown in historic aerial photos. A lack of channel shade is evident on much of the site.
- Draining of Wetlands
 - Multiple existing tile locations have been noted, draining existing wetlands. Some small tributaries appear to be draining from wetland areas; these were likely excavated to drain wetlands.

These impacts are in addition to the principle watershed impacts of deforestation, urbanization, and climate change.

Secondary impacts to the site, resulting from the site specific and watershed principle impacts, include the following:

- Loss of Water Quality / Increased Temperature
 - Historic regional trends in water quality, from a variety of causes, has increased conductivity, decreased pH, and increased water temperature from pre-colonial conditions. Nutrients from agriculture on the site likely contribute to algal blooms and apparent eutrophication of the stream channel.
- Loss of Physical Habitats
 - Lack of stable riffle habitats, lack of in channel overhead cover, and lack of bed diversity have been noted for the restoration portions of the project.
- TMDL Pollution Sources
 - Ongoing loss of sediment from erosion causing various impairments within the project reach and downstream.

Top-Level Functional Losses resulting from these impacts include:

- Trophic Impacts / Ecosystem Simplification
- Dominance of Invasive Species
- Loss of Soil Carbon and Impairment of Soil Biology

iii. Eligibility for Restoration

Although the site was highly impacted in the past, these impacts are prior to the Clean Water Act and other relevant / present-day applicable regulations regarding the impacts to wetlands and waterways. Therefore, these impacts were legal, and are eligible to provide restoration credits. No illegal or ongoing impacts to wetlands and waterways are known to be present on the project site.

iv. Other On/Off-Site Threats

Other than already identified, there are no other known potential threats to the Bank site or resource type that will not be addressed through the work proposed. There are no known adjacent or upstream withdrawals of surface flow or groundwater which would impact the site. Therefore, control of the hydrology is not perceived as an issue. The existing surface flows and groundwater hydrology will be utilized for the primary hydrologic functions of the mitigation areas. No long-term detention or diversion of water is proposed; therefore, no secondary impacts due to hydrologic alteration are anticipated. No other existing hydrologic disturbances are known to influence the site.

4. Site Protection Instrument

The proposed site protection instrument is a conservation easement. Preliminary Conservation Easement language has been provided with this prospectus; the final details of the easement are to be provided during the Draft MBI stage of bank permitting with a final easement executed with final approval of the MBI. The party responsible for the Conservation Easement will be identified within the Draft MBI and finalized with the MBI.

5. Baseline Information and Existing Data

i. Fisheries

Department of Natural Resources (DNR) Fisheries-provided data from the 1998 and 2014 sampling events at the project site documents trout utilization. Historic redd counts were also conducted by DNR. An in-depth analysis will be provided at the Draft MBI phase of the project design; however, trends in the data for multiple species indicate less favorable conditions for cold water species and increasingly favorable conditions for warm water species. The presumed reasons for that transition include the principle reach- and watershed-specific impairments listed in this prospectus. Given the historic impacts (see iii.), the observed trout reproduction in portions of the project site is most likely due to relatively recent land use changes associated with a change from dairy / grazing agricultural production to crop production.

ii. Benthos

No site-specific benthic data is available in the public domain for this site. Watershed data is available, however, which details the benthic function in the Jones Falls mainstem and its tributaries. This data varies from functioning to non-functioning status. Functioning sites exist within proximity of the project site; this is a strong indicator that restoring habitats and substrates to the project site will restore higher biological functions.

iii. Historic Aerials, Historic Accounts

Publicly-available historic aerials have been researched for this project site, including 1927 and 1953 photography. Previous land use for the site was high density agricultural, with dairy cows and livestock grazing. Agriculture has shifted to grain farming with no livestock component. Surrounding land uses include agricultural and low density residential. The project site and uses are well-depicted in these data and demonstrate that the Jones Falls was straightened multiple times and was almost completely deforested approximately 60 years ago. Other evidence of drain tile, wetland drainage, dams, stream diversion and piping, and construction activities is noted in these photographs. Grazing and land clearing are evident in these aerials, supporting the documentation that the site was used for a dairy operation.

iv. Zoning, Title, and Easement Data

Current zoning of the property and proposed Bank lands is RC-2. Surrounding lands of the proposed Bank are also zoned RC-2. Preliminary title research has been conducted for the property and no encumbrances, liens or easements are noted. The edges of the property contact road, utility, and railroad right of ways that will not impact or affect the proposed Bank. No known mortgages, liens, rights-of-ways, servitudes, easements, mineral rights, etc., other than those previously stated, are known on the property.

v. Preliminary Restoration Assessments

A spawning / redd survey was conducted from the first week of November through the first week of December 2017. During that time, weekly investigations of the entire Jones Falls mainstem were conducted. Spawning was observed in potential preservation areas near an existing bald cypress stand and immediately upstream of the Park Heights culvert, with spawning absent in the reaches in-between as well as the tributaries. Per DNR

comment, an assessment of the lower 900 feet of the Jones Falls above Park Heights Avenue was conducted where the physical habitats were assessed for quality and type of substrates and in-channel overhead cover. Additional parameters such as pool variability and channel flow status were also evaluated.

vi. **Phase I Investigation**

A detailed, ASTM-compliant Phase I Environmental Site Assessment (ESA) was completed for the project site. This included a search of historical records of the site and surrounding area, an Environmental Database search, an examination of MDE oil and hazardous materials records, a site investigation, property owner interviews, and limited soil sampling to determine the presence of Recognized Environmental Concerns (RECs). The Phase I will be included as an appendix to the MBI; no further investigation was deemed necessary based on the results of the ESA.

vii. **Historic Investigation**

No known protected historic, archaeological, or cultural resources are present on the site within the proposed work areas. Per standard protocols, if the discovery of resources on the site is made, MDE/MHT will immediately be contacted. No additional studies are proposed at this time.

6. Determination of Credits and Service Area

i. **Basis for Credit Determination**

All of the credit calculations follow IRT and MDE guidelines. Stream and wetland restoration is calculated on a ratio of 1:1. Stream and wetland enhancement are calculated on a ratio of 3:1; for every 3 acres or linear feet of enhancement, one credit is generated. Stream preservation is calculated at a ratio of 10:1; for every 10 linear feet of stream preservation, one credit is generated. Wetland buffer enhancement is calculated on a ratio of 15:1; for every 15 acres of wetland buffer enhancement, one credit is generated. These ratios are based on the best available regulatory pre-decision guidance and precedence from previous permittee-responsible projects.

There are no crediting types that currently exist on the property within the easement area, nor has any part of the property been used for compensatory mitigation, forest mitigation, or other available crediting types. The Bank Sponsor is proposing that the Bank lands be eligible for sale as multiple types of credit, including compensatory mitigation, TMDL credit, and forest conservation credit. In accordance with the 2008 Mitigation Rule, credits cannot be sold twice, i.e., no "stacking." To be clear, credits will only be sold once. The Non-404 linear feet of stream or acreage of wetland will be debited and coordinated with IRT for approval.

ii. **Total Anticipated Credits**

There will be approximately 15.02 acres of wetland restoration/creation, 3.73 acres of wetland enhancement, and 3.42 acres of forest creation/wetland buffer credits provided. There will be approximately 6,210 linear feet of stream restoration, 646 linear feet of stream enhancement and 570 linear feet of stream preservation credits provided by the proposed on-site activities. These quantities will vary until final approval in the MBI, as it is based on approximate lengths of existing resources. The lengths of existing resources

as they are known at this stage are presented in the Mitigation Unit Map (MUM). These figures (Appendix A) will be revised through the MBI stage for both existing resources and total credit yield. The final crediting totals will be determined through as built certification with the IRT.

iii. **Primary Service Area**

The proposed primary Service Area is the Gunpower-Patapsco Watershed (HUC 02060003). The Gunpowder-Patapsco Watershed (HUC 02060003) encompasses many of the urban and suburban areas of Baltimore, Carroll, Harford, and Anne Arundel Counties. Major tributaries include Liberty Reservoir, Gwynns Falls, Jones Falls, and Loch Raven Reservoir. This watershed has experienced multiple impacts to streams and wetlands. The proposed Bank will provide stream and wetland compensatory mitigation credits for those individuals or entities impacting these resources.

iv. **Secondary Service Area**

The proposed secondary service area is the Piedmont ecoregion of the Patuxent Watershed (HUC 02060006) and the Piedmont ecoregion of the Lower Susquehanna (HUC 02050306). This secondary service area was chosen because the proposed Bank location is located in the Piedmont region of the state within similar topography and is an adjacent watershed. Both HUCs of the secondary service area have similar flora and fauna, and a similarity of resources.

A map is provided depicting the primary and secondary service areas (Appendix A).

7. Mitigation Work Plan- Agency Coordination

i. **MHT**

As other investigations are conducted, MHT will be notified if any historic resources are encountered. The site is located in the Greenspring Valley Priority Preservation Area but does not contain specific historic resources of any significance.

U.S. Army Corp of Engineers (USACE) / MDE Wetlands and Waterways

Ongoing coordination will occur with these parties through the MBI stage. Multiple site visits have occurred to date and, through MBI, additional design-driven site visits and consultations are anticipated.

ii. **DNR Fisheries and Trout Unlimited**

DNR fisheries and Trout Unlimited have been identified as significant stakeholders due to the presence of Brown Trout (*Salmo trutta*) reproduction on the project site. The MBI design will be coordinated with DNR fisheries to ensure preservation of the existing high-quality habitats and restoration of impaired habitats to their best potential.

iii. **Other IRT Partners**

Other agencies will be coordinated with as needed through the MBI process. All agencies are welcome to review the site.

8. Mitigation Work Plan- Site Potential and Basis for Restoration Credit

i. **Restoration Potential and Mitigation Bank Objectives**

This project site yields multiple opportunities for restoration, creation, enhancement, and preservation. The proposed restoration resource types will be forested wetland, stream, upland buffer enhancement, and riparian buffer enhancement.

- Wetland Restoration Opportunities: In multiple locations on the site, a buried hydric soil layer is present along with buried cellulosic material, such as seeds, twigs, root matter, and other natural preserved organic detritus. This indicates that the site is impacted by legacy sediments and wetlands were previously present prior to anthropogenic impact. It is known that multiple dams were located immediately downstream of the site, and two dams have been identified onsite. Therefore, historic impacts to wetlands are present on the project site, and their restoration is possible as part of this project. This would convert upland areas to wetland areas within the jurisdiction of the Army Corps of Engineers through connection with existing hydric soil, connection with groundwater, and the planting of hydrophytic vegetation and potential sprouting of the historic preserved seedbank.
- Wetland Enhancement Opportunities: Existing wetlands are present on the project site but with functions and values at less than their full ecological potential. Enhancement opportunities include grading of existing surface water wetlands to re-connect them to groundwater, removing Common Reed (*Phragmites australis*) and other invasive species, and restoring native vegetation. In forested wetlands, for example, the shrub layer is predominantly invasive species. Additional enhancement opportunities can be found by increasing the wetland buffer, removing trash and unnatural debris, and planting additional native species for pollinator benefit.
- Stream Restoration Activities: Although it is evident that the stream has a functioning biological system, it is functioning at risk for the reasons stated previously. Several locations have extensive erosion and degrading facet features, and thus are opportunities for restoration. This includes potential to grade banks and connect the stream to restored wetlands; form and maintain pool, riffle, glide and run facet features; preserve grade control to prevent head cutting through the system; and create side channel habitats. Additional restoration practices to be employed include the removal of base flow diversions and restoration of channel base flow, the re-meandering of the stream, and the removal of intact dams which limit aquatic organism passage and destroy benthic habitat.
- Stream Enhancement Opportunities: Enhancement opportunities on the project site include the restoration of stream buffers, the addition of large woody debris to the channel, and the formation of micro facets and fixing local stability issues. Also, connection with good buffers will be vital to enhancement of stream corridors.
- Forest Mitigation/Wetland Buffer Opportunities: Existing agricultural land poses opportunities to compensate for the loss of trees as part of the construction of the project, as well as restore additional forest.
- TMDL / Nutrient Reduction Opportunities: Restored streams are requested to be dual-certified for TMDL as well as mitigation credit. Credits are for stream restoration OR TMDL. They will not be stacked or sold twice, nor will TMDL credit be the primary driver of credit sales. A complete nutrient savings analysis from source

reductions as well as nutrient processing will be tabulated. These efforts are included to form a comprehensive site restoration model and to maximize potential financial compensation opportunities for the work.

These practices will address historic losses of functions and values in the watershed, and the site-specific primary impairments discussed in this document.

9. Mitigation Work Plan- Permitting and Site Resources

i. Permit

The anticipated instrument for restoration will be a Nationwide 27 Joint Permit Application, to be submitted following sufficient data collection and resource documentation during the MBI stage of the regulatory process.

ii. Jurisdictional site resources

Following baseline data collection, figures depicting site resources and anticipated impacts will be submitted and finalized through field review with the IRT. Impacts will be summarized by resource type and nature of the impacts.

10. Mitigation Work Plan- Proposed Baseline Data Collection for MBI

i. Topographic

One-foot contour survey will be completed for the site, as well as top of basal gravel investigation. Utility investigation will be included following coordination with MISS UTILITY. Twelve-inch and larger diameter trees will be located, as well as structures, wetland points, and other site features.

ii. Geomorphic

Geomorphic survey will be performed using Rosgen and USGS / NRCS methodologies to characterize sediment transport, bank erosion, stability, stream evolution and potential for self-recovery / departure from reference analysis. Reaches in the study area are Rosgen B/C4 stream type.

iii. Natural Resource Inventory

Wetland delineation, functions and values assessment through New England District Highway Methodology, and other methodologies acceptable to MDE and USACE will be performed. Wetland jurisdictional determination, if required by the IRT, will be completed during the MBI phase, and accompanying numbers depicting those impacts and restoration to those features will be finalized at that phase. Streams classify as B4 or C4 Rosgen streams and their status as perennial, intermittent, or ephemeral will be finalized at the MBI stage through field evaluation. Forest stand delineation using Baltimore County protocols, and assessment of canopy to determine critical habitat and canopy tree relationship will also be performed. Invasive species mapping of the site is included.

iv. Benthos

Benthic baseline data using rapid bioassessment methodologies and others as determined by DNR and other agencies will be performed.

v. Fisheries

Habitat-specific assessments of available habitat for game and forage species and geo-referencing with existing DNR fisheries data will be performed. Existing data from DNR and Baltimore County will be used for baseline conditions. It is proposed for DNR to continue fisheries monitoring following construction. Existing conditions physical habitat will be assessed. Channel flow status, in-channel overhead cover, and presence of woody debris are key elements that will be assessed, as well as presence of clean gravel substrates, bed and bar particle distributions, and overall visual assessment of the restoration reaches and banks.

vi. Thermal

Thermal transducers and absolute pressure transducers will be installed in significant portions of the tributaries and monitored at 1-hour intervals. Atmospheric air temperature and conditions will be monitored at 1-hour intervals in a shaded location on site. This monitoring is expected to continue following construction.

vii. Precipitation and Climate

Data for monthly average rainfall and weather conditions will be tracked through the monitoring period, to identify if other data collected is within “normal” conditions for the site, or representative of wetter, drier, hotter, or colder conditions than normal.

viii. Hydrology

Investigation of the site has shown that the lowland floodplain areas of the site were most likely Piedmont emergent / scrub shrub / forested mosaic wetlands highly connected to a basal gravel layer within the valley. A buried hydric soil layer is present, indicating persistent groundwater at that location. This was the dominant, climax hydrological surface / groundwater regime until European settlement, deforestation, and impoundment of Jones Falls. Groundwater historically would have been at or near the ground surface, and is impacted now by channel straightening, legacy sediment, and potentially drain tile, resulting in sporadic wetland conditions adjacent to the stream. Groundwater will be characterized through observation of redoximorphic features observed during the basal gravel investigation. Basal gravel at the site along with the buried hydric soil layer above it is known to be in the ground water table seasonal range based on soil indicators.

11. Mitigation Work Plan- Design Methodology

i. Basis

The design methodology utilized for this project will address each principle impairment. The design will be presented with the principle impairments in mind and be correlated to a physical habitat or measurement which can be quantified when construction is complete and during long-term monitoring. Bank development will also include top level function monitoring to address performance of those restored habitat features. For example, “Straightening of Streams” would be addressed at construction completion by demonstrating restored stream facet sequences and increased sinuosity. Potential top-level function monitoring accompanying that work includes the evaluation of utilization of new stream channel and facets by fish and benthos.

The mitigation measures will be designed using best practices to accomplish ecological lift and maintain existing resources on the project site. Erosion and sediment control standards will be met, as well as design input and comments from the IRT. Avoiding and minimizing impact to critical site resources will be a cornerstone of the design. The Bank Sponsor proposes an on-board process with agencies with review comments at critical milestones. All plans will be signed and sealed by a Professional Engineer specializing in ecosystem restoration practices.

Mitigation construction will require a full suite of ecosystem restoration construction processes, including grading with low ground pressure equipment, excavation, placement of structures with use of logs and stone, and the planting and management of vegetation. Vegetation management includes the use of herbicides with mechanical or hand spraying techniques, mechanical removal of vegetation, and the use of tree shelters and other measures to prevent herbivory.

Hydrology will be provided through stream and floodplain restoration. No long-term controls or maintenance-intensive structures are anticipated for use. Groundwater, precipitation, and surface flow connection are the primary sources of hydrology for restored wetlands onsite. Losses of hydrology include groundwater recharge, evapotranspiration, and flow off site.

We will utilize wetland restoration techniques which place the wetland surface on buried hydric soil, connected with the groundwater surface. These will be validated through monitoring in the pre-construction period. Flood flow connection is also anticipated. This will be provided with specifics as the study advances.

To mitigate for the impacts of agriculture at the project site, perimeter controls and best management practices will be installed. Removing drain tile will also remove a direct conduit for agricultural runoff to enter the stream directly without any treatment.

ii. Construction

To minimize incidental take, fish relocation and exclusion is proposed during construction. Work offline from the stream may be proposed to minimize pump-around practices and other practices which may dewater stream resources for long periods of time. A qualified contractor will be selected, with extensive expertise in the restoration of stream and wetland resources, as well as the appropriate specialized equipment to accomplish the work. Contractors will be overseen by a construction specialist who is versed in best construction practices and the full intent of the design. The principle designer of the project will have full oversight and stop-work capabilities to ensure regulations and design intent are met. The location of proposed work is shown in the accompanying figures, and detailed plans will be developed at MBI.

12. Monitoring, Maintenance Plan, and Performance Standards

i. Monitoring Period

Often in mitigation, an extended time period is used as a surrogate for monitoring quantifiable and measurable goals for the functions and values of the restored systems. Using an enhanced monitoring criterion, the Bank Sponsor proposes a 7-year monitoring path to demonstrate the functions and values of the restored wetland and stream

habitats. The Bank sponsor, upon discovery of recovery of the restored system not meeting their criteria, would have the option to extend the period and or provide an Adaptive Management Plan. IRT would be notified and appropriate steps to meet the approved success criteria coordinated as needed.

ii. **Maintenance**

Monitoring will be used to determine maintenance needs. Unanticipated outcomes observed during monitoring events will be reported as observed to the IRT for use in determining maintenance and adaptive management needs. It is understood that failing to report these occurrences in a timely manner may result in loss of functions and values of the restored, enhanced, or preserved systems.

iii. **Monitoring Performance Standards and Monitoring Interval**

Top level functions are anticipated to be part of the monitoring criteria with goal attainment linked to credit release. As these functions may require multiple seasonal monitoring efforts, the site is expected to be monitored several times per year with these findings summarized in annual reports along with the raw data. The final monitoring standards will be determined in conjunction with the IRT at the MBI stage of the regulatory process.

13. Long Term Management Plan (LTM)

A draft LTM plan and checklist has been provided to the IRT for review; the final plan will be determined at the MBI stage of the regulatory process. The plan will be administered by the long-term steward. Management of the site will be the responsibility of the Bank Sponsor until a long-term steward and easement holder is finalized.

14. Adaptive Management

Adaptive management procedures accompanying a robust maintenance plan will ensure the successful implementation of restoration and enhancement work at the project site. The details of this plan will be determined in the MBI stage of the regulatory process but will accompany the monitoring activities at the site which are anticipated to be multiple times per year. The IRT will be notified of any issues which occur through monitoring and anticipated adaptive management for unanticipated outcomes at the site. The IRT will approve all adaptive management measured prior to their implementation.

15. Financial Assurances

The Bank sponsor has sufficient funds to plan, execute, and monitor the mitigation work for the duration of the monitoring and adaptive management until final credit release. Bonding and surety is anticipated to be negotiated at the MBI stage. Following final release and sale of credits, long term monitoring and catastrophic event funds will be finalized at the levels determined by the IRT during the MBI stage to ensure the site is sustained in perpetuity.

16. Credit Release Schedule

This proposed credit release schedule combines the standard IRT guidelines for non-tidal wetlands and the standard 5-year stream monitoring protocol. Since our design will create wetlands adjacent to the stream, releasing the credits together instead of 5 years for the stream and 10 years for the wetlands makes more ecological sense.

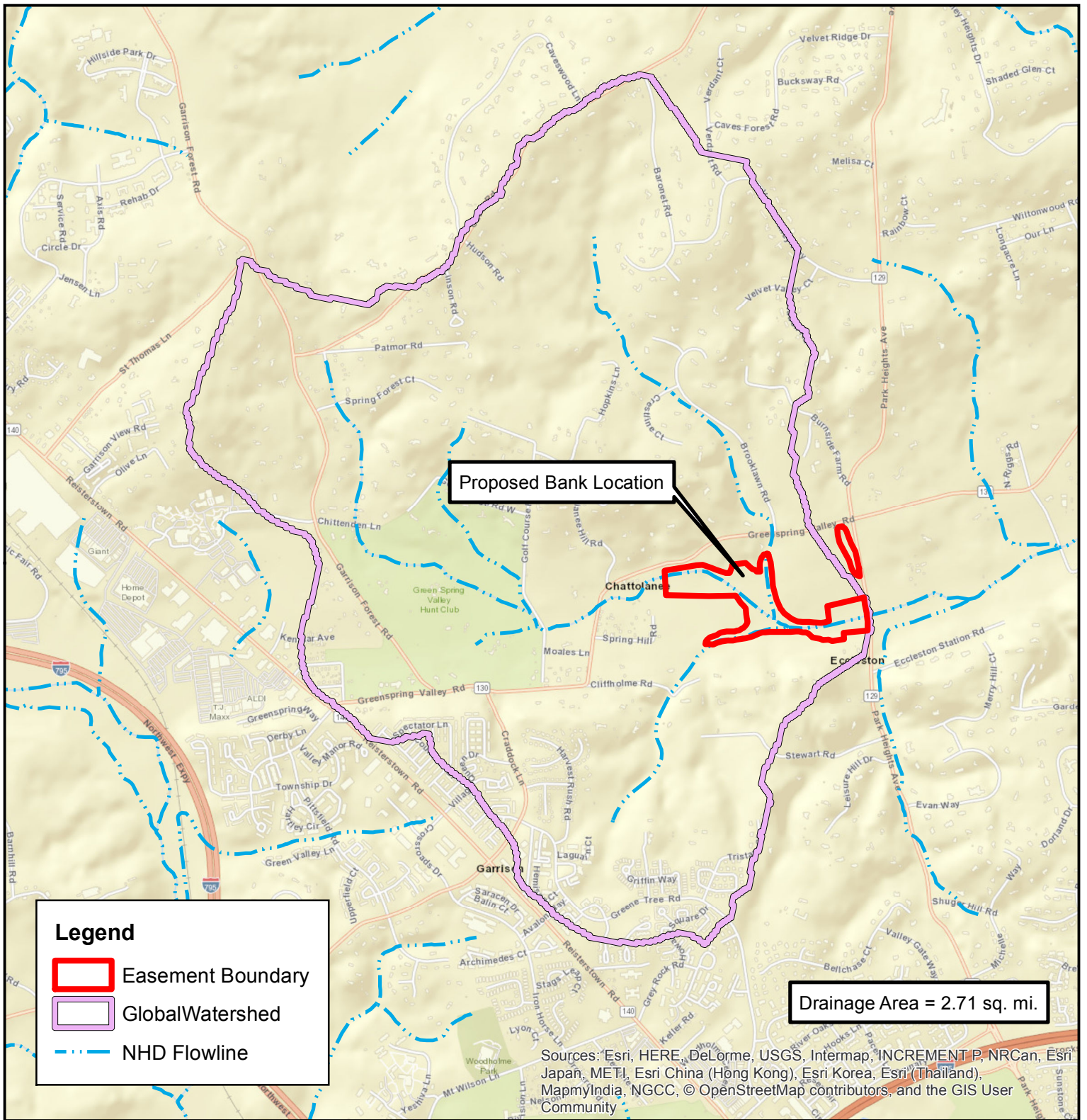
Stream and Wetland Mitigation Bank Site Milestones	Credit Percentage Released	
	Preservation	Restoration & Enhancement
Mitigation Banking Instrument Approved by Corp & MDE	100%	15%
Successful Post-Construction As-built Submittal	0%	15%
After Year 1 and Performance Standards Met	0%	20%
After Year 2 and Performance Standards Met	0%	10%
After Year 3 and Performance Standards Met	0%	10%
After Year 4 and Performance Standards Met*	0%	10%
After Year 5 and Performance Standards Met*	0%	10%
After Year 6 and Performance Standards Met*	0%	5%
After Year 7 and Performance Standards Met*	0%	5%
<i>*Note: Starting in Year 4, if performance standards are met for two consecutive years, all remaining credits are proposed for release.</i>		

17. Other Information

Appendix A

- Proposed Eccleston Mitigation Bank Drainage Area Map
- Proposed Eccleston Mitigation Bank 8-Digit HUC Watershed Map
- Proposed Eccleston Mitigation Bank Proposed Mitigation
- Proposed Eccleston Mitigation Bank Existing Features Map
- Proposed Eccleston Mitigation Bank Service Area Map
- Proposed Eccleston Mitigation Bank Soil Map
- Proposed Eccleston Mitigation Bank USGS 7.5' Topographic Map
- Proposed Eccleston Mitigation Bank Vicinity Map
- Proposed Draft Mitigation Banking Conservation Easement

Appendix A

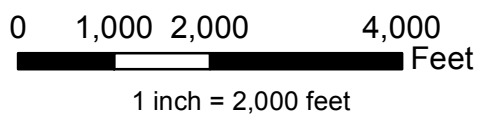


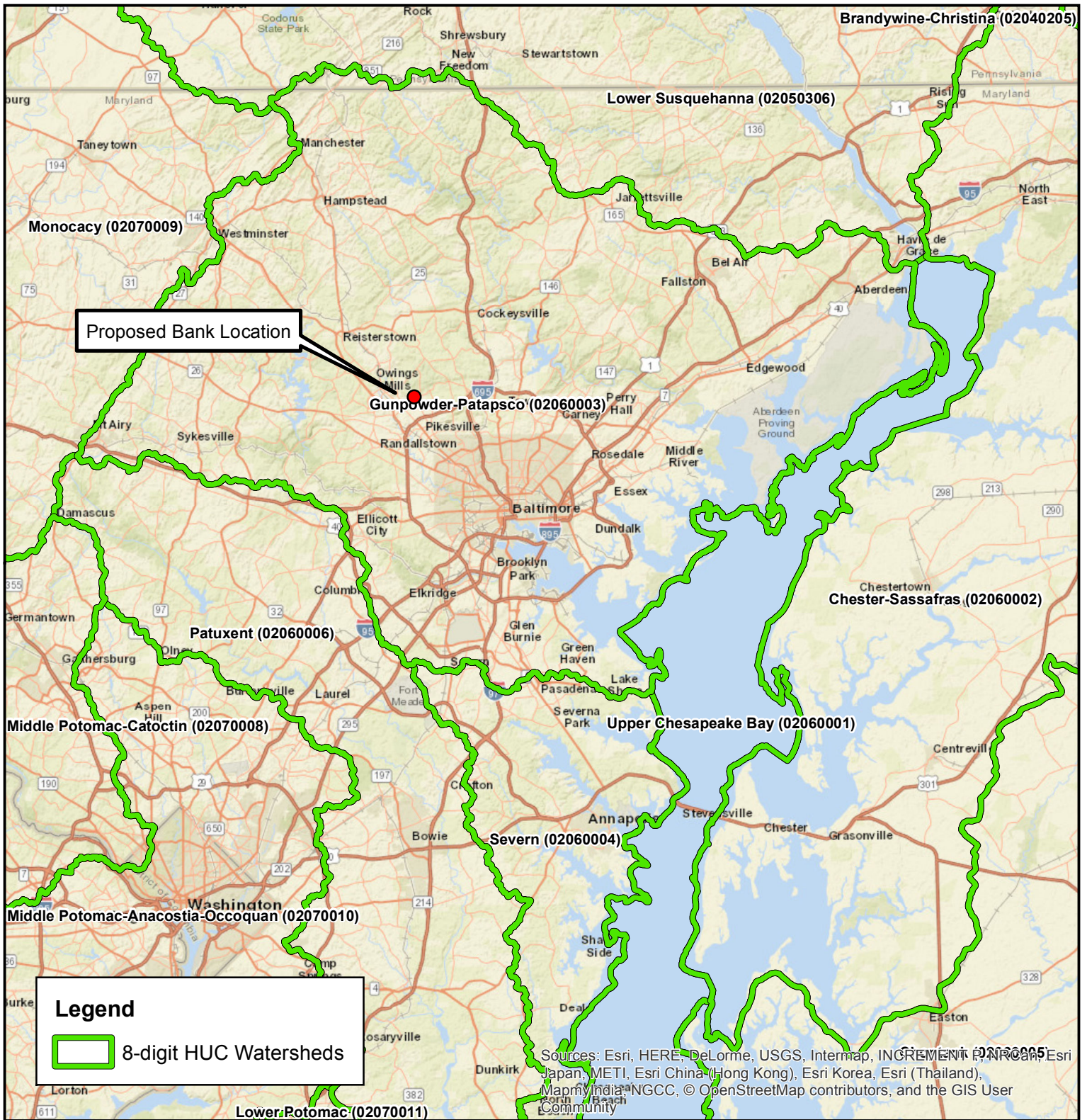
Proposed Eccleston Mitigation Bank Drainage Area Map

Baltimore County, Maryland

Date: March 2018

Source: ESRI, USGS



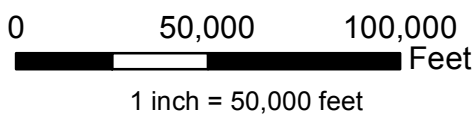


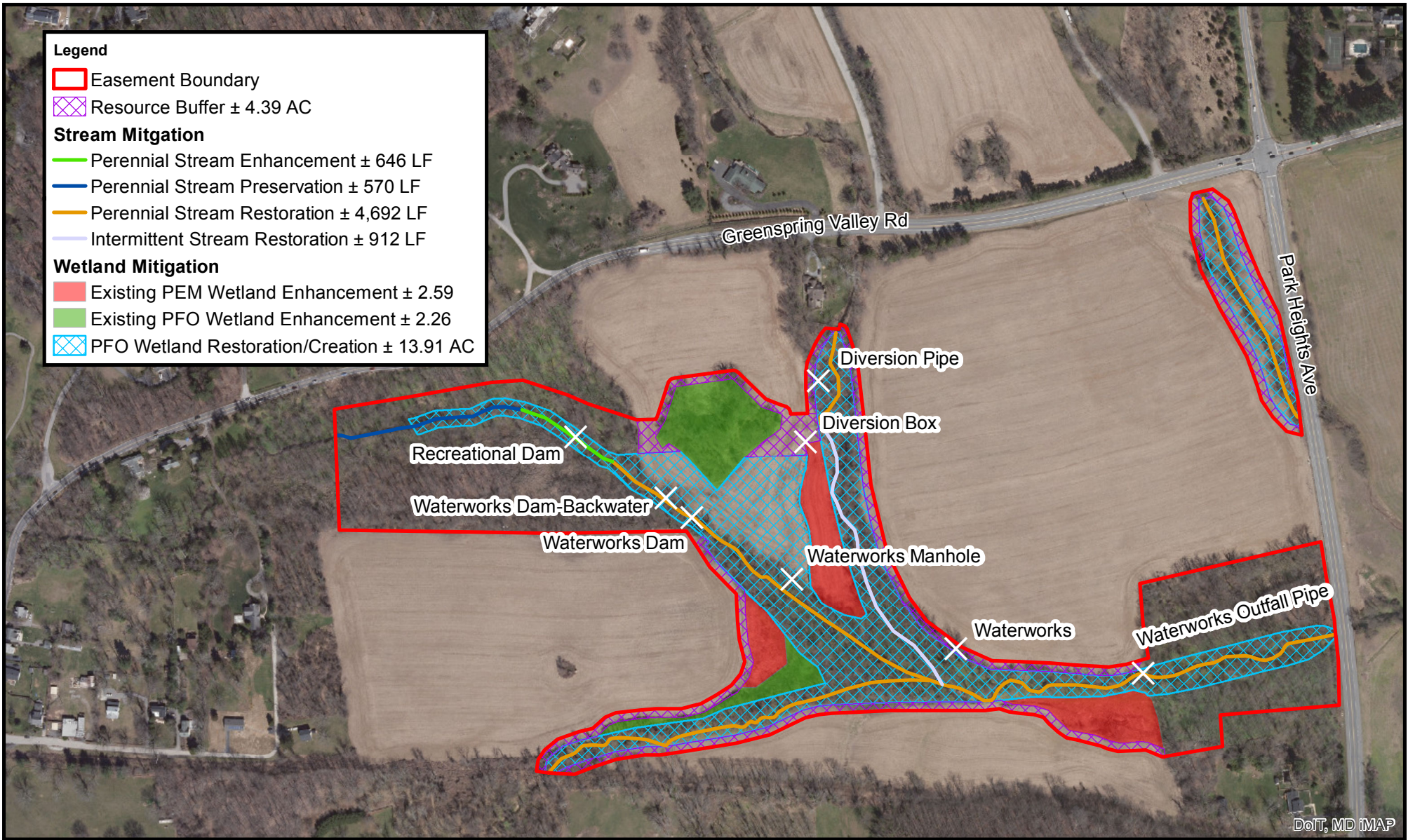
Proposed Eccleston Mitigation Bank 8-Digit HUC Watershed Map

Baltimore County, Maryland

Date: March 2018

Source: ESRI, USGS



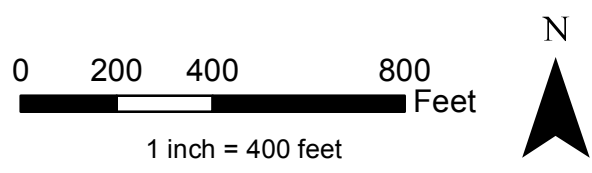


- Legend**
- Easement Boundary
 - Resource Buffer ± 4.39 AC
- Stream Mitigation**
- Perennial Stream Enhancement ± 646 LF
 - Perennial Stream Preservation ± 570 LF
 - Perennial Stream Restoration ± 4,692 LF
 - Intermittent Stream Restoration ± 912 LF
- Wetland Mitigation**
- Existing PEM Wetland Enhancement ± 2.59
 - Existing PFO Wetland Enhancement ± 2.26
 - PFO Wetland Restoration/Creation ± 13.91 AC

**Proposed Eccleston Mitigation Bank
Proposed Mitigation**

Baltimore County, Maryland

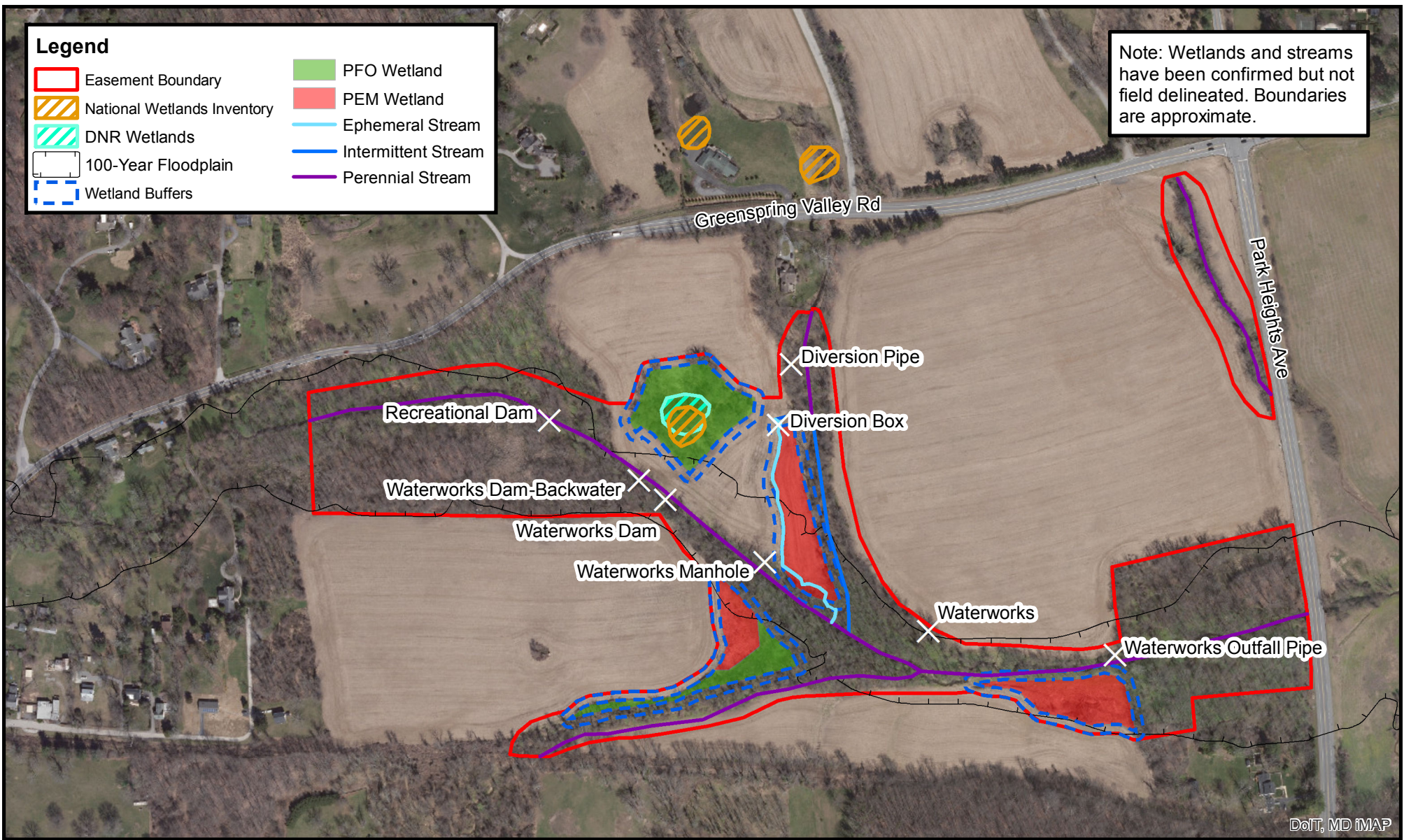
Date: March 2018
Source: MD IMAP



Legend

- Easement Boundary
- Wetland Buffers
- PFO Wetland
- PEM Wetland
- National Wetlands Inventory
- DNR Wetlands
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- 100-Year Floodplain

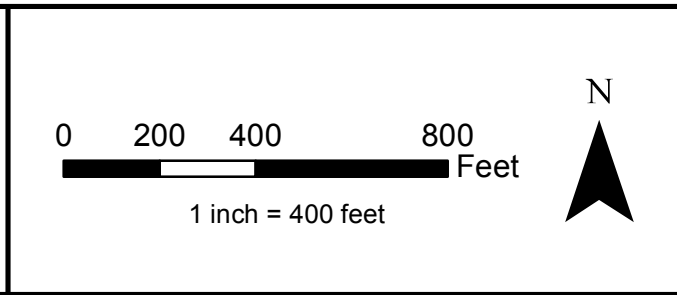
Note: Wetlands and streams have been confirmed but not field delineated. Boundaries are approximate.



**Proposed Eccleston Mitigation Bank
Existing Features Map**

Baltimore County, Maryland

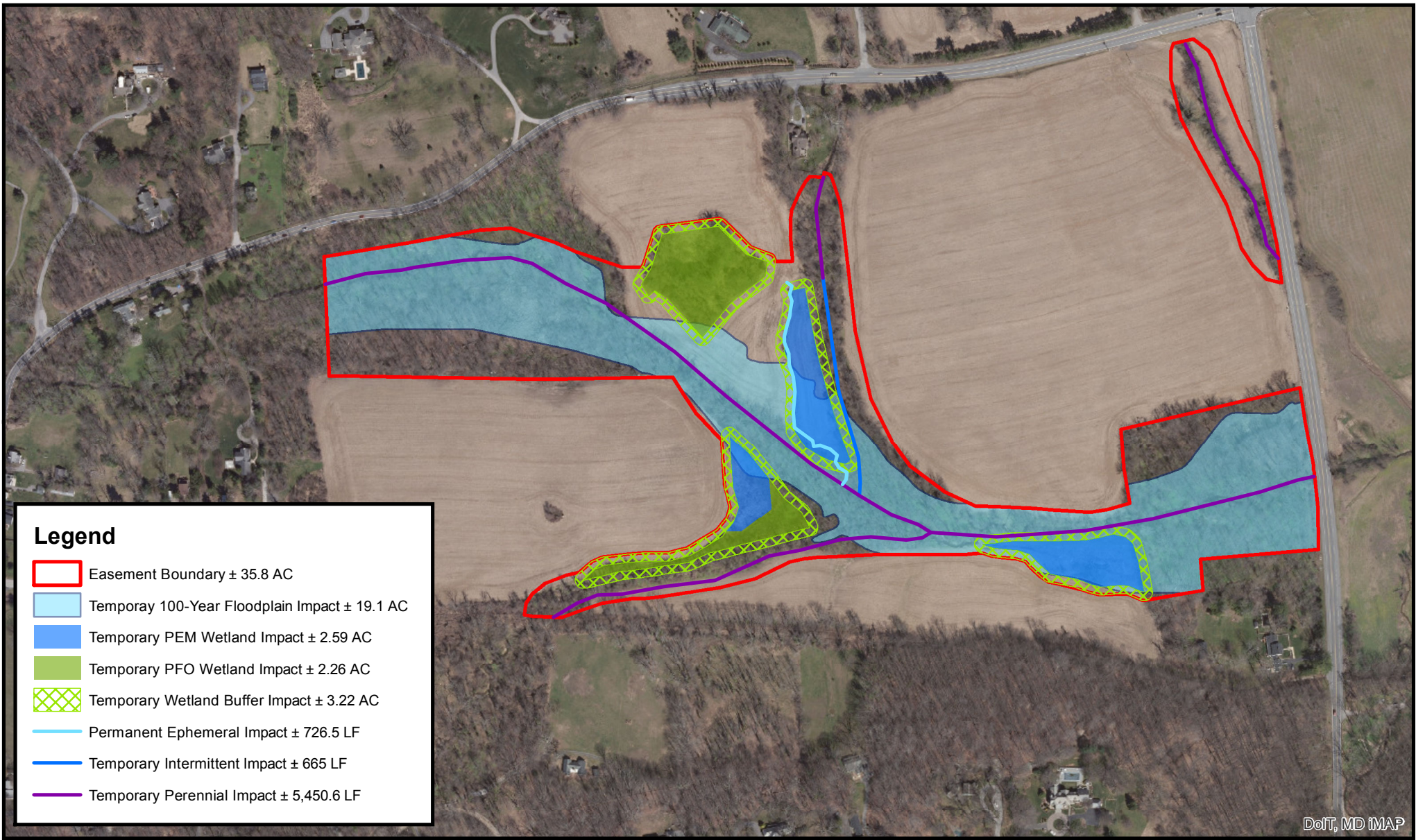
Date: March 2018
Source: MD iMAP, USGS, USFWS, DNR, FEMA



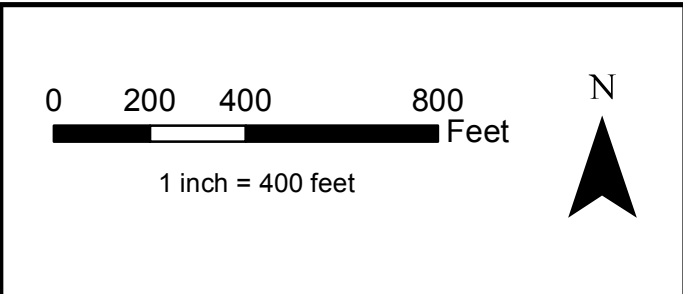
**Proposed Eccleston Mitigation Bank
Existing Features Map**

Baltimore County, Maryland

Date: March 2018
Source: MD iMAP, USGS, USFWS, DNR, FEMA



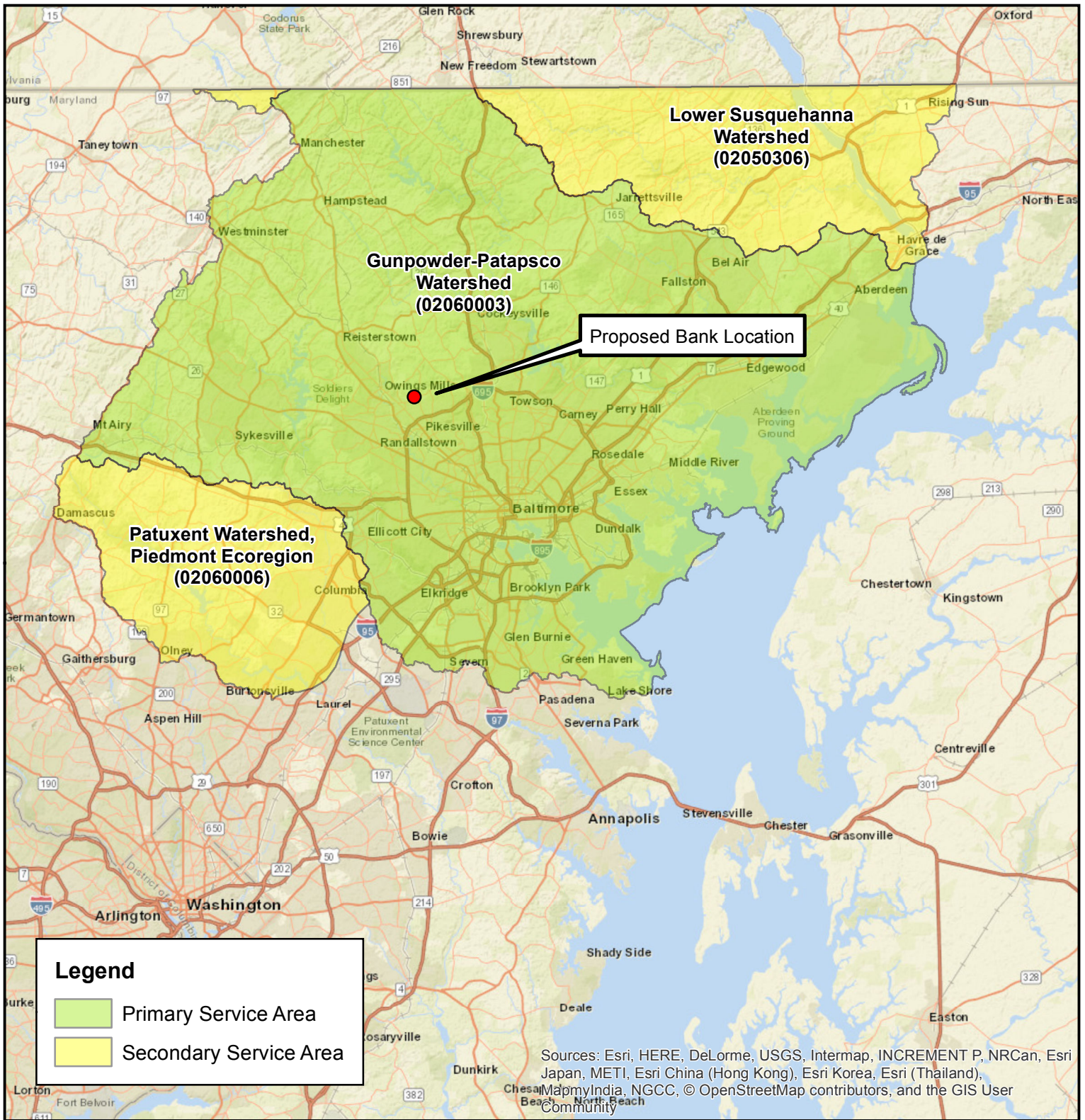
Proposed Eccleston Mitigation Bank
Impacted Features Map



Baltimore County, Maryland

Date: April 2018

Source: MD IMAP, USGS, USFWS, DNR, FEMA



Proposed Eccleston Mitigation Bank Service Area Map

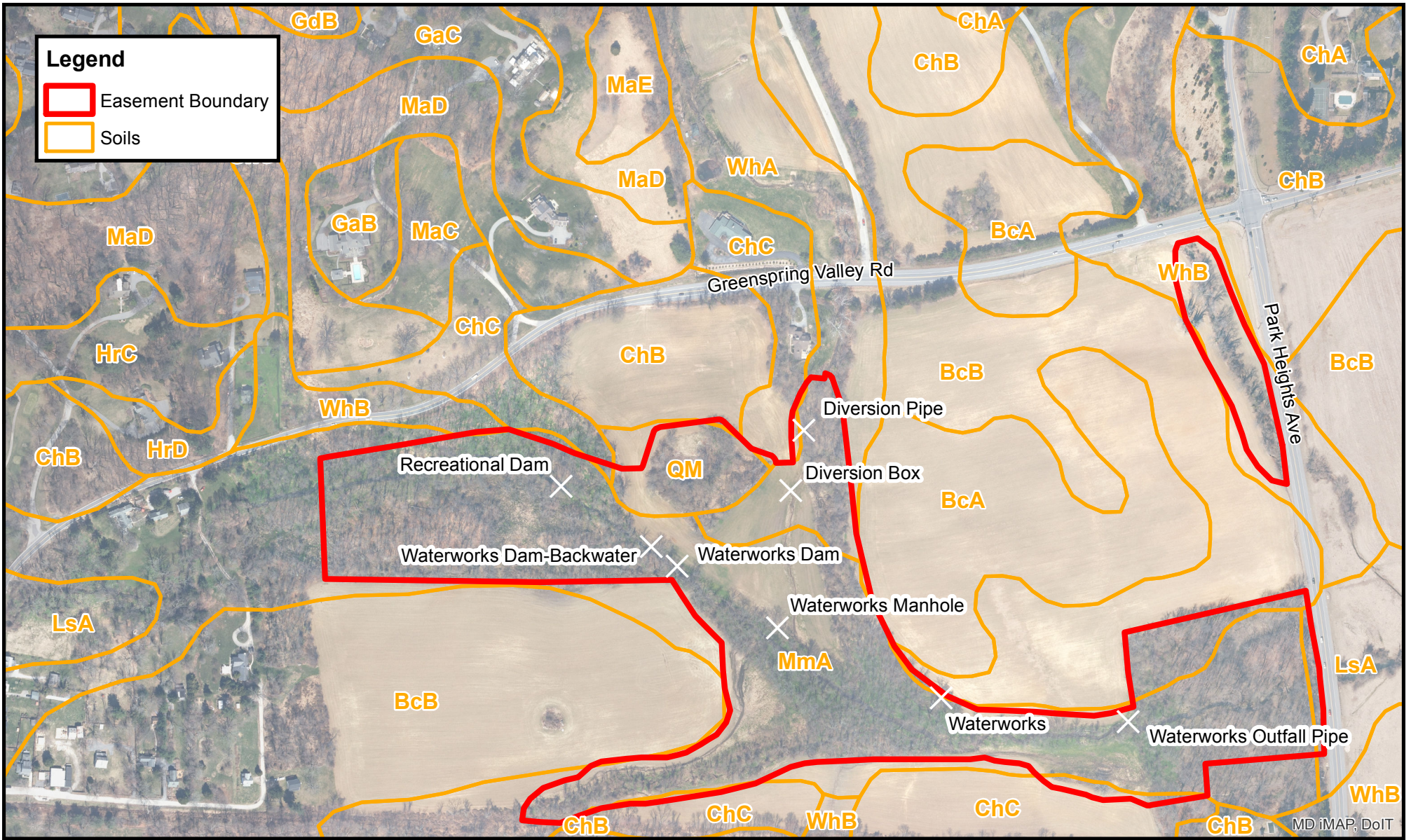
Baltimore County, Maryland

Date: March 2018

Source: ESRI, NHD, EPA

0 50,000 100,000 Feet
1 inch = 50,000 feet





Legend

- Easement Boundary
- Soils



0 200 400 800 Feet

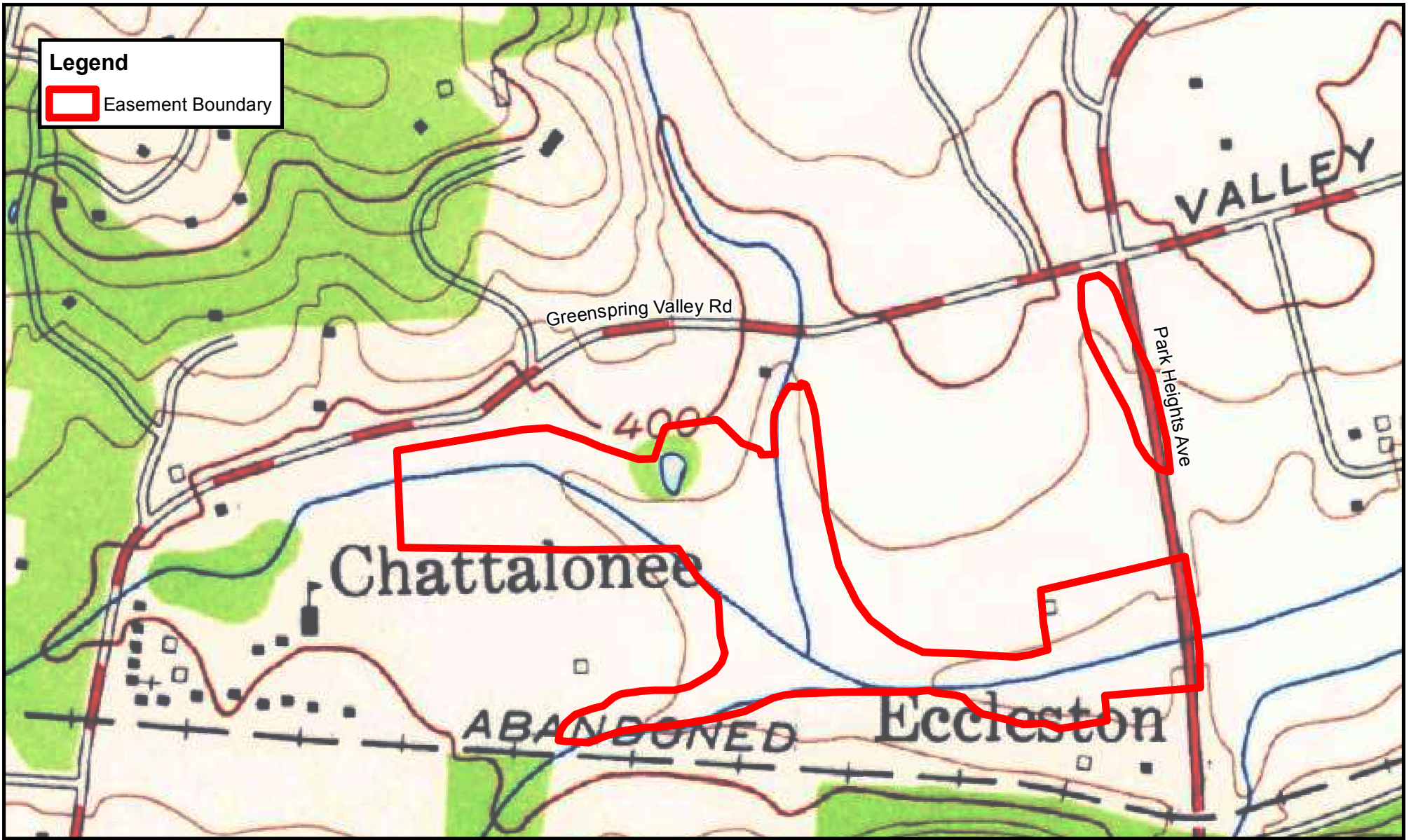
1 inch = 400 feet

N

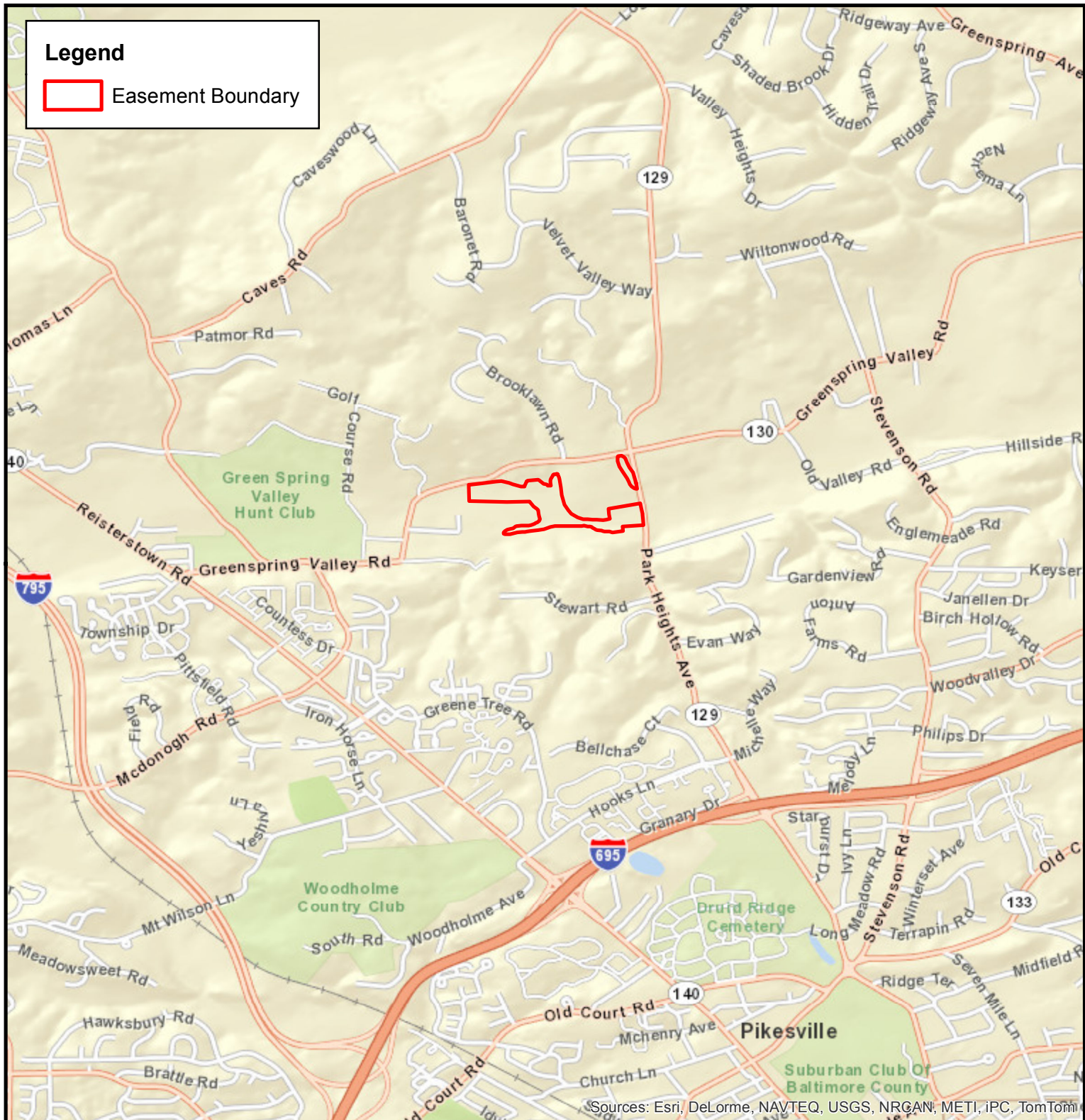
**Proposed Eccleston Mitigation Bank
Soil Map**

Baltimore County, Maryland

Date: March 2018
Source: MD IMAP, USDA NRCS



	<p>0 250 500 1,000 Feet</p> <p>1 inch = 500 feet</p>	<p>N</p>	Proposed Eccleston Mitigation Bank USGS 7.5' Topographic Map
			Baltimore County, Maryland
			Date: March 2018 Source: USGS Cockeysville Quadrangle



Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, IPC, TomTom

Proposed Eccleston Mitigation Bank Vicinity Map

Baltimore County, Maryland

Date: March 2018

Source: ESRI

0 1,500 3,000 6,000 Feet

1 inch = 3,000 feet



This Conservation Easement Template is a standardized document for Mitigation Banks in Maryland. Modifications to this template shall be identified using tracked changes and an explanation for those changes provided in a cover memorandum.

(Template Version Date: 24 Jan 2018)

STATE OF MARYLAND
COUNTY OF _____

CONSERVATION EASEMENT
(Insert Bank Name)

Use this version if the mitigation bank sponsor is the same entity as the Holder of the easement:

THIS CONSERVATION EASEMENT (“Conservation Easement”) is made this _____ day of _____, 20____, by [*insert full legal name of granting landowner*] _____ (“Grantor(s)”) in favor of [*full legal name of holder of conservation easement*] (“Holder”).

Use this version if the mitigation bank sponsor is NOT the holder of the easement:
THIS CONSERVATION EASEMENT made this _____ day of _____, 20____, by [*full legal name of granting landowner*] (the “Grantor”), in favor of [*full legal name of holder of the conservation easement*] (the “Holder”) and [*full legal name of the mitigation bank sponsor*] (the “Bank Sponsor”).

RECITALS

WHEREAS, Grantor(s) is/are the fee simple owner(s) of certain real property (“Property” which shall include wetlands, any interest in submerged lands, uplands, associated riparian/littoral rights) located in _____ County, Maryland, more particularly [*describe tract to be preserved, including: 1) acreage, 2) a reference to recorded plat(s), or attach an approved permit drawing or site plan, and 3) any excluded property*] and shown in Exhibit A (i.e., metes and bounds of the Property), and Exhibit B (i.e., a scaled plat of the area subject to the Conservation Easement), and made a part hereof (“Conservation Area”); and

WHEREAS, this Conservation Easement is granted pursuant to the Mitigation Banking Instrument (“MBI”), by and between __[*insert Bank Sponsor full legal name*] (“Bank Sponsor”), the Grantor and Holder, and intend that the Conservation Area will be used as a mitigation bank to be known as the [*insert Bank Name*], Department of the Army Action ID [*insert action ID number for the MBI*] approved by the Interagency Review Team (the “IRT”), which consists of the Baltimore District, U.S. Army Corps of Engineers (the “Corps” or “Baltimore District,” to include any successor agency); the U. S. Environmental Protection Agency (“EPA”); the U.S. Fish and Wildlife Service (“USFWS”); the U. S. National Oceanic and Atmospheric Administration (“NOAA”); the Maryland Department of the Environment (“MDE,” to include any successor agency); the Critical Area Commission (“CAC”); the Maryland Historic Trust (“MHT”); and the Maryland Department of Natural Resources (“DNR”); and

WHEREAS, in recognition of the continuing benefit to the Property, and for the protection of waters of the United States and/or the State of Maryland and scenic, resource, environmental, and general property values, the Grantor and Holder have agreed to place certain restrictive covenants on the Property, in order that the Conservation Area shall be retained and maintained in perpetuity predominately in accordance with the vegetative and hydrological conditions described in the performance standards of the MBI for _____ Bank; and

WHEREAS, pursuant to the MBI, the *Bank Sponsor* proposes to create, maintain, and preserve a high quality, self-sustaining natural aquatic system and buffer located on the Conservation Area; and

WHEREAS, under Federal and State law, the Corps has issued Permit No. _____, and MDE has issued Permit No. _____ (collectively, the "Permits"), for impacts to waters of the United States and/or the State of Maryland expected to result from the creation of the self-sustaining natural aquatic system located on the Conservation Area; and

WHEREAS, the MBI requires that this Conservation Easement be executed and recorded in order that the Conservation Area shall remain substantially in its natural condition forever; and

WHEREAS, the Bank Sponsor(s) desire(s) to comply with the conditions of the MBI by imposing this Conservation Easement on a Conservation Area within the Property; and

WHEREAS, the Conservation Area may contain land, functions, values, and services that serve as compensation and mitigation for impacts to waters of the United States and/or waters of the State that were permitted by the Corps and/or MDE; and

WHEREAS, the Corps and MDE are third-party beneficiaries under this Conservation Easement.

NOW THEREFORE, for good and valuable consideration and in consideration of the mutually held interests in enhancement and preservation of the environment, as well as the terms, conditions, and restrictions contained herein, and pursuant to the laws of the State of Maryland, Grantor does agree to the following terms and conditions, which shall run with the land and be binding in perpetuity and forever on all heirs, successors, assigns (they are included in the terms, "Grantor," below), lessees, or other occupiers and users.

1. Covenants and Restrictions. Neither the Grantor(s), nor any subsequent owner or owners of the Conservation Area or any portion thereof, shall undertake or cause to be undertaken within or upon the Conservation Area within the Property, as described in (*Recitals and/or the site plan attached*), any of the following:

a. Removal, excavation, or dredging of soil, sand, gravel, minerals, organic matter, or materials of any kind;

b. Changing existing drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics;

c. Disturbance of the water level or water table by drainage, impoundment, or other means;

d. Dumping, discharging of material, or filling with material, including the driving of piles and placing of obstructions;

e. Grading or removal of material that would alter existing topography;

f. Destruction or removal of plant life that would alter the character of a nontidal wetland, or introduction of exotic species;

g. Agricultural or forestry activities, such as aquaculture, plowing, tillage, cropping, seeding, cultivating, and grazing and raising of livestock, sod production, harvesting for production of food and fiber products. Forestry activities mean planting, cultivating, thinning, harvesting, or any other activity undertaken to use forest resources or to improve their quality or productivity;

h. Use of off-road vehicles and motor vehicles;

i. Destruction or alteration of the Conservation Area EXCEPT:

(i) Alteration necessary to construct the mitigation areas and associated improvements proposed to be built by _____, or its successors, and/or assigns, as approved in the mitigation plan approved by the Permits;

(ii) Alteration necessary to ensure the success of the mitigation areas including monitoring, reconstruction, maintenance, or repair of the constructed mitigation areas, as approved by the Corps and MDE;

(iii) Removal of vegetation when approved by the Corps and MDE and conducted for removal of noxious or invasive plants;

j. Utilizing a non-reporting Nationwide Permit or State Programmatic General Permit under Section 404 of the Clean Water Act or state general permits under MDE regulations to impact any Water of the U.S. on the Property. Notification shall be required to the Corps and MDE for the use of any Nationwide Permit, State Programmatic General Permit, or Regional Permit.

[if reference is made to the Permit, or to a mitigation plan approved by the Permit, all exceptions (including regarding buffer areas) must be specifically spelled out in the Permit or plan; also, additional, specific, exceptions may be listed in this paragraph, e.g., fire or wildlife management plans, boardwalks, etc].

2. Duration and Amendment. The covenants and restrictions listed herein are created pursuant to the Annotated Code of Maryland, Real Property Article § 2-118 and shall run with and bind the Property, and be binding on the Grantor(s), its/their personal representatives, heirs, successors and assigns, unless and until terminated or modified by the Corps, MDE, or other Federal, State, or County agencies which have the legal authority to enforce these covenants and restrictions by regulations, permit, or agreement. The failure of the Corps, MDE, or other such agencies to enforce the provisions of this Conservation Easement shall not be deemed a waiver of any rights created hereunder. After recording, this Conservation Easement may only be amended by a recorded document signed by the Corps, MDE and Grantor(s). The recorded document, as amended, shall be consistent with the Baltimore District and MDE model conservation easements at the time of amendment. Amendment shall be allowed at the discretion of the Corps and MDE, in consultation with resource agencies as appropriate, and then only in exceptional circumstances. Mitigation for amendment impacts will be required pursuant to Baltimore District and MDE mitigation policy at the time of amendment. There shall be no obligation to allow an amendment. The Corps and MDE shall be provided with a 60-day advance written notice of any legal action concerning this Conservation Easement or of any action to extinguish, void, or modify this Conservation Easement in whole or in part. This Conservation Easement is intended to survive foreclosure, bankruptcy, condemnation, or judgments affecting the Property.

3. Notice to Government. Any permit application, or request for certification or modification, which may affect the Conservation Area, made to any governmental entity with authority over wetlands or other waters of the

United States and/or waters of the State, shall expressly reference and include a copy (with the recording stamp) of this Conservation Easement.

4. Reserved Rights. It is expressly understood and agreed that this easement does not grant or convey to members of the general public any rights of ownership, entry or use of the Conservation Area. This easement is created solely for the protection of the Property, and for the consideration and values set forth above, and Grantor(s) reserve(s) the ownership of the fee simple estate and all rights appertaining thereto, including without limitation the rights to exclude others and to use the property for all purposes not inconsistent with these restrictive covenants.

5. Monitoring and Maintenance. The Holder, Bank Sponsor, Long-Term Steward (as defined in the MBI), and their authorized agents shall have the right to enter and go upon the lands of Grantor(s) to monitor and manage the Conservation Area to ensure compliance with the Mitigation Site Plan (“Mitigation Site Plan”) and Long-Term Management Plan (“Approved Long-Term Management Plan”) approved in the MBI. This may include, but is not limited to, completing annual monitoring, controlling invasive species, planting native vegetation, repairing signs/fences, and repairing erosion. The Holder, Corps, MDE, IRT, and its/their authorized agents shall have the right to enter and go upon the lands of Grantor(s) to inspect the Conservation Area, to verify compliance with the Mitigation Site Plan and Approved Long-Term Management Plan.

6. Compliance Inspections. The Holder, Bank Sponsor, Long-Term Steward, Corps, MDE, IRT, and its/their authorized agents shall have the right to enter and go upon the lands of Grantor(s), to inspect the Conservation Area and take actions necessary to verify compliance with these restrictive covenants.

7. Enforcement. The Grantor(s) grant(s) to the Holder, Bank Sponsor, Corps, the U.S. Department of Justice, and/or MDE, a discretionary right to enforce this Conservation Easement in a judicial action against any person(s) or other entity(ies) violating or attempting to violate this Conservation Easement; provided, however, that no violation of this Conservation Easement shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as any other judicial remedy such as civil penalties. Nothing herein shall limit the right of the Corps and MDE to modify, suspend, or revoke the Permits.

8. Property Transfers. Grantor(s) shall include the following notice on all deeds, mortgages, plats, or any other legal instruments used to convey any interest in the Property and or Conservation Area (failure to comply with this paragraph does not impair the validity or enforceability of this Conservation Easement):

NOTICE: This property Subject to Conservation Easement Recorded at [insert book and page references, county(ies), and date of recording].

Should the Property be transferred, sold, or conveyed, be subject to foreclosure, bankruptcy, or transferred by any other means whatsoever, the Grantor or Bank Sponsor shall immediately notify the Corps in writing..

9. Marking of Property. The perimeter of the Conservation Area shall at all times be plainly marked by permanent signs saying, “Protected Natural Area,” or by an equivalent, permanent marking system.

[Generally, a surveyed, recorded plat is required; however, at the discretion of the Corps and MDE, an approved permit drawing or site plan attached to this Conservation Easement may suffice]

10. Consent of Lender and Trustee. Grantor(s) is/are the maker(s) of a note dated _____ secured by a deed of trust dated _____ from the Grantor(s) to _____ as trustees and either of whom may act, recorded in the Clerk’s office in Deed Book _____ at page _____, for the benefit of _____ Bank (The “Deed of Trust.”). _____, as trustees, join herein for the sole purpose of

subordinating the lien, dignity and priority of the Deed of Trust to this Conservation Easement.
_____ Bank joins herein for the sole purpose of consenting to the trustee's actions.

11. **Recording.** The Grantor(s) and Holder agree(s) to record this Conservation Easement in the Land Records of the County and provide the Corps and MDE with proof of recordation within thirty (30) days of recordation. A plat depicting the boundaries of the Conservation Area subject to this Conservation Easement shall be recorded in the deed records office for each county in which the Property is situated prior to the recording of this Conservation Easement. The plat(s) is/are recorded at [*include book and page references, county(ies), and date*].

12. **Separability Provision.** Should any separable part of this Conservation Easement be held contrary to law, the remainder shall continue in full force and effect.

13. **Inaccurate or Fraudulent Information.** Should an easement, right or lease on or to the Property not shown on the survey or listed in this Conservation Easement and prior in time and recording to this Conservation Easement, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Conservation Easement, then the Grantor(s) shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps and MDE or any enforcer of this Conservation Easement shall determine in accordance with the Clean Water Act and/or the Maryland Nontidal Wetlands Act.

14. **Eminent Domain.** If the Property is taken in whole or in part through eminent domain, the consequential value of the Conservation Area protected by the Clean Water Act and/or the Maryland Nontidal Wetlands Act is the cost of replacement of the conservation functions, services and values with other property in the same watershed.

15. **Merger.** The doctrine of merger shall not operate to extinguish this Conservation Easement if the Conservation Easement and the Property become vested in the same party. If the doctrine of merger applies to extinguish the Conservation Easement then, unless Grantor, Holder, the Corps, and MDE otherwise agree in writing, a replacement conservation easement or restrictive covenant containing the same protections embodied in the conservation easement shall be recorded against the Conservation Area. The Grantor may suggest a new conservation easement holder and upon approval by the Corps and MDE, grant a conservation easement protecting the Conservation Area.

IN WITNESS WHEREOF, the Grantor(s) and Holder has/have duly executed this Conservation Easement the date written above.

IN THE PRESENCE OF:

Grantor(s)

By: _____

[*type name of witness under signature line*]

[*type name of Grantor(s) under signature line*]

Its:

STATE OF MARYLAND
COUNTY OF _____

PERSONALLY appeared before me _____, the undersigned witness, and made oath that he/she saw the within named _____ [, by _____, its _____,] sign, seal and as

his/her/its act and deed, deliver the within named Conservation Easement; and the *he/she* with the other witness named above witnessed the execution thereof.

[*type name of Notary Public under signature line*]

SWORN to and subscribed before me
This _____ day of _____, 20__.

NOTARY PUBLIC FOR
My Commission Expires:

IN THE PRESENCE OF:

Holder

[*type name of witness under signature line*]

By: _____
[*type name of Holder under signature line*]

Its:

STATE OF MARYLAND
COUNTY OF

PERSONALLY appeared before me _____, the undersigned witness, and made oath that *he/she* saw the within named _____ [by _____, *its* _____,] sign, seal and as *his/her/its* act and deed, deliver the within named Conservation Easement; and that *he/she* with the other witness named above witnessed the execution thereof.

[*type name of Notary Public under signature line*]

SWORN to and subscribed before me
This _____ day of _____, 20__.

NOTARY PUBLIC FOR
My Commission Expires:

I hereby certify this conservation easement was prepared by or under the supervision of _____, an attorney admitted to practice by the Court of Appeals of Maryland.
