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## MITIGATION BANKING INSTRUMENT (“MBI”) TEMPLATE – February 5, 2010

*This is a template for a single mitigation bank composed of a single site. It is not a template for a Mitigation Bank that is composed of a number of different sites (an “Umbrella Mitigation Bank”).*

*The purpose of this template is to expedite review of the proposed instrument by the Interagency Review Team (IRT) agencies. It is possible to deviate from the template, but any and all deviations should be clearly marked (highlighted or red-lined) to facilitate review. The italicized text in this template is intended as instructions to the Bank Sponsor and the IRT members.*

*This template could be used to develop an Umbrella Mitigation Bank Instrument; however, any site specific information should be relocated to the mitigation plan for each specific bank site. Information that should be included in a mitigation plan rather than in an Umbrella Mitigation Bank Instrument include, but may not be limited to those sections addressing: Location and Ownership of Parcel (Section I C.), Project Description (Section I D), Site Selection Factors (Section I E), Baseline Conditions (I. F), detailed Financial Assurance Requirements (Section IV D & E), specific Real Estate provisions (Section IV F), Service Area (Section V. A), Success Criteria (Section V. E), Schedule of Credit Availability (Section V.F), Monitoring provisions (Section VI. B), Reporting requirements (Section VI. C), Long-Term Ownership (Section VI. I), and Long-Term Management and Maintenance Plan (Section VI. J). Inclusions of new bank sites will require modification of the Umbrella Mitigation Bank Instrument to comply with the most current approved MBI template. Previously approved Mitigation Plans (formerly known as Site Development Plans) for operational bank sites do not need to be revised.*

This MBI, which describes the establishment, use, operation, and maintenance of \_\_\_\_\_ Bank (hereinafter, the "Bank") is an agreement (the "Agreement") made and entered into by and among \_\_\_\_\_ (hereinafter, "Bank Sponsor"), the U.S. Army Corps of Engineers ("Corps"), the U.S. Environmental Protection Agency ("EPA"), the U.S. Fish and Wildlife Service ("FWS"), the Virginia Department of Environmental Quality ("DEQ"), and the Virginia Marine Resources Commission ("VMRC"), as applicable.

### I. PREAMBLE

A. Purpose: WHEREAS, the purpose of this MBI is to establish guidelines and responsibilities for the establishment, use, operation, and maintenance of the Bank. The Bank may be used for compensatory mitigation for unavoidable impacts to waters of the United States including wetlands that result from activities authorized under Section 404 of the Clean Water Act (the “CWA”), Section 10 of the Rivers and Harbors Act and Section 62.1-44.15:5 of the Code of Virginia, provided such activities have met all applicable requirements and are authorized by the appropriate authority.

B. Goals and Objectives: WHEREAS, a primary goal of the Bank is to create a self-sustaining natural aquatic system that achieves the intended level of aquatic ecosystem functionality with minimal human intervention, including long-term site maintenance. *Clearly define the goals and objectives of*

*the Bank in terms of functions and values, such as education/research, erosion control, fisheries/wildlife habitat, flood conveyance/flood storage, channel dimension, pattern, profile, stability, streambank stability, aquatic and riparian habitat, open space/aesthetics, recreation, rare or threatened and endangered species, water quality, etc. Goals and objectives should be expressed as acres of wetlands, vegetation type, and wetland classes (Cowardin or HGM classifications) stream type (Rosgen classification, Strahler order, Cowardin classification), channel length, riparian buffer width, etc.. The goals and objectives of any proposed buffer areas should be specified (to filter sediments, to protect the Mitigation site from adjacent development, to provide stream stability, etc.).*

**C. Location and Ownership of Parcel:** WHEREAS (1) , the Bank Sponsor has sufficient and legal property interest in \_\_\_\_\_ acres of land in \_\_\_\_\_, Virginia, as shown on the vicinity map (Exhibit A) and as depicted on a plan prepared by \_\_\_\_\_, dated \_\_\_\_\_, (Exhibit B). Said parcels are hereinafter referred to as the "Property" or "Bank". (2) The Bank Sponsor may elect to propose inclusion of additional lands in the \_\_\_\_\_ watershed to be part of this MBI by proposing a Bank Development Plan for each new parcel as an amendment to this MBI.

*Provide a legal description of the Property that includes a reference to the deed and Plat and if applicable, provide a copy of the Plat depicting the limits of the proposed bank (Exhibit C). Identify all easements, encumbrances, and liens.*

*The Bank Sponsor is required to obtain a title search to show all liens, easements, rights of way, or other encumbrances as well as the history of property ownership that affect rights to develop the Property as planned and the ability to place conditions or restrictions on the Property. A copy of this title search shall be provided as part of Exhibit C, Property Assessment and Warranty.*

**D. Project Description:** WHEREAS, in accordance with this MBI, the Bank Sponsor will establish and/or maintain aquatic habitats and upland buffers (The "Bank") in compliance with the provisions of this MBI and the Development Plan (Exhibit D), and shall then maintain each phase of the Bank in such condition for ten (10) years. The Bank Sponsor shall be responsible for compliance with this MBI and the Bank Development Plan (BDP) until the Bank is closed in accordance with the Bank Closure Procedures or until all Credits are sold, whichever is later. The Bank area shall consist of a mixture of \_\_\_\_\_ as described in Exhibit D.

**E. Site Selection Factors:** WHEREAS, the Bank area has been evaluated in terms of the Virginia Offsite Mitigation Site Location Guidelines (dated February 12, 2008 or subsequent versions). The results of the evaluation are described in Exhibit E.

**F. Baseline Conditions:** WHEREAS, the Bank area is currently dominated by \_\_\_\_\_. These features will be modified so as to re/establish wetland conditions and/or, functions, or to restore, enhance, or preserve existing wetland or stream functions on this site.

*Provide a baseline description of the Property in this section, including acreage and cover type descriptions and boundary survey. Where stream mitigation channel restoration or bank stabilization is proposed, provide a survey of channel cross-section, form, and profile indicative of each stream type, condition class, or order as determined in the field or reference reach that will be part of the BDP. Indicate whether the Property has been inspected and the baseline conditions verified.*

*Baseline surveys should be sufficient to develop a BDP and support the goals of the bank (e.g. aquatic macroinvertebrates, water quality, economic analyses)*

G. Establishment and Use of Credits: WHEREAS, in accordance with the provisions of this MBI and upon satisfaction of the Success Criteria contained herein, Mitigation Credits (or “Credits” and as defined further herein) determined in accordance with Exhibit D of this MBI will be available to be used as Mitigation in accordance with all applicable requirements for permits issued under Section 401 and 404 of the CWA, Section 10 of the Rivers and Harbors Act and Section 62.1-44.15:20-23 of the Code of Virginia. The sale, conveyance, or transfer of Credits includes all natural services, functions, and values associated with the resource from which Credits were derived. No Credit may be resold or used in any way in relation to another permit requirement, as compensation for another resource, or to satisfy the requirements of any other program. The preliminary number of Credits, and the number of Credits available for initial release will be determined based upon the approved concept plan. If the number of total Credits varies as a result of the approval of the mitigation site plan, the as-built plan, or subsequent monitoring reports, the number of Credits available will be adjusted accordingly in accordance with the terms and conditions contained herein.

H. WHEREAS, as of the date of the MBI and subject to execution of the MBI by a duly authorized representative of the participating agencies described below, the Interagency Review Team (IRT) consists of the following agencies, though the individual representatives may change:

1. Corps, Chair, represented by \_\_\_\_\_; and
2. EPA, represented by \_\_\_\_\_; and
3. FWS, represented by \_\_\_\_\_; and
4. DEQ, Chair represented by \_\_\_\_\_; and
5. Virginia Department of Game and Inland Fisheries (“VDGIF”), represented by \_\_\_\_\_; and
6. VMRC represented by \_\_\_\_\_; and
7. National Marine Fisheries Service represented by \_\_\_\_\_; and
8. Virginia Institute of Marine Sciences (“VIMS”) represented by \_\_\_\_\_;
9. Virginia Department of Conservation and Recreation (“DCR”) represented by \_\_\_\_\_;
10. Virginia Department of Forestry (“DOF”) represented by \_\_\_\_\_; and
11. The City/County of \_\_\_\_\_, represented by \_\_\_\_\_.

Each entity represented on the IRT may replace its representative upon written notice to the IRT Chair(s), the other IRT members, and the Bank Sponsor.

I. Disclaimer: WHEREAS, this MBI does not warranty the ultimate viability of the Bank as a mitigation mechanism. Furthermore, all parties acknowledge that the permitting and resource agencies have statutory responsibilities concerning natural, cultural, and historic resources that are independent and separate from the actions identified in this MBI. The parties understand that agency signature to this MBI has no effect on the need for consultation between the Corps and resource agencies or in the nature and extent of recommendations or conditions made in any future project consultation. Nor can this MBI be considered to circumscribe or to limit the extent of any potential consultative recommendation made by a resource agency in the future.

J. Exhibits: WHEREAS, the following Exhibits are incorporated by reference to this MBI:

1. "Exhibit A," Vicinity Map
2. "Exhibit B," Initial Phase Plan;
3. "Exhibit C," Plat and Title Search
4. "Exhibit D," Bank Development Plan;
5. "Exhibit E," Virginia Offsite Mitigation Location Guidelines Analysis
6. "Exhibit F," Financial Assurance to Secure Initial Release of Credits
7. "Exhibit G," Escrow Agreement for Monitoring and Maintenance Fund
8. "Exhibit H," Escrow Agreement for Long-Term Management Fund
9. "Exhibit I," Escrow Agreement for Catastrophic Event Fund
10. "Exhibit J," Restrictive Covenant
11. "Exhibit K," Service Area Map
12. "Exhibit L," Crediting and Debiting Procedure for the Bank;
13. "Exhibit M," Success Criteria for the Bank
14. "Exhibit N," Monitoring Requirements for Bank Site
15. "Exhibit O," Sample Bank Ledger
16. "Exhibit P" Long-Term Management Plan

*Add any appropriate documents regarding title.*

NOW, THEREFORE, the parties hereto agree as to the following:

## II. DEFINITIONS

1. BANK SPONSOR – Any public or private entity responsible for establishing, and in most circumstances operating a Mitigation Bank. For this Bank, the Bank Sponsor is \_\_\_\_\_. *If the sponsor is a company, the company name that is registered with the State Corporation Commission (SCC, should be used or indicate no registration with the SCC.*
2. BANK DEVELOPMENT PLAN (BDP) – The overall plan governing establishment, Restoration, Creation, Enhancement, and/or Preservation of aquatic resources and associated upland buffers on the Bank Site.
3. BANKFULL EVENT – The storm event that corresponds with the stream stage at its incipient point of flooding. The bankfull discharge associated with the Bankfull Event is the flow that transports the majority of a stream's sediment load over time and thereby forms and maintains the channel dimension, pattern, and profile.
4. BUFFER – Those areas located adjacent to and landward of either the stream's Ordinary High Water Mark (OHWM) top of a stream bank or wetlands. A buffer is an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.
5. BUFFER ENHANCEMENT – Improvements to buffer areas including supplemental plantings.
6. BUFFER RESTORATION – Establishment of buffer areas where none were previously present. Buffer establishment includes planting native species and associated measures such as fencing, posting, and livestock exclusion.
7. BUFFER REESTABLISHMENT – Removal of invasive species in a buffer and then replanting with native species.

8. COMPENSATION – Actions taken which have the effect of mitigating for, or substituting some form of aquatic resource for aquatic resources lost or significantly disturbed due to a permitted activity; generally aquatic resource Preservation, Restoration, or Creation.
9. CREATION – The establishment of an aquatic resource, such as a wetland where an aquatic resource did not formerly exist.
10. CREDIT – A unit of measure representing the accrual or attainment of aquatic resource function, condition, or other performance measure at a Mitigation Bank.
11. DEBIT – A unit of measure representing the reduction of credits at the Mitigation Bank corresponding to the loss of aquatic resource function at an impact or project site.
12. ESCROW AGREEMENT- An agreement by which two parties assent to the deposit of a sum of money as assurance or guarantee for certain actions with conditional delivery of the monies under stipulated circumstances.
13. FINANCIAL ASSURANCES – A mechanism or instrument used to guarantee some aspect of the Bank. Financial Assurances may include an escrow account, performance bond, insurance, letter of credit, or other mechanism acceptable to the IRT. Financial Assurances may be required for varying aspects associated with a Mitigation Bank including: a) A mechanism to guarantee the initial release of Mitigation Bank Credits; b) The Maintenance and Monitoring Fund; c) The Catastrophic Event Fund; and d) The Long-Term Management Fund.
14. FUNCTIONS – The physical, chemical, and biological ecosystem processes of an aquatic resource without regard to its importance to society.
15. INTERAGENCY REVIEW TEAM (or IRT) – An interagency group of federal, state, tribal, and/or local regulatory and resource agency representatives which participates in the development of a Banking instrument and oversees the establishment, use, and operation of a Mitigation Bank with the Corps and DEQ serving as Chair(s). For tidal wetland Mitigation Banks, the Corps and VMRC will serve as Co-Chairs.
16. LEDGER – An accounting of Credits and Debits. A sample ledger can be found at Exhibit J.
17. LONG-TERM STEWARD – The landowner, easement holder of the Bank lands, or other party charged with long-term maintenance and management responsibility. A Long-Term Steward may be designated once Success Criteria monitoring (typically monitoring for 10 years following completion of grading) has been completed. In some cases, the Bank Sponsor may also be the Long-Term Steward.
18. MITIGATION – Sequentially avoiding impacts, minimizing impacts, and compensating for impacts to aquatic resources that could not be avoided or minimized.
19. MITIGATION BANK (“BANK”)– A site or sites where aquatic resources are restored, created, enhanced, or in exceptional circumstances, preserved expressly for the purpose of providing compensatory Mitigation in advance of authorized impacts to similar resources.
20. MITIGATION BANK INSTRUMENT (MBI) - the legal document governing the establishment, operation, and use of a commercial mitigation bank, a single-client mitigation bank, or a single-user mitigation bank.
21. MITIGATION PLAN – A detailed portion of the Bank Development Plan that identifies specifically how aquatic resources and associated upland buffers will be restored, created, enhanced, preserved, managed and maintained on the Mitigation Bank.
22. MITIGATION PERFORMANCE – The outcome of applying success criteria to a mitigation site in terms of identified goals and objectives.
23. MONITORING YEAR 1 (ONE) – The end of the first complete growing season following completion of construction activities, including planting.

24. **ORDINARY HIGH WATER MARK**- that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
25. **PRESERVATION** – The protection of ecologically important resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands and/or riparian areas adjacent to stream channels or other aquatic resources as necessary to ensure protection and/or Enhancement of the aquatic ecosystem.
26. **REAL ESTATE PROTECTION DOCUMENT**-a document or instrument intended to protect, restrict or preserve the land associated with this Bank; that will be recorded in the land records; may take the form of an Easement, a Declaration of Restrictions or other similar document
27. **STREAM PRESERVATION** –Protection of ecologically important streams in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation includes the protection of riparian areas adjacent to streams as necessary to ensure protection or enhancement of the overall stream. The stream system must be a high quality, relatively undisturbed system that requires little or no enhancement activities.
28. **SUCCESS CRITERIA** – The minimum standards required to meet the objectives for which the Bank was established.
29. **STREAM ENHANCEMENT**

**Stream Enhancement, Habitat, and Bank Stabilization** – Enhancement activities include physical alterations to the channel that do not constitute Restoration but directly augment channel stability, water quality, and stream ecology in accordance with a reference condition, where appropriate. These activities may include in-stream and/or streambank activities, but fall short of restoring one or more of the geomorphic variables: dimension, pattern and profile. Included in Stream Enhancement are habitat structures, bio-remediation activities, streambank plantings (below top of bank), and creation of bankfull benches.

**Stream Enhancement with Structures** - This activity includes structures that are specifically designed and result in grade control and/or bank stabilization. Accepted structures include, but are not limited to cross-vanes, j-hook vanes, native material revetments, W rock weirs, rock vortex weirs, log-vanes, constructed riffles, and step-pools. These structures may be created out of appropriate sized rock or logs, boulders or cobbles based on the size of the stream and the flow regime.
30. **STREAM REACH** – The length of a stream identified as representing a uniform set of physical, chemical, and biological conditions. It is the principal sampling unit for collecting physical, chemical, and biological data. In practice, a reach is often defined by a repeating sequence of channel units (riffle-pool-run sequence), by a sampling convention of channel units (e.g. 25 stream widths), or by the length of uniform mitigation activities (restoration, enhancement, or preservation).
31. **STREAM RESTORATION** - Converting an unstable, altered, or degraded stream corridor, including adjacent riparian zone (buffers) and flood-prone areas, to its natural stable condition considering recent and future watershed conditions. This process should be based on a reference condition/reach for the stream valley type and includes restoring the appropriate



geomorphic dimension (cross-section), pattern (sinuosity), and profile (channel slopes), as well as reestablishing the biological and chemical integrity, including transport of the water and sediment produced by the stream's watershed in order to achieve dynamic equilibrium.

32. WETLAND ENHANCEMENT – Activities conducted in existing wetlands, which increase one or more Functions.
33. WETLAND RESTORATION – Re-establishment of wetland Function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.
34. UMBRELLA MITIGATION BANK – A group of mitigation bank sites located in a distinct geographical area that share a single Bank Sponsor and are governed by a single mitigation banking instrument. Inclusion of additional bank sites under an Umbrella Mitigation Banking Instrument will require modification of the MBI. Mitigation Plans for all bank sites operating under an Umbrella Mitigation Banking Instrument are considered part of the MBI. Separate credit ledgers and financial assurances shall be maintained for each bank site.

### III. AUTHORITIES

The establishment, use, operation and maintenance of the Bank are carried out in accordance with the following authorities:

#### A. Federal:

1. Clean Water Act (33 USC 1251 et seq.);
2. Rivers and Harbors Act (33 USC 403);
3. Fish and Wildlife Coordination Act (16 USC 661 et seq.);
4. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 320-332);
5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230);
6. Endangered Species Act (16 USC 1531 et. seq.);
7. Magnuson Stevens Fishery Conservation and Management Act (16 USC 1801 et. seq.)
8. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990);
9. Regulatory Guidance Letter No. 05-01. U.S. Army Corps of Engineers, February 14, 2005.
10. Regulatory Guidance Letter No. 08-03. U.S. Army Corps of Engineers, October 10, 2008.

#### B. Commonwealth of Virginia:

1. Sections 62.1-44.15:20-23 of the Code of Virginia.
2. Virginia Water Protection Permit Regulation (9 VAC 25-210); and
3. Guidelines for the Establishment, Use, and Operation of Tidal Wetland Mitigation Banks in Virginia (4 VAC 20-390-10 et seq.)

### IV. ESTABLISHMENT OF THE BANK

A. Scope of Work: The Bank Sponsor agrees to perform all necessary work, in accordance with the provisions of this MBI, to establish and maintain aquatic habitats and associated uplands buffers, as described in Exhibit D, until it is demonstrated to the satisfaction of the agencies represented on the IRT (acting through the Chair(s)) that the project complies with all provisions contained herein, or

until all Credits are sold, whichever is later. Work as described above shall include implementing the BDP (Exhibit D).

B. Permits: The Bank Sponsor will obtain all appropriate permits or other authorizations needed to construct and maintain the Bank, prior to debiting any Credits beyond the initial release. This MBI does not fulfill, substitute for, or affect such authorization.

The Bank Sponsor agrees not to utilize a non-reporting Nationwide Permit or State Program General Permit under Section 10 of the Rivers and Harbor Act, Section 404 of the Clean Water Act or state general permits under VWPP regulations to impact any Waters of the United States and/or State Waters on the Mitigation Bank. Notification to the appropriate permitting authorities shall be required for the proposed use of any Nationwide Permit, State Program General Permit, Regional Permit, or state general permit under VWPP regulations.

C. Bank Development Plan: *The BDP must be approved by the IRT. If the Bank will be developed in phases, the phases should be described in the BDP.*

Establishment of the Bank may be performed in phases as described in the BDP (Exhibit D), and the Credits will become available in accordance with the schedule specified in Part V, Section F of this MBI. Phasing should be such that each phase would be acceptable to the IRT as a stand-alone bank should the subsequent phases not be constructed

D. Financial Assurance Requirements: *The appropriate Financial Assurance documents must be attached as exhibits. Please note that use of certain financial assurance mechanisms may affect or obviate the need for the particular funds described below.*

1. For the initial release of Credits (not to exceed 15% of the total number of anticipated credits that could be derived from this Bank excluding those associated with stream buffer preservation) the Bank Sponsor agrees to provide adequate Financial Assurances, in an amount approved by the IRT, to ensure that aquatic functions will be restored, established, or maintained on the Bank (Exhibit F). The amount of the Financial Assurance must be sufficient to acquire replacement compensatory mitigation sufficient to offset the initial release of credits through an approved bank or in-lieu fee program in the event of a default (see also Part V, F1). Documentation of the estimated amount may be required, and the final amount requires approval by the IRT. Release of funds pursuant to this Financial Assurance will be recommended by the IRT, acting through the Chair(s) after it has reviewed and approved the annual monitoring report, if the IRT concludes that success criteria have been met for the type of credits previously released (i.e. stream or wetland). Complete satisfaction and release of the Financial Assurance may only occur if the submitted report demonstrates, and the IRT is satisfied, that specific success criteria (as stated herein) for a sufficient portion of the Bank have been met to offset the initial release of Credits.

2. The Bank Sponsor may, at its discretion, with written approval of the IRT, replace such entities with a different company, agent, or entity registered to do business in the Commonwealth of Virginia. The Bank Sponsor shall provide the IRT with notice of its desire

to replace the entity and a draft of the new instrument for review. The provisions of the new instrument shall conform to the provisions of the former instrument.

*The following sentence must be included in the financial assurance instrument as well as this section of the MBI to comply with Corps regulations at 33 CFR 332.3(n)(5):*

The Bank Sponsor shall provide notice to the IRT through the Chair(s) at least 120 days in advance of any planned termination or revocation any Financial Assurance. Financial Assurance must be maintained, renewed, extended or replaced, and approved by the IRT so that it remains effective until the IRT certifies that satisfaction has been met and the Financial Assurance can be released.

3. Amounts from sale of Mitigation Credits are to be placed in the following funds:

a. **Maintenance and Monitoring Fund.** Eight (8) percent of all proceeds from said sale of Credits shall be placed in a separate escrow account to be called the Maintenance and Monitoring Fund (Exhibit G). If the required monitoring or maintenance is not conducted as specified in Section VI of this instrument and the BDP, then the IRT shall request release of funds to an IRT agency or its designee from this account sufficient to cover the necessary monitoring or maintenance activities. One-tenth of this fund (or 0.8% of the total cash proceeds) shall be released to the Bank Sponsor on each February 1<sup>st</sup> after the IRT reviews and approves the most recently submitted monitoring report (see Section VI C) that documents that part or all of the Restoration/Creation/Enhancement portion of the Bank satisfies the Bank Success Criteria (see Part V E) to cover the expected costs of maintenance and monitoring over the required 10 year monitoring period. The remainder of the fund shall be held until the final monitoring report (Year 10 or until all success criteria are met, whichever comes later) is submitted and approved, at which point the balance of the fund will be conveyed to the Bank Sponsor.

*(The IRT may be flexible regarding the percentage of cash proceeds placed in an escrow account. A higher percentage may be required for high-risk Mitigation Bank sites and a lower percentage may be required for those with a greater likelihood of success.)*

b. **Long Term Management Fund.** The IRT intends that Banks and their functions and values be self-sustaining and not require any more long-term maintenance and monitoring than similar areas occurring naturally. A sufficient percentage of all proceeds from sale of mitigation credits based on an itemized analysis of the funds necessary for long-term management shall be placed within a separate escrow account to be called the Long-Term Management Fund (Exhibit H). The itemized analysis of the necessary funds may include, but is not limited to, expected long-term management costs that are required after the initial 10-year monitoring period, such as posting, fencing, maintenance of structures, control of invasive species, and legal defense of any easements or restrictive covenants recorded to protect the Bank property. This itemized analysis shall be based upon the MBI, the mitigation plan, and an accepted

methodology and must be approved by the Chair(s) prior to approval of the MBI. The itemized analysis will state the required percentage of proceeds and/or the dollar amount required for this Fund.

This Long-Term Management fund may be funded through a single lump sum payment upon approval of the MBI or through an IRT approved schedule of payments to be completed within five (5) years of approval of the MBI.

*This itemized analysis shall be based upon the anticipated long-term maintenance tasks, as detailed in a spreadsheet format summarizing the expected average annual expenditures for maintenance. The itemized tasks and expenditures must be approved by the IRT and incorporated into the Long-Term Management and Maintenance plan discussed further in Section VI.J. When estimating the amount of funds required to be deposited in the Long-Term Management Fund, consideration should be given to factors that may affect the maintenance needs of the Bank, including the size and location of the mitigation bank site. For example, a site located on a first order stream may require less long-term management and maintenance than a site located on a higher order stream system. The amount of funds required to be deposited in this fund will depend upon long-term management and maintenance requirements. Wetland sites that utilize berms or other structures to establish and maintain hydrology will likely require more maintenance, and accordingly, more funding will be required to be set aside than required for those sites that do not rely upon such features. Likewise, it is expected that more long-term funding will need to be set aside for projects involving stream channel restoration than those based solely on enhancement activities such as establishment of riparian buffers.*

These funds shall be placed in a federally insured financial institution in an interest bearing account. No Long-Term Management Fund monies shall be used to finance any expense or activity other than those specified in the Long-Term Management and Maintenance Plan for long-term maintenance and management of the Bank unless approved by the IRT.

c. **Catastrophic Event Fund.** The IRT intends that Banks and their functions and values be self-sustaining and not incur any more Catastrophic Events than similar acreages, functions and values that exist naturally. Accordingly, the Catastrophic Event Fund is intended to provide funds to remediate damage caused by catastrophic events to features (e.g., created, enhanced or restored wetlands or streams) that are not self-sustaining and that are likely more vulnerable to such damage because of their location, design and/or construction to ensure that they continue to provide adequate compensatory mitigation. A sufficient percentage of all proceeds from the sale of Credits to address potential catastrophic events shall be placed within a separate escrow account to be called the Catastrophic Event Fund (Exhibit I). The amount required shall be determined in writing by the IRT. These funds shall be placed in a federally insured financial institution in an interest bearing account separate from any other accounts. No Catastrophic Event Fund monies shall be used to finance work or activities other than

those repairs to the bank necessitated by the events specified in Section IV E. unless approved by the IRT, acting through the Chair(s).

In the event of a catastrophic event, as determined by the IRT that affects the long term viability of the Mitigation Bank, the IRT may: (i) inform the Bank Sponsor, if said event occurs while the Bank Sponsor's maintenance period is in effect, that it is responsible to implement corrections which may be funded by a release of an appropriate amount of said funds; (ii) inform the escrow agent that it may release a specific amount of funds to the Long-Term Steward of the Mitigation Bank to make necessary corrections and/or manage the Bank, or (iii) inform the escrow agent that it may release a specific amount of funds to an Agency represented on the IRT, or its designee, to effect the necessary corrections. Any unspent funds shall remain in this fund if not utilized for a Catastrophic Event. The Catastrophic Event Fund and the Long-Term Management Fund will be transferred to the designated Long-Term Steward of the land for use in addressing future Catastrophic Events or land management requirements once all monitoring has been completed, and all Credits from the Bank have been Debited.

*(The percentage of cash proceeds placed in the Catastrophic Event Fund & Long-Term Management Fund depend upon foreseeable requirements due to multiple factors, such as risk, location, project design, manmade or artificial structures, etc.. For instance, **sites that rely upon water control or other man-made structures may require more long-term management and Catastrophic Event funding than those without those structures. Norfolk District and most IRT members do not support, and may not approve, the use of such structures that may necessitate long-term or ongoing maintenance to sustain Bank functions or services.** The percentages for each fund should be sufficient to remediate Catastrophic Events and to enable the Long-Term Steward to manage the Bank site, including fencing, structures, invasive species control, etc, and should take into account the market price of mitigation credits.*

*The Following table suggests **minimum** percentages of proceeds from the sale of credits to be set aside in the Catastrophic Event Fund based on the proposed mitigation work at the Bank, along with other factors such as location:)*

<i>Proposed Mitigation Bank Type</i>	<i>Recommended Minimum Percentages</i>
<i>Wetland with dams or weirs</i>	5%
<i>Wetland with berms or structures only</i>	3%
<i>Wetland without berms and/or structures</i>	2%
<i>Stream Restoration</i>	7.5%
<i>Stream Enhancement with instream structures</i>	5%
<i>Stream Enhancement without instream structures</i>	3%
<i>Stream and Buffer Preservation</i>	2%

4. Long-term (past 10 years) maintenance requirements will be determined on a site-specific basis. However, any such activities shall be the responsibility of the Long-Term Steward. The Catastrophic Event and Long-Term Management Funds shall provide funding sources for any maintenance requirements or for repairs necessitated by Catastrophic Events or natural disasters as defined in paragraph E below.

E. Catastrophic Events: The Bank Sponsor shall be responsible for the repair and remediation of Catastrophic Events as described below. Damages from these Catastrophic Events are permitted to be repaired using the principal and interest accumulated in the Catastrophic Event Fund by either the Bank Sponsor or the Long-Term Steward of the land, the funds being provided to whichever entity has responsibility to repair the resulting damages. Examples of Catastrophic Events where expenditures may be approved include, but are not limited to, the following:

1. Floods greater than a presently projected 100-year flood, where "flood" refers to a runoff event;
2. Tornado of F2 or greater magnitude on the Fujitsu scale;
3. Hurricane of Category 2 or greater magnitude on the Saffir-Simpson scale;
4. Earthquakes of a magnitude greater than 6.5 on the Richter Scale;
5. Extreme drought (Drought Monitor Classification of D3 or greater or Palmer Drought Index of -4.0 or less) if such event has broad regional impact, and is not endemic to the Bank and its immediate locale;
6. Insect damage, or animal damage to planted vegetation that occurs across a majority of the site at a magnitude such that the vegetation fails to achieve the Success Criteria described in Section V.E after each respective phase of planting has surpassed the contractor's one-year warranty (if a one-year warranty was required).
7. Breach of any berms, embankments or spillway and/or damage to outlet structures washout of stream stabilization structures (including cross vanes, J hooks, rock weirs, imbricated riprap, vegetated stream banks, coir logs, fascines, and riparian plantings) from a 100-year or greater magnitude storm event.

In the event of a Catastrophic Event that affects the long-term viability of the Mitigation Bank during the initial 10 year monitoring period, the Bank Sponsor shall submit a written request to the IRT for release of funds from the Catastrophic Event Fund. The Bank Sponsor is responsible for demonstrating to the IRT's satisfaction that damage has taken place and that the requested funding amount is appropriate to repair the damage. The IRT shall have sixty (60) days to review and approve or comment on the Bank Sponsor's request.

Should a Catastrophic Event occur after the initial 10-year monitoring period, the Long-Term Steward shall submit a written request to the escrow agent for release of funds from the Catastrophic Event Fund.

F. Real Estate Provisions: The Bank Sponsor is responsible for providing sufficient legal protection by means of a Protection Document (*i.e. conservation easement, declaration of restrictions, etc.*) of the Bank to insure that all requirements of the MBI are fulfilled and the Bank is protected in perpetuity consistent with the terms and conditions set out in the MBI (through the "Protection Document"). The

Protection Document must be approved in writing by the IRT before it is recorded. The Bank Sponsor shall provide a copy of the recorded Protection Document to the IRT prior to sale or transfer of any Credits. The Protection Document shall be recorded in the chain of title for the Bank lands and must, among other things, ensure the right of ingress and egress for the Bank Sponsor, IRT, and Long-Term Steward of the Bank Site. A template Declaration of Restrictions is attached in Exhibit J, and it is preferred that this be used as the Protection Document.

The IRT agrees that, if a Protection Document approved by the IRT, is recorded over the property with a non-profit conservation organization or government conservation organization named as Easement Holder, credit yield for the proposed mitigation may be considered by the IRT to have increased value of up to 5%. The IRT will consider the nature of the Protection Document, the identity of the easement holder, potential facilitated implementation and enforcement, reduction in potential of future disturbance such as government taking or eminent domain actions, and other such factors. Any proposed changes in Credit composition must be proposed and justified in the MBI and approved by the IRT.

A copy of the recorded Protection Document shall be provided to the Corps within 30 days of recording. Notwithstanding anything in this MBI or any related documents or Agreements, such as the Development Plan, in NO EVENT can any Credits be released or sold or debited or credited until the Chair(s) receives proof of recording of approved Protection Document on the portions of the Bank over which Credits are sought. Such Protection Documents may not be altered, amended, terminated or vacated without written approval of the Chairs of the IRT.

*In order for the IRT to determine that a conservation organization adds value to the mitigation in the MBI, the organization must meet the following criteria:*

- *May hold easements which are perpetual in duration in accordance with the Virginia Conservation Easement Act (has had a principal office in the Commonwealth of Virginia for at least five years,*
- *Is a charitable corporation exempt from taxation pursuant to 26USCA 501 (c)(3), and a “qualified organization” and an “eligible donee” under Section 170(h)(3) of the internal Revenue Code and Treasury Regulation §1.170A-14(c)(1), whose purposes include those specified in the Virginia Conservation Easement Act, and has had a principal office in the Commonwealth of Virginia for at least five years,*

*The following language must be included in this section of the MBI, in the Protection Document, in the bank management plan, and long-term protection plan in accordance with Corps regulations at 33 CFR 332.7(a)(3):*

The Bank Sponsor, Easement Holder, or Long-Term Steward shall provide the Chair(s) with 60 day advance notice before any action is proposed to be taken to modify the Protection Document, management plan, or long-term protection mechanism, EXCEPT THAT the Protection Document, management plan or long-term protection mechanism MAY NOT be altered, amended, modified, vacated or terminated in whole or in part in any way without the express written approval of the IRT, acting through the Chair(s).

G. As Built Survey: *An as-built survey may not be required for wetland restoration that is based solely upon plugging or filling ditches or Stream mitigation based solely on riparian buffer establishment*

(For both Wetlands and Streams) The Bank Sponsor agrees to submit an as-built report to the IRT within 60 days following completion of the grading for each phase of the bank site. The as-built will depict the completed portions of the bank site for that operational year, including a survey showing finished grades, the elevation of any constructed structures (e.g. berms, weirs, etc.), and will describe in detail any substantial deviations from the requirements described in the Mitigation Site Plan (s) submitted to the IRT in accordance with the Bank Development Plan (Exhibit D). Additional requirements are detailed in VI.C.9.

(For Streams Only) The Stream as-built information will be used as a comparative measure for streambank stability and will be referenced in each Monitoring Report, in accordance with the terms found in Section VI.B and C of this MBI.

## **V. OPERATION OF THE BANK**

A. Service Area: The Bank is established to provide Mitigation to compensate for impacts to Waters of the United States and/or State Waters, including wetlands, within the service area depicted on the excerpt of the USGS Hydrologic Unit Map as shown in Exhibit F. This service area shall include Hydrologic Unit \_\_\_\_\_, and the portion of \_\_\_\_\_ within \_\_\_\_\_ Counties and \_\_\_\_\_ Cities. The Service Area of the Bank is depicted in Exhibit K

B. Access: The Bank Sponsor will allow, or otherwise provide for, access to the site by members of the IRT or their agents or designees, as reasonably necessary, for the purpose of inspection, compliance monitoring, and remediation consistent with the terms and conditions of this MBI throughout the period of Bank establishment, monitoring, and operation. Inspecting parties shall not unreasonably disrupt or disturb activities on the Bank.

C. Projects Eligible to Use the Bank: The following types of projects may be eligible to use the Mitigation Bank:

1. All activities regulated under Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act and/or the Virginia Water Protection Permit Regulations (9 VAC 25-210) located within the Service Area of this Mitigation Bank may be eligible to use Mitigation Bank as compensatory Mitigation for unavoidable impacts;
2. Use of Credits may only be authorized when adverse impacts have been avoided and minimized to the maximum extent practicable;
3. Credits may be used to compensate for environmental impacts under other programs (civil works, Superfund removal and remedial, supplemental environmental projects for state and Federal enforcement actions, etc.), but Credits may not simultaneously serve as mitigation for more than one activity; e.g., if a Credit is used to offset impacts pursuant to a Department of the Army permit or Virginia Water Protection Permit, that same Credit may not also be used to



confer any type of compensation for other purposes in relation to other programs, such as environmental protection, etc.

4. Some projects in the service area of this Mitigation Bank may qualify for a Nationwide Permit (NWP) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act, Norfolk District State Program General Permit (SPGP), and/or a Virginia Water Protection Permit. If such authorizations require compensatory Mitigation, and if approved by the pertinent agency, Credits from this Mitigation Bank may be permitted to be used to satisfy these compensatory Mitigation requirements.

5. For projects in the Service Area of this Mitigation Bank that require authorization with an Individual Permit (IP) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act and/or Virginia Water Protection Permit, the Corps and DEQ, in consultation with the other regulatory and resource agencies, will determine the eligibility of such projects to use the Bank on a case-by-case basis..

D. Assessment Methodology: Credits and Debits will be assessed using measurements of the area of impacts and the Mitigation land area. The potential number of Credits to be generated by the Bank and the method(s) by which they will be generated are described in Exhibit L.

The number of Wetland Mitigation Credits created by development of this Mitigation Bank is determined by a combination of land area and habitat type (e.g. Cowardin Classification) provided in the BDP (Exhibit D).

The number of stream mitigation Credits created by development of this mitigation bank is determined by linear feet of each activity and the corresponding Credits for those activities outlined in the Unified Stream Methodology (January 2007 or most current version) except for mining projects located in the coal region of the state as provided in the Bank Development Plan (Exhibit D) and the associated USM forms.

**The amount of Credits required for any permit, and the amount of Credits to be debited for each impact, is within the sole discretion of the agency issuing such permit for which impacts are authorized and for which mitigation is required (i.e., the Corps or the DEQ) and will take into account such factors as the area of wetlands or waters to be impacted.**

E. Success Criteria: The IRT will use monitoring reports, visual observations, along with best professional judgment to evaluate attainment of success criteria and in determining whether part or the entire bank site is successful or whether corrective actions are warranted. The success criteria for this bank site are specified in Exhibit M.

F. Schedule of Credit Availability: Upon submittal of all appropriate documentation by the Bank Sponsor, and subsequent approval by the IRT, acting through the Chair(s), the IRT Chair(s) will provide in writing the release of Credits to the Bank Sponsor in accordance with Corps regulations (33 CFR 332.8(g)(2) and (o)(8) and the following schedule:

1. Up to fifteen percent (15%) of anticipated Credits (excluding Credits derived from Stream Buffer Preservation) per phase/site plus 100% of Stream Buffer Preservation Credits may be available for Debiting upon implementation of the following:
  - (a) Approval of this MBI and the Bank Development Plan described in Exhibit D;
  - (b) Implementing (including funding) Financial Assurances necessary to secure the initial release of credits (Exhibit F) as well as establishing Escrow Accounts for the Monitoring and Maintenance, Long-Term Management, and Catastrophic Event Funds (Exhibits G-I);
  - (c) Establishment of a standby trust with a national bank, (d) Securing the Property interests necessary for the Mitigation Bank (e.g. fee simple acquisition, easement, necessary or appropriate property interests) in its entirety (*not just one or more phases of the bank site*);
  - (e) A copy of the approved and recorded Protection Document that protects the site in perpetuity is provided to the IRT (Exhibit J);
  - (f) A schedule is submitted to the IRT that shows that the initial (i.e., Phase I) physical and biological improvements will be completed no later than the first full growing season following initial Debiting from the Bank;
  - (g) A Long-Term Management and Maintenance Plan approved by the IRT acting through the Chair(s) (Exhibit Q); and
  - (h) An electronic version of this MBI, the BDP, and associated exhibits is submitted to the IRT Chair(s) and/or uploaded to the Corps Regional Internet Bank Information Tracking System (RIBITS)

The first phase of the bank site should be large enough to offset this initial Credit release. The first phase shall begin construction within one year of the first sale or transfer of the initially released Credits. No additional releases of Credits will take place until a sufficient amount of compensatory mitigation meets success criteria to offset all debits from this initial release of Credits.

2. Wetland Credits beyond the initial release of Credits (typically 15%) can be released by the IRT, (acting through the Chair(s)) on the following schedule: 75% of potential Credits (90% cumulative) shall be released upon meeting the success criteria in Exhibit M, Section V 4.(a), (b), (c), (d), and (h) for intended forested wetlands. The remaining Credits for intended forested wetland areas (10% or 100% cumulative), shall be released at Monitoring Year 5 upon meeting success criteria (g) for wetlands.
3. Stream Buffer Enhancement/Restoration/Reestablishment Area: For those Credits associated with buffer area enhancement/restoration/reestablishment activities (as defined in Section II), release of Credits beyond the initial 15% will adhere to the following schedule:
  - a. Construction release
    - i. 10% (25% cumulative) upon completion of all initial physical and biological improvements made pursuant to the mitigation plan
  - b. After year 1 (the first year) following completion of construction:

- 65% of total credits (90% cumulative) derived from the area meeting success standards in Exhibit M, Section 3. a-c and subject to IRT approval, acting through the Chair(s) of the first year monitoring report
- c. The final 10% of total credits (100% cumulative) shall be released when all success criteria (3a-d in Exhibit M) are met.

#### 4. Stream Restoration and Enhancement

For those credits associated with stream restoration and enhancement activities (defined in Section II), release of credits beyond 15% will adhere to the following schedule:

- a. Construction release:
  - 10 % (25% cumulative) upon completion of all initial physical and biological improvements made pursuant to the mitigation plan
- b. After Year 1 following completion of construction:
  - if a bankfull event has not occurred this year and all success criteria are met and channel is stable, 10% credits release (35% cumulative)
  - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release ( 50% cumulative).
- c. After year 2 following completion of construction:
  - if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (45% cumulative)
  - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (75% cumulative).
- d. After year 3 following completion of construction:
  - if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (55% cumulative)
  - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (100% cumulative).
- e. After year 4:
  - if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (65% cumulative)
  - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release not to exceed the remaining available credits (100% cumulative).
- f. No additional credits will be released after Year 4 until a bankfull event occurs. For each additional monitoring year, no more than 25% of total credits will be released not to exceed the remaining available credits if a

bankfull event occurs that year, the channel is stable, and all success criteria are met.

G. Conditions on Debiting: Any Credits debited before achieving the Success Criteria (e.g. the 15% initial release of Credits), shall require conformance with the Financial Assurance requirements described in Section IV.D, and execution of the Escrow Agreements approved in writing by the Chair(s) in substantial conformance with the agreement found in Exhibit G to provide sufficient Financial Assurance to assure performance and to cover contingency actions in the event of partial or total failure and other relevant provisions in this Agreement. Aside from the initial release of Credits, if the number of Credits debited exceeds the number created, then no further Credit transactions shall be permitted by the IRT until additional Credits are released by the IRT.

H. Provisions For Uses of the Mitigation Bank Area: The Bank Sponsor shall not use or authorize the use of areas within the Bank for any purpose that interferes with its conservation purposes. In addition to implementation of the terms of this MBI, the following activities are permissible, unless the IRT directs otherwise:

- a) Monitoring of vegetation, soils and water;
- b) Maintenance of wetlands, restored/enhanced stream segments, riparian buffers, trails, bridges, berms, dams, outlet and spillway structures, and other appurtenant facilities, as approved by the IRT;
- c) Hunting, trapping, and fishing and other passive recreational uses such as hiking and bird watching;
- d) Ecological education; and
- e) Compliance with applicable Federal, State, or local regulations or appropriate court orders.

## **VI. MAINTENANCE AND MONITORING OF THE BANK**

A. Maintenance Provisions: The Bank Sponsor agrees to perform all necessary work to maintain the Bank consistent with the maintenance criteria established in the BDP. The Bank Sponsor shall continue with such maintenance activities until completion of the monitoring period described in Section VI.B. Deviation from the monitoring and maintenance provisions in the approved MBI and the BDP requires review and written approval by the IRT.

B. Monitoring Provisions: The Bank Sponsor agrees to perform all necessary work to monitor the Bank to demonstrate compliance with the Success Criteria established in this MBI. The monitoring provisions are detailed in Exhibit N. Monitoring shall be conducted during Years 1, 2, 3, 5, 7, and 10 following construction of any phase of the bank site. Monitoring may be terminated or the extent of monitoring may be reduced over part or the entire site at the discretion of the IRT.

C. Reports: The Bank Sponsor shall submit to the IRT reports describing the conditions of the Bank and relating those conditions to the Success Criteria as well as the provisions of Section VI B and Exhibit N. Reports will be submitted to the IRT and an electronic version shall be submitted to the Chair(s) and/or uploaded to the Corps' Regional Internet Banking Information Tracking Systems (RIBITS) by December 31 of each monitoring year. Monitoring reports shall contain at a minimum, the information identified in Exhibit O:

**D. Accounting Procedure:** The Bank Sponsor shall submit a statement to the Corps and DEQ each time Credits are Debited or additional Credits are approved. If requested, the Corps will distribute the statement to other members of the IRT. The Bank Sponsor or its agent shall update credit ledgers on RIBITS by the 10<sup>th</sup> of each January, April, July, and October for the previous quarter. In addition, the Bank Sponsor shall submit a semi annual Ledger to the Corps for distribution to all members of the IRT, showing all transactions at the Bank for the previous six (6) months and a cumulative tabulation of all transactions to date. At a minimum, each Ledger must include the following information: permittee, Permit number, type of permit, locality, type of impacted system (Cowardin Classification), amount of wetland and/or stream impacts, amount of wetland and/or stream Debit from Mitigation Bank, USGS HUC Catalog Unit, Date of transaction (see Exhibit O). The IRT will review the semi annual report and acting through the Chair(s) adjust the credit composition to assure no net loss of wetlands acreage. Semi-annual Ledgers and transaction reports shall be submitted to the IRT as long as Credits remain in the Bank and/or the Bank remains operational.

**E. Financial Report:** The Bank Sponsor shall submit to the IRT a financial report by January 30<sup>th</sup> of each monitoring year and every subsequent year that the bank remains operational (see VI. H.). An electronic version of this report shall be submitted to the IRT Chair(s) or uploaded to RIBITS concurrently with this submittal. The report shall contain the following:

1. Documentation of balance in the escrow account referred to in IV (D)(2)(a) as the “Maintenance and Monitoring Fund” The balance in this account (principal balance without earned interest) must match the amount required to be set aside in IV (d)(2)(a) (*For example, the required deposits may be a specified percentage of the total cash proceeds*) minus any approved expenditures or distributions.
2. Documentation of balance in the escrow accounts referred to in IV(D)(2)(b) and (c) as the “Long-Term Management Fund” and the “Catastrophic Event Fund”. The balances in these accounts (principal balance without earned interest) must match the amounts required to be set aside in IV(d)(2)(b) and (c) (*For example, the required deposits may be a specified percentage of the total cash proceeds*) minus any approved expenditures or distributions and must be certified by the escrow agent.
3. Documentation of payment of yearly fees for Standby Trust to maintain the trust as active.

**F. Contingency/Adaptive Management Plans/Remedial Actions:** The Bank Sponsor shall develop necessary contingency/adaptive management plans and implement appropriate remedial actions in coordination with the IRT to address the likelihood that the Bank or a specific phase of the Bank may fail to achieve the Success Criteria specified in Part V, Section E and Exhibit M of this MBI. In the event the Bank Sponsor fails to implement necessary remedial actions within one growing season (by November 1 of the following year) after notification by the Corps and/or DEQ of necessary remedial action to address any failure in meeting the Success Criteria, the IRT will notify the Bank Sponsor and the appropriate authorizing agency (ies) and direct appropriate remedial actions or take action including suspension/revocation of available Mitigation Credits (see VI. G. below).

If the IRT determines that the Bank is operating at a deficit, or has failed to meet the criteria at Section IV parts D- G or Exhibit M, debiting by the Bank Sponsor of Credits shall immediately cease, and the Chair(s) in consultation with the IRT and the Bank Sponsor, will determine what remedial actions are

necessary to correct the situation. As determined by the Chair(s) in coordination with the IRT and the Bank Sponsor, if conditions at the Bank site do not improve or continue to deteriorate within one growing season from the date that the need for remediation was first identified in writing to the Bank Sponsor by the Chair(s) of the IRT, the IRT shall request the escrow agent to transfer the amount necessary to correct the deficiency from the Monitoring and Maintenance Funds to a party acceptable to the IRT, to undertake corrective measures. The IRT may also suspend credit transactions until the deficiency (ies) is (are) corrected (see VI. G. below).

Following implementation of remedial measures and at the written request of the Bank Sponsor, the IRT will perform a compliance visit to determine whether all Success Criteria have been satisfied.

G. Default: Should the IRT determine that the Bank Sponsor is in material default of any provision of this MBI, the IRT may suspend the sale or transfer of any Credits and, in such event, will notify the Bank Sponsor that the sale or transfer of any Credits is suspended until the appropriate deficiencies have been remedied to the satisfaction of the IRT. Upon notice of such suspension, the Bank Sponsor agrees to immediately cease all sales or transfers of Credits until the IRT informs the Bank Sponsor that sales or transfers may be resumed. If the Bank Sponsor fails to submit one or more required monitoring reports, an additional year of monitoring and reporting will be required to document bank compliance. Should the Bank Sponsor remain in default, the IRT may terminate all future Credit transactions. Upon termination, the Bank Sponsor is required to and does agree to perform and fulfill all obligations under this Agreement relating to Credits that were sold or transferred prior to termination.

H. Bank Closure: Within 90 days following the end of the 10-year monitoring period and upon satisfaction of the Success Criteria, as determined by the IRT, the Chair(s) shall issue a written certification of satisfaction to the Bank Sponsor and the escrow agent, and thereafter any remaining Monitoring and Maintenance Fund (see Section IV D (3)(a)) may be released to the Bank Sponsor. After Bank Closure and subject to review and approval by the IRT the Bank Sponsor may request and the IRT may agree in writing, to remove from the Bank that portion of the Bank lands that has not had Credits Debited from it (i.e. Restoration, Creation, Enhancement, or Preservation lands) provided the removal and any subsequent utilization does not adversely impact the Bank areas from which Credit has been Debited. The IRT will determine, in its sole discretion, whether any such removal or utilization of Bank lands adversely impacts Bank lands for which Credits were transferred or debited and whether any such removal is approved. If removed from Bank lands, that portion that is removed is no longer subject to the provisions of this MBI.

Prior to closure of a Bank or Bank site, the IRT will perform a final compliance inspection to evaluate whether all success criteria have been achieved. Upon the Chair(s) determining, in consultation with the other members of the IRT and the Bank Sponsor, that:

- (1) All applicable success criteria prescribed in Section V.E. and Exhibit M for that bank or bank site have been achieved;
- (2) All released Credits for that Bank or Bank site have been debited;

- (3) The Bank Sponsor has reviewed and revised, if necessary, the Long-Term Management and Maintenance Plan, and the revised Long-Term Management and Maintenance Plan has been approved by the IRT, pursuant to Section VI J.;
- (4) The Bank Sponsor has prepared and submitted to the IRT and the appropriate locality a GIS shapefile or similar exhibit depicting the location and extent of the mitigation bank.
- (5) The Bank Sponsor has either: (i) assumed responsibilities for accomplishing the Long-Term Management and Maintenance Plan, in which case the Bank Sponsor will fulfill the role of Long-Term Steward, or (ii) has assigned those responsibilities to another Long-Term Steward pursuant to Section VI. I. of this MBI;
- (6) The Catastrophic Event and Long-Term Management Funds have been funded pursuant to Section IV D.;
- (7) The Long-Term Steward is the beneficiary of the Catastrophic Event and Long-Term Management Funds;
- (8) The Bank has complied with the terms of this MBI, the Bank or Bank site will close, and the period of Long-term Ownership and Preservation will commence.

I. Long-Term Ownership and Preservation:

1. The Bank Sponsor must develop a Long-Term Management and Maintenance Plan (the "Long-Term Plan") (Exhibit P) prior to the initial release of bank Credits that is consistent with the guidelines and objectives specified in Section J below, and submit the Long Term Plan for approval by the Chair(s), in consultation with the other members of the IRT. The approved Long-Term Plan will be an exhibit to this MBI. The Bank Sponsor is responsible for execution of the approved Long-Term Plan. The Bank Sponsor may only deviate from the approved Long-Term Plan upon written approval of the Chair(s), following consultation with the IRT.
2. The Bank Sponsor may assign its long-term management and maintenance responsibility to a third party assignee at the end of the active monitoring period, at which time the third party will then serve as Long-Term Steward in place of the Bank Sponsor. The identity of the assignee, his or her qualifications, and the terms of the long-term management and maintenance agreement between the Bank Sponsor and the assignee must be approved by the Chair(s), following consultation with the IRT, in advance of assignment. The Bank Sponsor shall provide to the Long-Term Steward a copy of the approved MBI, BDP, all exhibits and addenda associated with this site, as well as the approved Long-Term Plan and the final monitoring report.
3. At that time, the Long-Term Steward shall be responsible for managing the Bank in perpetuity in accordance with the terms of the Long-term Plan (Exhibit P), the BDP, and real estate provisions, including the terms of the Protection Document, a sample of which is provided in Exhibit J. At that time, the Protection Document may need to be revised to allow access, maintenance, and enforcement of the Long-Term Management Plan by the Long-Term Steward, subject to approval by the IRT. If \_\_\_\_\_ [*Long-Term Steward*], or its successor declines to accept stewardship responsibility for the Bank and the associated Long-Term Management Fund,

the Bank Sponsor shall then transfer stewardship responsibility for the Bank and the associated Long-Term Management Fund to a public resource agency, non-profit agency, or other appropriate candidate engaged in conservation activities, subject to written approval of the receiving entity by the IRT. If no alternative Long Term Steward is willing to accept management responsibility for the Bank lands, then the Bank Sponsor will be the Long-Term Steward until another party acceptable to the IRT agrees to accept management responsibility for the Bank lands.

4. If the Bank Sponsor and/or Long-Term Steward elect to assign responsibility for the Long-Term Plan to a Long-Term Steward, the assignment agreement will reflect that the assignee has assumed all obligations and duties in the Long-Term Plan. The Long-Term Plan must be approved by the IRT and signed by the Bank Sponsor, Long-Term Steward, and all signatories to this MBI. In exchange for the assignee's commitment to implement the Long-Term Plan, contemporaneously with the assignment of long-term management and maintenance responsibilities the Bank Sponsor will ensure that the Long-Term Steward is made the beneficiary of the Catastrophic Event Fund and Long-Term Management Funds, pursuant to Section IV.D. of this MBI. In the event the responsibility for executing the Long-Term Plan is not assigned to a third-party assignee, upon closure of the bank in accordance with Section VI H. of this MBI, the Bank Sponsor will remain the beneficiary of the Catastrophic Event and Long-Term Management Funds.

J. Long-Term Plan: The Long-Term Management and Maintenance Plan ("Long-Term Plan") (Exhibit P) will contain specific objectives that address the long-term management of the bank site. The Bank Sponsor or subsequently, the Long-Term Steward shall provide the Chair(s) with 60 days advance notice before any actions is taken to modify the Long-Term Plan. The Long-Term Plan may only be amended or modified with the written approval of all signatory parties. The Long-Term Steward will document that it is achieving each objective or standard by submitting status reports to the IRT on a schedule approved by the IRT, acting through the Chair(s). A primary goal of the Bank is to create a self-sustaining natural aquatic system that achieves the intended level of aquatic ecosystem functionality with minimal human intervention, including long-term site maintenance.

*(The Long-Term Plan will include those elements necessary to provide long-term protection for the Bank site. The specific elements of the Plan must be tailored to meet the specific needs of the site. At a minimum, the IRT will likely find the following core elements to be necessary for inclusion in the Long-Term Plan. The particular characteristics of the Bank site at the end of the establishment period may necessitate including other elements not specified below, that are needed to protect the ecosystem resources present at the Bank.)*

The Long-Term Plan will include at a minimum the following provisions for:

- (1) Periodic patrols of the Bank site for signs of trespass and vandalism. Maintenance will include reasonable actions to deter trespass (e.g. mark property



boundaries and post "No trespass") and repair vandalized Bank features (e.g. collect and dispose of rubbish including "white goods" and roofing shingles)

(2) Monitoring the condition of structural elements and facilities of the Bank site such as signage, fencing, roads, in-stream structures, and trails. This should be done by a qualified individual. The Long-Term Plan will include provisions to maintain and repair these improvements as necessary to achieve the objectives of the Bank and comply with the provisions of the real estate instrument providing protection to the site. Improvements such as access roads, berms, or water control structures that are no longer needed to facilitate or protect the ecological function of the Bank site may be removed or abandoned if consistent with the terms and conditions of the recorded Protection Document.

(3) Inspection of the Bank site annually to identify and locate invasive Species. This should be done by a qualified individual. Any invasive plant species discovered on the Bank site and occupying more than 5% cover of the total bank area or any area of ¼ acre in size or larger must be controlled. In the event the IRT determines that the watershed or drainage basin within which the Bank is located becomes infested with these species in the future, so that its effective control on the Bank site is either no longer practicable or unreasonably expensive, the IRT will consider appropriate changes to the Long-Term Plan.

Funds from the Long-Term Management Fund may be used for provisions (1)-(3) above in accordance with the approved Long-Term Plan. The maximum amount of funds released annually shall not exceed 4% of the fund's value. No funds shall be released if monitoring was not conducted, as evidence by the submittal of a report to the IRT.

The Bank Sponsor or Long-Term Steward may modify the Long-Term Plan, subject to review and written approval by the IRT.

*We recommend that the Long-Term Plan be developed in consultation with the Long-Term Steward. If the Long-Term Steward should change, we recommend discussing the requirements of the Long-Term Plan with that entity.*

Upon creation of a Long-Term Plan, including execution of a Long-Term Management and Maintenance assignment agreement, the transfer of the contents of the Catastrophic Event and Long-Term Management Funds, the transfer of management responsibility for the Bank land to the Long-Term Steward, and upon satisfaction of the remaining requirements for Bank Closure under Section H. of this MBI, the Bank Sponsor shall be relieved of all further long-term management and maintenance responsibilities under this MBI.

## **VII. RESPONSIBILITIES OF THE INTERAGENCY REVIEW TEAM**

- A. The agencies represented on the IRT agree to provide appropriate oversight in carrying out provisions of this MBI. . Where this document refers to an action by the IRT, it is intended that the IRT acts through its chairs.
- B. The agencies represented on the IRT agree to review and provide comments on all project plans, proposed additions of land to the Bank, annual monitoring reports, credit review reports, contingency plans, and necessary permits for the Bank. Comments, if any, on the final construction documents for each phase as described in Exhibit D, additions of land to the Bank, monitoring reports, Credit review reports, contingency plans, and permits for Mitigation Bank construction and operation will be reviewed within thirty (30) calendar days from the date that the Corps provides a complete submittal to the IRT. The Corps Chair shall coordinate such review with members of the IRT so that comments can be provided within the ninety (90) day comment period.
- C. The Corps Chair or the Corps RIBITS Administrator shall update the credit ledger for the bank in RIBITS, within 30 days of receiving reports or credit ledgers, unless the Bank Sponsor updates the Bank ledger in RIBITS,
- D. The agencies represented on the IRT agree to review and approve reports on evaluation of Success Criteria prior to approving Credits within each phase of the Bank.
- E. The agencies represented on the IRT shall conduct compliance inspections, as necessary to verify Credits available in the Mitigation Bank, assess site conditions, and recommend corrective measures (if any) to the Bank Sponsor, until the terms and conditions of the BDP have been determined to be fully satisfied or until all Credits have been sold, whichever is later.

## **VIII. OTHER PROVISIONS**

### A. Force Majeure:

1. The Bank Sponsor shall be responsible for repair and remediation of any portion of the Bank requiring such repair and remediation, as determined by the IRT, except upon events of Force Majeure, as defined below:

Force Majeure shall mean an irreparable material and detrimental impact on the Bank site over which the Bank Sponsor or any entity controlled by the Bank Sponsor could not have anticipated or controlled (excepting those events specifically identified as “Catastrophic Events” in the above section);

2. The IRT has discretion to determine whether an event is a “Force Majeure” event as defined herein, and the Bank Sponsor shall bear the burden of demonstrating to the IRT’s satisfaction that:
  - (a) The Force Majeure event was caused by circumstances beyond the control or anticipation of the Bank Sponsor and/or any entity controlled by the Bank Sponsor, including its contractors and consultants;
  - (b) Neither the Bank Sponsor nor any entity controlled by the Bank Sponsor, including its contractors and consultants, could have reasonably foreseen and prevented such an event;

- (c) Damage was caused by such circumstances; and
- (d) Damage is irreparable by any practicable and reasonable means as determined in the discretion of the IRT.

B. Reasonably foreseeable technical problems, unanticipated or increased costs, expenses associated with the implementation of actions called for by this MBI, or changed financial or business circumstances in and of themselves shall not serve as the basis for modifications of this MBI or excuse the performance of the requirements of this MBI.

C. Compliance with any requirement of this MBI by itself shall not necessarily constitute compliance with any other requirement. For example, an extension of one growing season for compliance based on a particular incident or for one portion of the site shall not necessarily result in the extension of a subsequent or other compliance date or dates. The Bank Sponsor must make an individual showing of proof regarding the cause of each delayed step or requirement for which an extension is sought.

D. Eminent Domain: If the Bank is taken in whole or in part through eminent domain, the Bank Sponsor shall provide replacement compensation to offset the loss of the conservation functions, services, and values, as determined in the discretion of the IRT. This replacement compensation must be provided within the same service area as this Bank and must be approved by the IRT.

E. Dispute Resolution: Resolution of disputes regarding this MBI shall be in accordance with the Department of the Army and Environmental Protection Agency regulations entitled "Compensatory Mitigation for Aquatic Resources" (33 CFR Parts 325 and 332 and 40 CFR Part 230), as well as any other applicable federal or state regulations governing mitigation bank operation. Disputes related to satisfaction of Success Criteria may be subject to independent review from government agencies or academia that is not part of the IRT. The IRT will evaluate such review and conclusions or recommendations and determine whether the success criteria are met.

F. Validity, Modification, and Termination of the MBI: This MBI will become valid on the latter date of either the Bank Sponsor's signature or the signature of the representative of the Corps and DEQ.

This MBI may only be amended or modified with the written approval of all signatory parties. In the event the Bank Sponsor determines that modifications must be made in the BDP to ensure successful establishment of the Bank, the Bank Sponsor shall submit a written request for such modification to the IRT for approval. The IRT agrees to not unreasonably withhold or delay such approval. Documentation of implemented modifications shall be made consistent with this agreement.

Any proposed modification to the Bank or Bank site, including but not limited to addition of lands to the Bank, establishment of additional Bank sites, additions of different types of mitigation Credit resources (e.g. stream or wetland Credits), or alteration of success criteria will require review and likely amendment of the approved MBI to comply with Corps regulations at 33 CFR 332.8(g) and will likely require use of the most current approved MBI template in use in Virginia.

Any of the IRT members may terminate his/her participation upon written notification to all signatory parties without invalidating this MBI. Participation of the IRT member seeking termination will end 30 days after such written notification.

This MBI (or any approved mitigation plans under an Umbrella Mitigation Bank Instrument) may be considered null and void by the IRT if the physical improvements identified in the mitigation plan (excluding the recordation of real estate instruments) have not been completed within five (5) years of the last date of signature or approval. The Bank Sponsor may reinitiate the process by submitting a new prospectus (or mitigation plan for a Bank Site under an Umbrella Banking Instrument) consistent with the latest MBI template approved for use in Virginia

G. Specific Language of MBI Shall Be Controlling: To the extent that specific language in this document changes, modifies, or deletes terms and conditions contained in those documents that are incorporated into the MBI by reference, the specific language within the MBI and any associated BDPs shall be controlling.

H. Notice: Any notice required or permitted hereunder shall be deemed to have been given (i) when delivered by hand, or (ii) when sent electronically, or (iii) three (3) days following the date deposited in the United States mail, postage prepaid, by registered or certified mail, return receipt requested, or (iv) the day sent by Federal Express or similar next day nationwide delivery system, addressed as follows (or addressed in such other manner as the party being notified shall have requested by written notice to the other party):

*Insert addresses of the Bank Sponsor and IRT members here.*

I. Entire Agreement: This MBI constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes all prior agreements or undertakings.

J. Invalid Provisions: In the event any one or more of the provisions contained in this MBI are held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provisions hereof, and this MBI shall be construed as if such invalid, illegal or unenforceable provision had not been contained herein.

K. Headings and Captions: Any paragraph heading or captions contained in this MBI shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this Agreement.

L. Counterparts: This MBI may be executed by the parties in any combination, in one or more counterparts, all of which together shall constitute but one and the same instrument.

M. Binding: This MBI shall be immediately, automatically, and irrevocably binding upon the Bank Sponsor and its heirs, successors, assigns and legal representatives upon execution by the Bank Sponsor and the Corps, even though it may not, at that time or in the future, be executed by the other potential parties to this MBI. The execution of this MBI by EPA, DEQ, or the USFWS, or other agency, city or county shall cause the executing agency to become a party to this MBI upon execution, even though all or any of the other potential parties have not signed the MBI. Execution does not

signify the agencies' agreement with the use of Credits from this Bank in connection with any specific permit or project.

**N. Transfer of Mitigation Responsibility:** For projects in the service area of this Mitigation Bank that require Department of the Army authorization pursuant to Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, or the Virginia Water Protection Permit Regulations (9 VAC 25-210), if such authorizations require compensatory mitigation, credits from this Mitigation Bank may be used to satisfy those compensatory mitigation requirements if the Bank Sponsor and the Permittee reach a mutually acceptable financial agreement, subject to Corps and/or DEQ written approval on a case-by-case basis. **Notwithstanding anything in this Agreement, the Corps and DEQ have sole discretion over how many and what type of Credits are required for permits issued by such agency and whether Credits from this Bank are acceptable as mitigation.**

In consideration of the Bank Sponsor's agreement to be bound by the terms of this MBI, the Corps and other IRT agencies acknowledge that upon approval of a proposal by the Permittee to secure mitigation bank Credits through a contract with this Mitigation Bank to satisfy all or part of the compensatory mitigation requirements for that Department of the Army and/or DEQ permit, a fully executed contract between the Bank Sponsor and the Permittee shall act to transfer to this Mitigation Bank the responsibility for the required compensatory mitigation to be provided by the Mitigation Bank in accordance with the permit.

**O. No Liability of Regulatory Agencies:** The responsibility for financial success and risk to the investment initiated by the Bank Sponsor rests solely with the Bank Sponsor. The regulatory agencies that are parties to this agreement administer their regulatory programs to best protect and serve the public's interest in its waterways, and not to guarantee the financial success of Banks, specific individuals, or entities. Accordingly, there is no guarantee of profitability for any individual Mitigation Bank. Bank Sponsors should not construe this agreement as a guarantee in any way that the Agencies will ensure sale of Credits from this Bank or that the Agencies will forgo other Mitigation options that may also serve the public interest. Because the Agencies do not control the number of mitigation banks proposed or the resulting market impacts upon success or failure of individual banks, any information, conclusions or expectations regarding the potential and future demand for Bank Credits are the sole responsibility of the Bank proponent.

**P. Third Party Resale or Brokerage of Credits:** Written approval of the IRT is required for any resale or brokering of mitigation Credits or transfer of Credits to any entity for resale or re-transfer to a permittee. In the event of third party resale or brokering of mitigation Credits, the Bank Sponsor remains responsible for the Bank and all applicable provisions of the approved MBI and BDP. The Bank Sponsor shall first notify the Chair(s) prior to a proposed transfer. Credits must be used in the same service area as the Bank site that generated the credits. There is no guarantee that transferred Credits will be approved by the Corps or DEQ for use with a specific permit. Written approval by the Corps and/or DEQ for use of said Credits as mitigation for a given permit is required and will be determined on a case-by-case basis.

The permit number shall be placed on every Credit bill of sale. For bills of sale associated with bulk sales and other sales where there is no associated permit number, the Bank Sponsor shall include a special provision in the bill of sale that states that those Credits cannot be utilized to satisfy a Corps

or DEQ permit requirement unless the broker (and any subsequent broker) provides a written "bank ledger allocation statement" to the Corps, DEQ, and the Bank Sponsor. This bank ledger allocation statement will state that the associated Credit(s) was part of a bulk sale to a specific party and has been allocated for use with \_\_\_\_\_ (named) project and \_\_\_\_\_ (specific) permit number.

Q. Transfer of Bank/MBI Ownership: In the event of sale or transfer of the Bank and/or MBI to a third party, the transfer provision of this MBI must be completed, approved, and filed with the IRT. The Bank Sponsor shall first notify the Chair(s) no less than 60 days prior to the transfer. Once the transfer has been executed by the Bank Sponsor/Owner, the Transferee/new Owner remains responsible for the Bank and all applicable provisions of the approved MBI and BDP.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

Bank Sponsor, Authorized Agent	Date
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Land Owner(s)	Date
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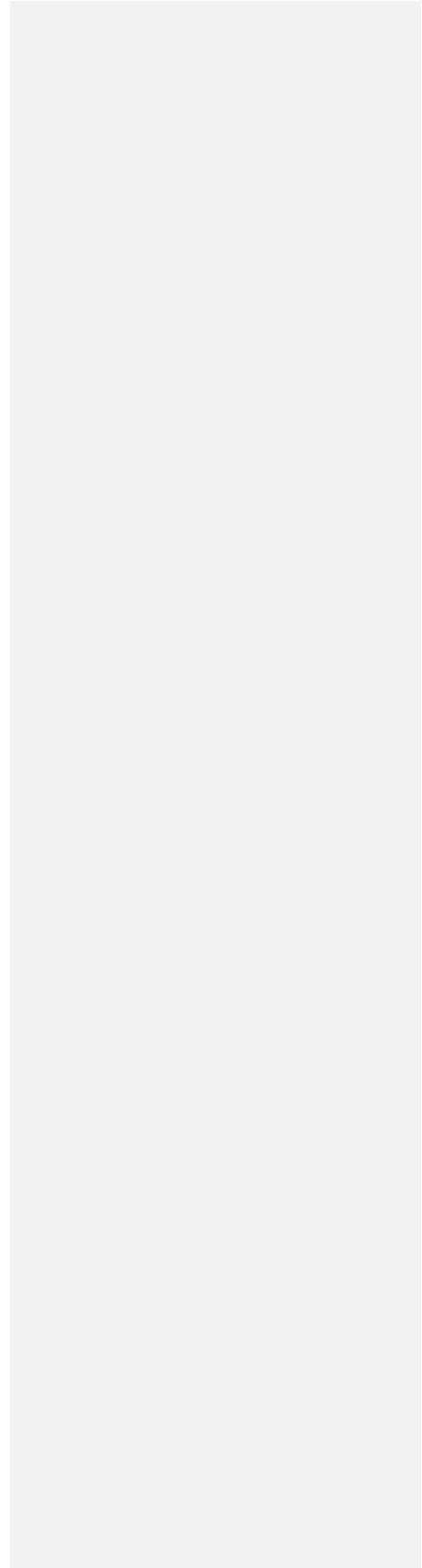
INTERAGENCY REVIEW TEAM

By the IRT Chair(s):

U.S Army Corps of Engineers, Norfolk District	Date
By: _____	
Its: _____	

Virginia Department of Environmental Quality	Date
By: _____	
Its: _____	

Virginia Marine Resources Commission	Date
By: _____	
Its: _____	



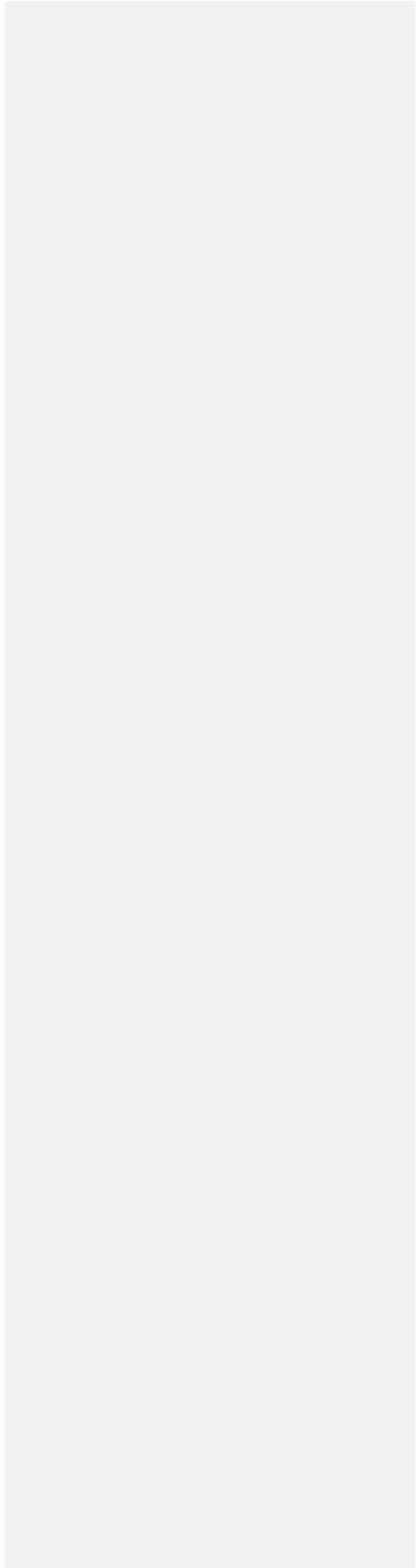
**TRANSFER OF MITIGATION BANK OR TRANSFER OF BANK LANDS**

When the land and/or MBI associated with this Mitigation Bank is transferred, the terms and conditions of this MBI will continue to be binding on the new Bank Sponsor and owner(s) of the property. To validate the transfer of this MBI and the associated liabilities associated with compliance with its terms and conditions, the transferee must sign and date below.

\_\_\_\_\_  
(Transferee, Authorized Agent)  
Transferee Name

\_\_\_\_\_  
(Date)

Notary Seal





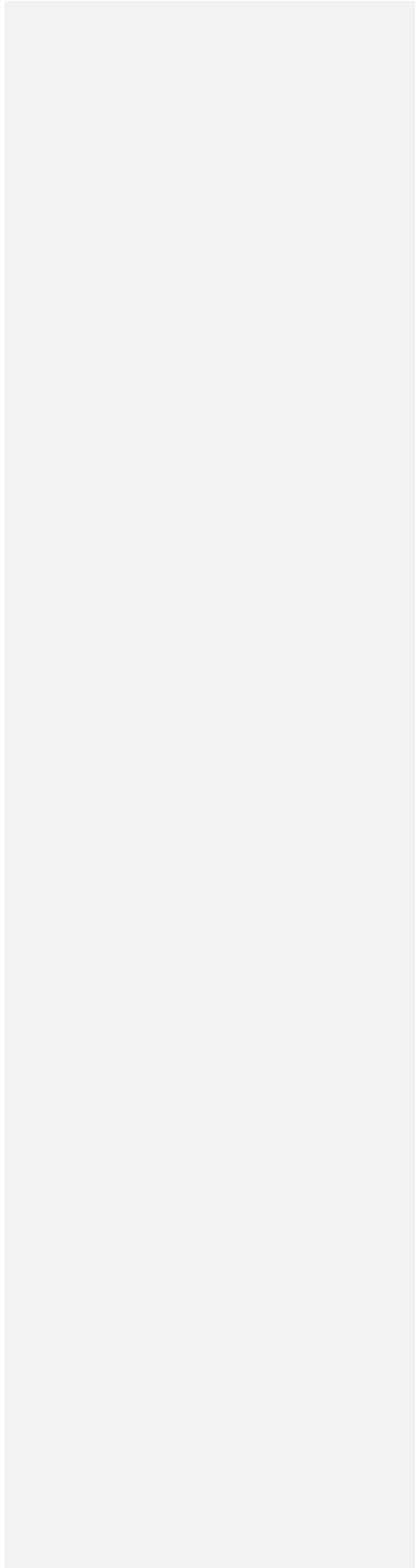
LONG-TERM STEWARDSHIP

When the responsibility for Long-Term Stewardship associated with this Mitigation Bank is assumed by a party other than the Bank Sponsor, the terms and conditions of this MBI will be binding on such party, the Long-Term Steward of the property. Signature below is required and is verification that such party acknowledges and accepts this responsibility and hereby assumes all the obligations and associated liabilities associated with compliance with the MBI. Terms and conditions in this MBI that are intended to be binding on the Sponsor beyond such transfer will continue to be binding on the Sponsor.

\_\_\_\_\_  
(Long-Term Steward)

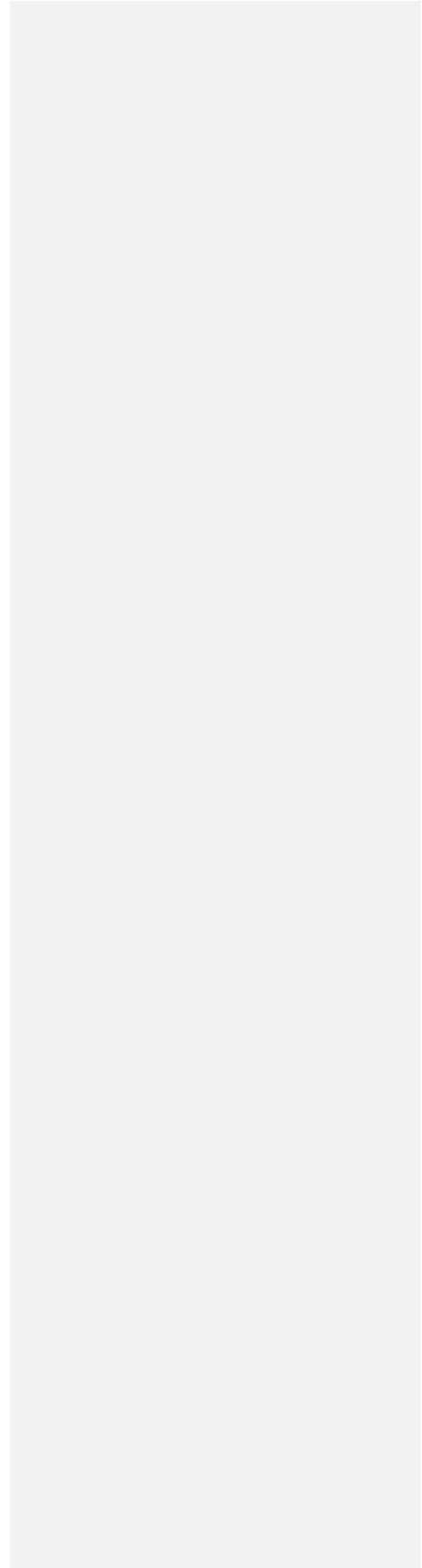
\_\_\_\_\_  
(Date)

Notary Seal

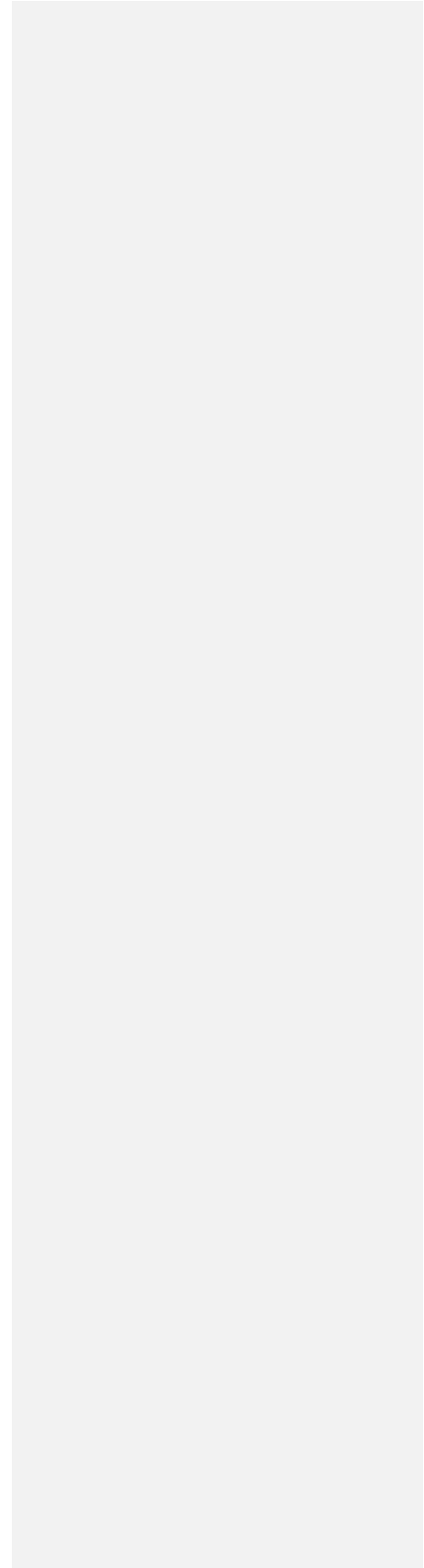


**Exhibit A**

**Vicinity Map**



**Exhibit B**  
**Initial Phase Plan**



**Exhibit C**  
**Plat and Title Search &**  
**Property Assessment & Warranty**  
**Checklist**

***Property Assessment & Warranty Checklist (If items are applicable to this Bank):***

- Submittal and approval of the instrument confirming Sponsor or Bank Ownership of Bank lands or necessary interests in Bank land; may include land owner's grant, to the Bank Sponsor or Long-Term Steward of interests and access rights to the land. This instrument should demonstrate that the Bank Sponsor has the right to perform and protect in perpetuity all work, functions and values under the MBI. Such instrument must be recorded in the Bank land chain of title and must identify contact information for the Bank Sponsor or Long-term Steward.*
- Protective document recorded by the landowner(s).*
- An executed conservation easement that includes a legal description prepared by a registered surveyor incorporating the conservation easement area and the proper recording fee.*
- A title insurance policy insuring the Bank lands in the name of the Department of Environmental Quality (DEQ), in an amount determined by the department.*
- A 50-year ownership history of the Bank lands including copies of all documents that affect any interest in the Bank lands, including but not limited to easements, licenses, encumbrances, encroachments, mineral rights.*
- Subordination of any property interest (e.g., mineral rights, mortgages, easements) which interferes with or is in conflict with establishment and protection of the mitigation Bank and/or Protection Document.*
- A written statement and warranty from the owner of the Bank lands that there are no easements, encumbrances, or transfers of the property, in whole or in part, not disclosed in the title search.*
- A written statement from the owner of the Bank lands identifying any monies received, or expected to be received, for natural resources protection, enhancement, or restoration within the proposed Bank lands from federal or state agencies, grants, or non-profits. Acceptance and use of such funds does not prevent the approval of a mitigation Bank, however, credits may be adjusted accordingly as Credits will not be given under the MBI for functions, services or values that have already been considered as the basis for compensation or mitigation under any other program ..*
- If the owner of the Bank lands is not an individual, documentation that the person executing the Protection Document has the authority to convey land on behalf of the company.*

*This information is necessary to determine if the bank sponsor has authority to enter into the wetland mitigation banking agreement and conservation easement, and to determine if there are*

*defects in the property which would interfere with the establishment and protection of the mitigation bank. When the mitigation banking agreement and conservation easement are signed, they will be recorded by the DEQ with the county register of deeds.*

*Documents affecting the Bank lands, including the Protection Document must grant the Long-Term Steward enforcement authority concurrent with commencement of his/her/its responsibilities.*

*If the Bank Sponsor is a company, documentation that the person signing the MBI has the authority to sign. (No. 10 from JPA – Contractor Certification).*

CERTIFICATION: I am hereby requesting approval of a mitigation Bank by the IRT, DEQ, VMRC, U.S. Army Corps of Engineers, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the Bank lands at reasonable times to inspect and photograph site conditions, review proposals to approve the Bank and after Bank establishment, to determine compliance with the MBI.

In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
Bank Sponsor

\_\_\_\_\_  
Date

**Notary Seal**

**Exhibit D**  
**Bank Development Plan**

I. Phasing

The Bank shall be planned and designed in phases. \_\_\_\_\_ phases have been identified to date, encompassing \_\_\_\_\_ acres of land along \_\_\_\_\_ waterway. Additional parcels in the \_\_\_\_\_ watershed may be contracted for purchase and proposed for inclusion in the \_\_\_\_\_ Bank by the Bank Sponsor by submission of a concept plan to the IRT.

A phase is defined as \_\_\_\_\_.

II. Concept Plan of Initial Phase

A. Background

*Careful consideration will be given to the ecological suitability of site for achieving goals and objectives.*

Attached is a Concept Plan for Phase I prepared by \_\_\_\_\_ dated \_\_\_\_\_, consisting of the following sheets:

1. Cover Sheet with Location Map and Soils Map;
2. Existing Conditions with wetlands delineation survey, 6" C.I. topography and soil test pit locations;
3. Concept Grading Plan and Credit Analysis;
4. Hydrologic analyses;
5. Soil test pit profiles and/or soil auger borings to controlling depths;
6. Soil test results;
7. Stream deficiencies to be addressed;
8. Existing and proposed stream plan and profile (including proposed buffer limits, types, structure locations, and mitigation acreages/linear feet of stream restoration, enhancement, and preservation segments);
9. Description of proposed stream restoration, enhancement, and preservation measures to be employed;
10. Existing and proposed typical cross section (riffle and pool only);
11. Schedule for compensation activities;
12. USM compensation crediting forms 1,3, & 4.

Based upon the hydric soils map, field borings of the soils, and discussions with the owner it appears that the areas proposed for Restoration/Creation were historically \_\_\_\_\_ areas. They were converted to \_\_\_\_\_ in order to \_\_\_\_\_ by a combination of:

1. Ditching,
2. Recontouring, and
3. Filling

## B. Proposal

Restoration or enhancement of drained and degraded wetland areas and streams or creation of wetland areas to a high level of function shall be accomplished by a combination of practices, including but not limited to:

1. Filling or blocking of ditches;
2. Creation of low berms with outlet controls;
3. Regrading of high spots;
4. Removal of fill areas;
5. Herbicide treatments of non-native species, if required;
6. Discing and plowing of soils;
7. Replanting of indigenous vegetation;
8. Fencing along adjacent agricultural uses;
9. Restoration of channels;
10. Stabilization of eroding banks;
11. Buffer or stream bank plantings;
12. Installation of grade controls or other instream structures.

This proposal may also include the preservation of high quality wetland and/or streams and associated upland buffers.

Specific goals and objectives for each portion of the Mitigation Bank shall be specifically provided in the Mitigation Site Plan for each phase of the Bank.

## III. Mitigation Site Plan

### A. Submission and Approval

The Bank Sponsor shall submit the Mitigation Site Plan to the IRT for each phase of the Bank and obtain approval of the IRT (in accordance with Section VI.B. of the MBI), prior to commencement of construction activities.

### B. Design Specifications

The Mitigation Site Plan shall include, at a minimum:

- a. Narrative describing the nature of the mitigation concept;
- b. Grading plans at a scale of 1" = 50' and providing 0.5 ft contour intervals in Restoration areas (or metric equivalent), or at a more detailed scale. Plans shall use the correct vertical datum, NOS in tidal Mitigation areas and NGVD 88 in non-tidal areas;
- c. Erosion and Sediment Control (ESC) Plans, designed in accordance with General ESC Specifications approved by the Virginia Soil and Water Conservation Board, or in accordance with the locality's ESC Program;
- d. The goals and objectives in terms of water quality, flood storage, and/or habitat benefits;

- e. A detailed location map, including the latitude and longitude and the hydrologic unit code (HUC) at the center of the site;
- f. A GIS shapefile or similar exhibit depicting the location and extent of the mitigation bank

In addition, the Wetland Mitigation Site Plan shall include at a minimum,:

- a. Water budget for a typical, wet, and dry year that includes, on a monthly basis:

- (1) Inputs
  - (a) Precipitation
  - (b) Infiltration
  - (c) Surface Flow Runoff
- (2) Outputs
  - (a) Evapotranspiration
  - (b) Exfiltration
  - (c) Spillway Outflow

- e. Vegetation plan depicting or listing expected zonation (i.e., POWZ, PEM, PS/S, and PFO). The habitat design goal will be to maximize the Restoration of \_\_\_\_\_ aquatic resource areas.
- f. Vegetation schedule with plants and seeds selected based on habitat value and projected water elevation and duration. Said schedule shall include:
  - (1) Species;
  - (2) Wetland indicator status as specified in the current version of the *National List of Plant Species That Occur in Wetlands: Northeast (Region 1)*
  - (3) Plant size and spacing; and
  - (4) Wildlife value assessment.

Understory vegetation shall primarily comprise of a herbaceous wetlands seed mix (at least ten (10) native species commonly found in region) to reflect the expected community type during the initial growth years of tree and shrub seedlings.

Tree seedlings and shrubs shall be planted in Restoration areas, and comprised of at least 5 of the following species: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

- g. A surveyed wetland delineation, in accordance with the Corps' 1987 Manual of existing wetlands areas of each phase. A GPS survey is sufficient.
- h. A credit analysis based on the Mitigation Site Plan for the subject phase, utilizing the methodology described in Exhibit D Section II of this Agreement, to estimate the expected number of Credits that will be created by the plan.

The Stream Mitigation Site Plan shall also include, at a minimum:



1. The proposed stream segment restoration locations, including plan view and cross-section sketches;
2. A description of the existing watershed, valley, and channel classification, and the estimated proposed land use for that watershed (percent residential, forested, commercial, agricultural, etc.);
3. A description of the existing riparian buffer (mature forested, shrub, and herbaceous strata present, utility easements, understory mowed, actively cropped, etc.);
4. The goals and objectives of the mitigation, and how will the mitigation plan meet those goals and objectives;
5. Phase of channel evolution;
6. Hydraulic assessment including, but not limited to, a quantification of flood stage, stream velocity, sheer stress, and stream power;
7. The stream deficiencies to be addressed. Describe the causes of instability and the methods used to make determination Describe existing lateral and vertical stability; Describe planned channel types;
8. The proposed restoration measures and methods (form, process, combination) to be employed, including channel measurements (bankfull elevation, cross-sectional area, slope, etc), proposed design flows, and types of instream structures;
9. Plan-view location of proposed riparian buffer restoration, reestablishment, enhancement, and preservation segments;
10. Design plan view, typical cross-sections, and typical instream structures;
11. All reference stream data;
12. Describe any project constraints;
13. Plan-view location of proposed riparian buffer restoration, reestablishment, enhancement, and preservation segments. Vegetation schedule with plants and seeds selected based on habitat, water quality, and stream stability value. Said schedule shall include: (1) Species; (2) Plant size and spacing; and (3)Wildlife value assessment;
14. Completed USM Forms 1, 3, & 4.

C Monitoring

*(Detail the specific monitoring activities used to satisfy Success Criteria identified in Section IV E of the MBI, including methodology for monitoring soil, vegetation, and hydrology criteria such as numbers of monitoring wells, placement of stream gauges, plant sampling strategies, etc.)*

D Maintenance Activities

*(Include likely maintenance activities such as posting of Property limit, maintenance of fences, water control structures, access roads, plantings, mowing, or the use of approved herbicides)*

**Exhibit E**  
**Virginia Off-site Mitigation Location Guidelines Checklist**

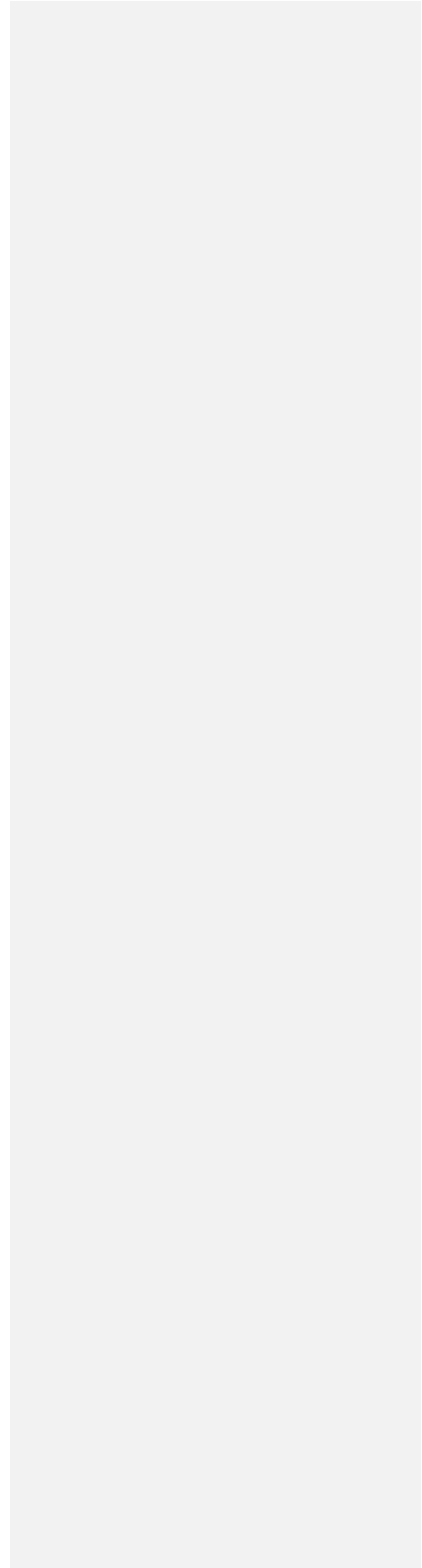
- A. General regulatory requirements and practices:
- Project within same 8 digit HUC as impact: Yes \_\_\_ No \_\_\_
- Project within same physiographic province as impact:  
 Yes \_\_\_ No \_\_\_
- Project within an adjoining HUC in same river basin Yes \_\_\_ No \_\_\_
- Project outside of this area Yes \_\_\_ No \_\_\_  
 (If "Yes" then provide documentation that no suitable sites are available in area)
- Mitigation is in-kind: Yes \_\_\_ No \_\_\_
- B. Evaluate & Document whether project meets the following criteria
1. Wetland restoration: Yes \_\_\_ No \_\_\_  
 Wetland creation: Yes \_\_\_ No \_\_\_
  2. Stream restoration/enhancement: Yes \_\_\_ No \_\_\_  
 Stream Preservation: Yes \_\_\_ No \_\_\_  
 If stream preservation is proposed, is the preservation area exemplary  
 and/or under threat?  
 Yes \_\_\_ No \_\_\_
  3. Mitigation sites contiguous or connected to other aquatic areas  
 Yes \_\_\_ No \_\_\_
  4. Current, planned, or foreseeable activities upstream or upgradient of project  
 that may adversely affect mitigation project:  
 Yes \_\_\_ No \_\_\_ Uncertain \_\_\_  
  
 Is there an existing or proposed development upstream of, upslope of, or  
 adjacent to the mitigation project? Yes \_\_\_ No \_\_\_ Uncertain \_\_\_  
  
 Are there areas upstream of, upslope of, or adjacent to the mitigation  
 project that are zoned or identified for future development in the  
 comprehensive plan, long-range plan, or zoning overlay?  
 Yes \_\_\_ No \_\_\_
  5. Does proposed riparian buffer protection provide greater protection than  
 state or local requirements? Yes \_\_\_ No \_\_\_  
  
 Is proposed riparian buffer a minimum of 100 feet wide on each side of the  
 channel? Yes \_\_\_ No \_\_\_
  6. Are there any easements, liens, rights of way, reserved timber or mineral  
 rights on project site or adjoining lands? Yes \_\_\_ No \_\_\_  
 If Yes, describe \_\_\_\_\_

7. Is mitigation site consistent with local planning requirements?  
Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
8. Describe order(s) of streams on project site \_\_\_\_\_
9. Is recordation of a third party conservation easement proposed for the project? Yes \_\_\_ No \_\_\_ If No, please explain \_\_\_\_\_

C. Does the project satisfy one or more of the following criteria? If the answer is “Yes” then describe.

1. Does it abut or adjoin an existing reserve or conservation area or create or contribute to a corridor linking existing reserves, conservation areas, or large aquatic systems?  
Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
2. Conserve or restore habitat for one or more state or federal-listed species, including critical habitat or Threatened/Endangered Species Waters? Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
3. Conserve or restore habitat for species identified as rare by DCR- Division of Natural Heritage or Species of Greatest Conservation Need in the Virginia Wildlife Action Plan?  
Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
4. Conserve or restore aquatic resources or buffers areas identified by DCR- Division of Natural Heritage as rare or imperiled natural communities?  
Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
5. Contribute to improved water quality for identified/designated impaired waters? Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
6. Remove barriers to fish passage in areas identified by VDGIF as meriting improvement? Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
7. Restore, enhance, preserve aquatic resources and/or riparian areas identified as meriting conservation in an approved watershed management plan or conservation plan?  
Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
8. Conserve/restore the entire watershed upstream of the project site?  
Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
9. Remediate inputs of substantial amounts of sediments or remove other pollutants to downstream waters?  
Yes \_\_\_ No \_\_\_ Describe \_\_\_\_\_
10. Conserve or restore areas designated by VDGIF as wild trout streams or Anadromous Fish Use Areas?

Yes \_\_\_\_ No \_\_\_\_ Describe \_\_\_\_\_



**Exhibit F**  
**Financial Assurances to Secure the Initial Release of Credits**

*Exhibit F is the approved financial assurance mechanism used to secure the initial release of credit. That could include a performance bond, letter of credit, executed escrow agreement, insurance policy or other financial assurance with proof of funding.*

**Exhibits G, H, and I**  
**Escrow Agreements**

THIS ESCROW AGREEMENT ("Escrow Agreement") is made and entered into as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and among \_\_\_\_\_, a Virginia limited liability Corporation ("Sponsor"), and \_\_\_\_\_ (Escrow Agent) specifically described herein, and governs distribution of escrow funds associated with the \_\_\_\_\_ Mitigation Banking Instrument as described below:

**STATEMENT OF PURPOSE**

Sponsor has entered into the \_\_\_\_\_ Wetland Mitigation Banking Instrument ("MBI") with the \_\_\_\_\_ Interagency Review Team (IRT), which consists of the U.S. Army Corps of Engineers, Norfolk District (the "Corps"); the Environmental Protection Agency ("EPA"); the U.S. Fish and Wildlife Service ("USFWS"); the Virginia Department of Environmental Quality ("DEQ"), the Virginia Department of Game and Inland Fisheries ("VDGIF"), the Virginia Department of Conservation and Recreation ("VDCR"), the Virginia Marine Resources Commission ("VMRC") and the Virginia Department of Forestry ("VDOF"), represented by its Chair, the Corps, dated as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ and such MBI consists of approximately \_\_\_\_\_ acres of land located in \_\_\_\_\_ County, Virginia, as more particularly described in the MBI (the "Property" or "the Bank" or "the Site"). The Sponsor desires to have the Escrow Agent hold certain funds in escrow and distribute said funds as required under the MBI and pursuant to the terms of this Escrow Agreement.

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. **Appointment.** The Sponsor hereby appoints \_\_\_\_\_ [preferably a law firm or title company or other entity approved by the IRT] as Escrow Agent hereunder, and by its execution thereof, \_\_\_\_\_ agrees to accept such appointment.
2. **Mitigation Sale Proceeds.** Sponsor shall cause all funds from any Mitigation Sale Proceeds relating to the Property to be delivered and deposited in escrow with the Escrow Agent as required by Section IV.D. of the MBI. The Escrow Agent agrees to immediately deposit said funds in an escrow account at a federally insured depository institution, and to hold and disburse said funds, and any interest earned thereon (together the "Mitigation Sales Proceeds") only and specifically as hereinafter provided.
3. **Notification of Receipt of Mitigation Sale Proceeds.** Upon receipt of any

funds referred to herein, Escrow Agent shall provide written confirmation to the Sponsor of receipt of such funds. The Sponsor shall forward copies of this confirmation to the following organizations:

---

Corps of Engineers

4. Release of Funds. The Escrow Agent may only disburse funds in accordance with a written and signed request of the Sponsor or the Long-Term Steward (if applicable), and the IRT.

5. Request for Release of Funds. The Sponsor, the IRT, and/or the Long-Term Steward (if one has been designated) shall only request that Escrow Agent disburse said funds in accordance with the criteria established in Sections IV.D., IV. E., and VI. F, H, I, and J. of the MBI and shall only make requests in writing. A copy of each request for disbursement shall be simultaneously sent by the Sponsor, IRT, or Long-Term Steward to:

Upon receiving written approval from the IRT Chair for the requested disbursement, the Escrow Agent shall release said funds requested by the Sponsor, the IRT, or the Long-Term Steward (If one has been designated) within five (5) days of receiving said approval.

6 Instructions. Escrow Agent is instructed and directed by the parties to comply with Section IV.D and E and Section VI. F, H, I, and J. of the MBI and by its execution hereof agrees to comply with all sections of the MBI that are applicable and particularly Section IV.D and E and Section VI. F, H, I, and J of the MBI.

6. Duties of Escrow Agent/Exculpation. The Sponsor agrees that in performing any of its duties under this Agreement that Escrow Agent shall not be liable to the Sponsor for any loss, costs or damage that may incur as a result of its service as Escrow Agent hereunder, except for any loss costs or damage arising out of its willful default or negligence. Accordingly, as between the Sponsor and the Escrow Agent, the Escrow Agent shall not incur any liability with respect to (a) any action taken or admitted to be taken in good faith upon advice of its counsel given with respect to any questions relating to its duties and responsibilities, or (b) to any action taken or admitted to be taken in reliance upon any document, including any written notice of instruction provided for in this Escrow Agreement, not only as to its due execution and validity and effectiveness of its provisions, but also as to the truth and accuracy of any information contained therein, which Escrow Agent in good faith believes to be genuine, believes to have been signed or presented by a proper person or persons and, in good faith believes to conform with the provisions of this Escrow Agreement. All requests for disbursement requires written approval by the IRT, so disbursements made without such approval are by definition willful or negligent and cannot provide exculpation to the Escrow Agent. Note that this Agreement does not affect Sponsor's responsibility, obligation and liability under the MBI.



7. Indemnification. The Sponsor hereby agrees to indemnify and hold harmless the Escrow Agent and any and all of its partners acting hereunder, against any and all losses, claims, damages, liabilities and expenses, including, without limitation, reasonable attorneys' fees and disbursements, which may be imposed upon or incurred by Escrow Agent in connection with its service as Escrow Agent, unless such losses, claims, damages, liabilities and expenses are the result of Escrow Agent's willful default or negligence.

8. Disputes. In an event of dispute between the Sponsor and the IRT, the Escrow Agent shall comply with the IRT, and the Sponsor agrees to defer to the IRT. With regard to disputes not involving the IRT, where circumstances warrant, in the Escrow Agent's discretion, Escrow Agent shall be entitled to tender unto the registry or custody of any court of competent jurisdiction all money or Property held by it under the terms of this Escrow Agreement, together with such legal pleadings as it deems appropriate and immediately thereupon it should be discharged from all duties and responsibilities hereunder.

9. Revocation, Modification/Termination. In accordance with regulations at 33 CFR 332.3(n)(5), the Escrow Agent shall provide notice to the IRT through the Chair(s) at least 120 days in advance of any planned termination or revocation of financial assurances. Revocation or termination of financial assurances is subject to approval by the IRT.

IN WITNESS WHEREOF, the undersigned have caused this instrument to be duly executed and sealed as of the day and year first above written.

By: \_\_\_\_\_  
XXXXXX

AND BY: \_\_\_\_\_  
XXXXXXXX

**Exhibit J**

*The restrictive covenant should mirror the acceptable land uses contained in the MBI as well as providing for support activities and the ability to modify the covenant with the approval of the IRT. One example is attached:*

## DECLARATION OF RESTRICTIONS

OF

\_\_\_\_\_  
(Owner)

\_\_\_\_\_, VIRGINIA

THIS DECLARATION OF RESTRICTIVE COVENANTS is made this \_\_\_\_ day of \_\_\_\_\_, 2003, by \_\_\_\_\_, Owner.

WHEREAS, (\_\_\_\_\_) is the owner of the Property or the Property interests more fully described on Exhibit A attached hereto (the "Property"); it being the same Property or Property interests conveyed to \_\_\_\_\_, by deed from \_\_\_\_\_, dated \_\_\_\_\_, and duly recorded in the Clerk's Office of the \_\_\_\_\_ of \_\_\_\_\_ in Deed Book \_\_\_\_, at page \_\_\_\_).

WHEREAS, (\_\_\_\_\_) entered into a mitigation banking instrument (the "MBI") between: the \_\_\_\_\_ (the "Bank" or the "Bank Sponsor") and the Interagency Review Team (the "IRT") which consists of the U.S. Army Corps of Engineers, Norfolk District (the "Corps"); the Environmental Protection Agency ("EPA"); the U.S. Fish and Wildlife Service ("USFWS"); the Virginia Department of Environmental Quality ("DEQ"), the Virginia Department of Game and Inland Fisheries ("VDGIF"), the Virginia Marine Resources Commission ("VMRC") and the Virginia Institute of Marine Sciences ("VIMS"); dated \_\_\_\_\_, 20\_\_; and

WHEREAS, \_\_\_\_\_ the MBI requires that this Declaration of Restrictive Covenants (the "Declaration") be executed and recorded; and

WHEREAS, \_\_\_\_\_ desires to comply with the conditions of the MBI by imposing this Declaration on the Property; and

WHEREAS, the Property may contain land, functions, values and services that serve as compensation and mitigation for impacts to state waters and Waters of the U.S. that were permitted by the U.S. Department of the Army Corps of Engineers ("Corps") and/or the Department of Environmental Quality ("DEQ"); and

WHEREAS, on account of the fact that the Property may serve as compensation for such above-referenced impacts, the Corps and the DEQ are third-party beneficiaries under this Declaration of Restrictive Covenants; and

WHEREAS, (\_\_\_\_\_) desires to impose, freely and voluntarily, restrictive covenants on portions of the Property as shown on Exhibit B and as described as \_\_\_\_\_

Bank in perpetuity.

NOW THEREFORE THIS DECLARATION WITNESSETH: (\_\_\_\_\_) does hereby declare, covenant and agree, for itself and its successors and assigns, that said Property described as \_\_\_\_\_ shown on Exhibit B shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding in perpetuity and forever on all parties and persons claiming under them.

**Covenants and Restrictions.**

The Property described as \_\_\_\_\_ shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by prohibiting the following activities:

1. Destruction or alteration of the area shown on Exhibit B EXCEPT:
  - (a) alteration necessary to construct the Mitigation areas and associated improvements, such as dams, outlet structures and spillways, nature trails, and interpretive stations, proposed to be built by \_\_\_\_\_, or its successors, and/or assigns, for the “\_\_\_\_\_ Bank” as approved in the Mitigation Banking Instrument;
  - (b) alteration necessary to ensure the success of the \_\_\_\_\_ Bank including monitoring, reconstruction or maintenance of the constructed Mitigation areas, as approved by the IRT;
  - (c) with approval of the IRT, alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts (spaced in a manner so that neither the posts nor the fence itself prevents the natural movement of water), fish ladders, and, ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, water control weirs or interpretive stations, or other structures approved by the IRT, provided that
    - (i) any such structures permit, and do not impede, the natural movement of water, and
    - (ii) such facilities are constructed and maintained in accordance with all applicable federal and state laws;
  - (d) addition of signs constructed in public right of ways by or on behalf of the Virginia Department of Transportation or other governmental agencies;
  - (e) removal of vegetation (where not precluded by federal or state law) when approved by the IRT and conducted for
    - (i) removal of noxious or invasive plants or
    - (ii) public safety purposes
  - (f) planting of native species of wetlands plants by hand for aesthetic landscaping or screening purposes and where not prohibited by the MBI; and
  - (g) alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills including but not limited to buildings, building pads, and mobile homes, other than those, which currently exist.

3. Ditching, draining, diking, damming, filling, excavating, grading, plowing, flooding/ponding, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior written approval by the IRT) other than any authorized under the MBI;
4. Permitting livestock to graze, inhabit or otherwise enter the Preservation area.  
**(Delete if not appropriate)**
5. Harvesting, cutting, logging, and pruning of trees and plants, or using fertilizers and spraying with biocides other than what is authorized by the Banking Instrument (except as may be necessary on a case-by-case basis with prior approval by the IRT);
6. Utilizing a non-reporting Nationwide Permit or State Program General Permit under Section 404 of the Clean Water Act or state general permits under VWPP regulations to impact any Water of the U. S., or any State Waters on the Property. Notification shall be required for the use of any Nationwide Permit, State Program General Permit, Regional Permit, or state general permit under VWPP regulations.
7. Further subdividing the area shown on Exhibit B.

**Amendment**

This Declaration and the covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the IRT. The Owner or its successor may apply to the IRT for vacation or modification of this declaration; however, after recording, these restrictive covenants may only be amended or vacated by a recorded document signed by the signatory members of the IRT and the Owner or its successor in interest.

The Corps and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this (document) or of any action to extinguish, void or modify this (document) in whole or in part. This (document) is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the property.

**Compliance Inspections and Enforcement**

The IRT, and its authorized agents and the designated Long-Term Steward of the Mitigation Bank shall have the right to enter and go on the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the IRT, including the Corps or DEQ or citizens. Failure by any agency (or owner) to enforce any covenant or restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

**Provision**

Should an easement, right or lease on or to the property not shown on the survey or listed in Exhibit A and prior in time and recording to this (document), or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the property set out in this (document), then the Bank Sponsor of the Bank shall be responsible for providing alternative conservation mitigation in such amounts and of such service and function as the Corps, DEQ, IRT or any enforcer of this (document) shall determine in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

**Eminent Domain**

If the Property is taken in whole or in part through eminent domain, the proportionate value of the Property that represents the functions and values provided in the MBI, belongs to the Bank, and the Sponsor is obligated by the terms of the MBI to use those proceeds to procure and replacement functions and values in accordance with the terms of the MBI. Any valuation of the Property should include consideration of the values and functions of the Bank, with particular regard to the cost of providing or obtaining replacement functions and values from other mitigation banks in the same watershed.

**Litigation in Court:**

In any state court action, Corps reserves the right to be represented by the U.S. Department of Justice and/or to remove a legal action affecting jurisdictional waters of the U.S. to the United States Federal District Court in the district where the land lies.

**Separability Provision**

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

**Consent of Lender and Trustee (if applicable)**

Owner is the maker of a note dated \_\_\_\_\_, secured by, among other things, a deed of trust dated \_\_\_\_\_, from Owner to \_\_\_\_\_, as trustee, recorded in the Clerk's office at Deed Book \_\_\_\_\_, Page \_\_\_\_\_. For the benefit of \_\_\_\_\_ Bank (the "Deed of Trust"), \_\_\_\_\_, trustee joins herein for the sole purpose of subordinating the lien, dignity and priority of the Deed of Trust to these restrictive covenants. \_\_\_\_\_ Bank joins herein for the sole purpose of consenting to trustee's action.

WITNESS the following signature the day and year first above written.

[ \_\_\_\_\_ ]  
BY: Its General Partner

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

BY: Owner(s) of the land

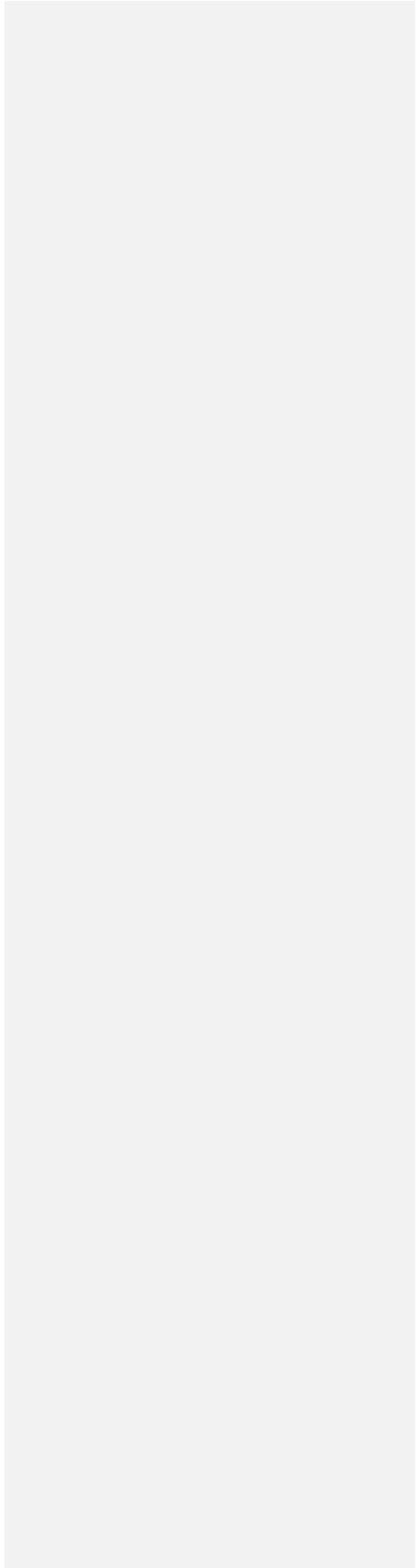
BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

BY: Owner(s) of Bank Property Interests

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_



Commonwealth of Virginia, City of \_\_\_\_\_, to wit:

I, \_\_\_\_\_, a notary public for the state and city aforesaid, do certify that [Name] [ Title] whose name was signed on \_\_\_\_\_, 20\_\_ in his capacity on that date to the foregoing document has acknowledged said document and signature before me in the city aforesaid.

Given under my hand and notarial seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_.

\_\_\_\_\_

Bank

\_\_\_\_\_

Trustee.

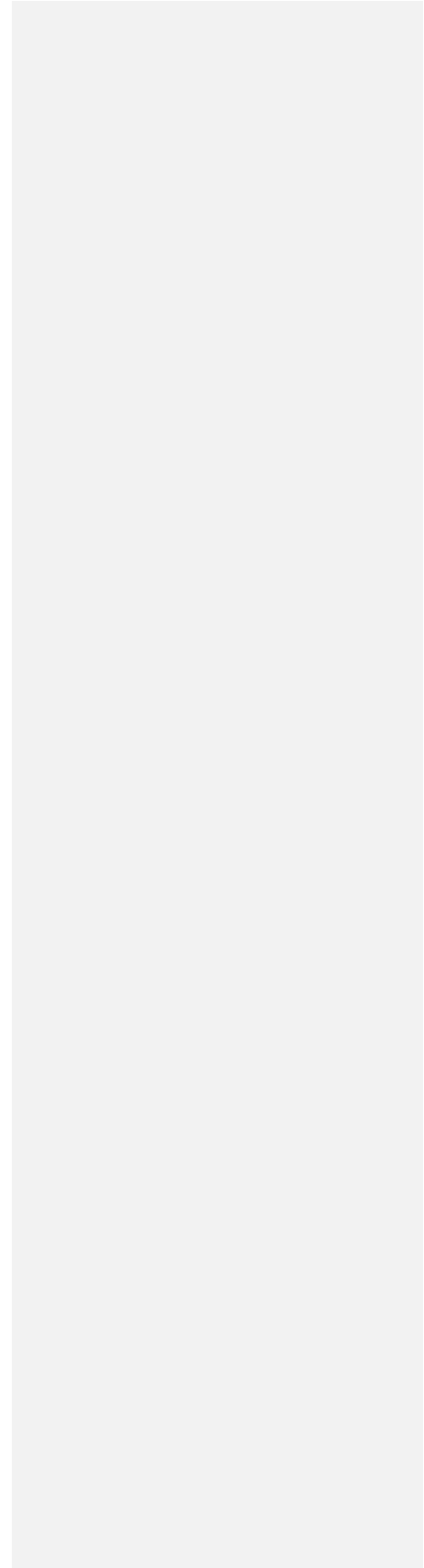
Exhibit A

Legal description of Property.

Exhibit B

Plat Map and /or Legal description of preserved area. If Plat is oversized and will be recorded separately, Exhibit B should contain a description that includes the reference to the Plat Book and Page number where the plat is recorded.

**Exhibit K**  
**Service Area Map**





**Exhibit L**  
**Crediting and Debiting Procedure for the Bank**

I. Impact Debit Values

The U.S. Army Corps of Engineers (“Corps”) and the Virginia Department of Environmental Quality (“DEQ”) shall determine the appropriate and specific number of Mitigation Credits necessary to be Debited against the Bank to achieve no net loss of Functions and values during the permit process based upon their use of methods determined to be appropriate by said agencies, of the impact areas and the status of this Bank

II. Mitigation Credit Creation

A. Pre- Construction

Mitigation Credits shall be created by development of a Mitigation area in substantial conformance with the Mitigation Site Plan described in Exhibit C (BDP) of the Banking Instrument. The number of Credits created by this Mitigation Bank shall initially be based upon the Mitigation Site Plan.

Stream credits are derived using the USM or current stream assessment and credit methodology. Credits may then be adjusted by the IRT if as-built conditions differ substantially from the areas projected in the Mitigation Site Plan projections as determined by the IRT acting through the IRT Chair(s). Adjustments may include changes in the number of available Credits, credit composition, or minimum credit ratios associated with use of the Bank. Each acre of land area within the Property described in Exhibit B shall be designated by the Mitigation Site Plan as to which types of land forms, as classified by the Cowardin System, shall be restored or created by grading and/or water impoundment. The number of Credits created by this plan shall be based on community or cover type and the use of the Unified Stream Methodology.

The exact number of Credits created is determined by the Mitigation Site Plan and adjusted based upon final as-built conditions. The number of Credits is estimated to be: \_\_\_\_\_ wetland credits and \_\_\_\_\_ stream credits.

The IRT agrees that if a conservation easement approved by the IRT is recorded over the property with a Long-Term Steward approved by the IRT named as easement holder, credit composition will be revised so that 5% less land area is required to generate a mitigation credit than would be required under a restrictive covenant. *The conservation organization must meet the following criteria:*

- *May hold easements which are perpetual in duration in accordance with the Virginia Conservation Easement Act (has had a principal office in the Commonwealth of Virginia for at least five years,*
- *Is a charitable corporation exempt from taxation pursuant to 26USCA 501 (c)(3), and a “qualified organization” and an “eligible donee” under Section 170(h)(3) of the internal*

*Revenue Code and Treasury Regulation §1.170A-14(c)(1), whose purposes include those specified in the Virginia Conservation Easement Act, and has had a principal office in the Commonwealth of Virginia for at least five years,*

Any proposed changes in credit composition must be proposed in the MBI. A copy of the recorded document shall be provided to the Corps within 30 days of recordation.

B. Post-Construction

During or after the fifth growing season, the Chair(s), acting in consultation with the IRT, may assess the Functions and values of this ecological system (or when requested to do so by the Bank Sponsor). The IRT may issue a written determination to the Bank Sponsor that due to the demonstration of successful performance, the number of Credits attributable to this Mitigation Bank may be modified to reflect the Functions and values provided.

C. Open Water

Any created Open Water areas shall be accounted for separately from the Credits available at the \_\_\_\_\_ Bank. When an impact in the service area of the Bank to Open Water occurs, DEQ and/or the Corps may allow a permittee to purchase a portion of any open water on the Mitigation Bank site as off-site Mitigation for said impact permitted under permits issued under the Clean Water Act and/or Virginia Water Protection Permit.

III. Accounting Procedures

A. The Bank Sponsor shall comply with the accounting procedures described in Section VI D. of the Banking Instrument and the quantitative assessment of Credits and Debits for permitted impacts as described herein.

B. In no event shall the cumulative total area of impacts to wetlands permitted to use Credits from the Mitigation Bank exceed the total area of wetlands created by this Mitigation Bank.

C. If the Mitigation Bank is constructed in Phases, the accounting of Credits shall duly reflect this phasing of work.

**WETLAND MITIGATION CREDIT CALCULATOR WITH PROPOSED RATIOS & CREDITS\*\***

Proposed mitigation activity	Acres	Ratio	Proposed Credit
<b>Wetland Restoration</b>		1 : 1	
<b>Wetland Creation</b>		1 : 1	
<b>Wetland Enhancement</b> - Upper range (e.g. hyd & veg enhancement with high increase in function)		3 : 1	
<b>Wetland Enhancement</b> - Lower range (e.g. control invasives or activities partially addressing function)		9 : 1	
<b>Wetland Preservation</b> (can be adjusted higher or lower depending upon condition or function of wetland)		10 : 1	
<b>Upland Buffer Restoration</b> - Upper range (restoration likely to succeed and increases wetland protection or function)		15 : 1	
<b>Upland Buffer Preservation/Enhancement</b> (can be adjusted higher or lower depending upon condition or function)		20 : 1	
<b>Upland Buffer Preservation/Enhancement</b> - Lower range (condition or control of watershed is poor)		40 : 1	
<b>Other - add intermediate values here</b>			
<b>5% Conservation Easement</b>			
<b>Sum</b>			
<b>Percent of credits involving restoration or creation and directly addressing NNL</b>			

\*For the Enhancement or Upland categories there are ranges based upon what is proposed and how it is related to improving or protecting wetland function. This table contains the general limits of the ranges; however intermediate values may be proposed based upon the specific project.

\*\* Acreage and credits are subject to change based on the results of the as-built report, boundary surveys, delineations, and monitoring reports

**STREAM MITIGATION CREDIT COMPOSITION \*\***

<b>Proposed mitigation activity</b>	<b>Linear Feet/Acres</b>	<b>Proposed Credit</b>
Stream Restoration (LF)		
Stream Enhancement with Instream Structures (LF)		
Stream Enhancement (LF)		
Riparian Areas – Preservation (LF or Ac)		
Riparian Areas – Planting/Re-Establishment (Ac)		
Adjustment Factors (LF)		
Other - add intermediate values here		
5% Conservation Easement		
<b>Sum</b>		
Percent of credits involving preservation only		

\*\* Linear feet and credits are subject to change based on the results of the as-built report, boundary surveys, delineations, and monitoring reports

**Exhibit M**  
Success Criteria for the Mitigation Bank Site

The IRT will use best professional judgment, visual observations and monitoring reports to evaluate attainment of success criteria and in determining whether part or of the entire bank site is successful or whether corrective actions are warranted. Success will be determined on a plot, well, field, or cell basis. Presenting averages or means of plot data across a bank site is not satisfactory to demonstrate success. Any means or averages of plot data must apply to distinctly homogenous areas, with sampling conducted on a stratified random basis and sampling intensity shall be sufficient to calculate means and the coefficient of variation. The following criteria will be used to assess project success:

1. Submittal of required documentation, including monitoring reports, semi-annual Ledgers (See Exhibit J) , as-built drawings, proof of escrow deposits and withdrawals in accordance with Section VI. C, D, and E
2. In Preservation Areas, including Buffer areas,
  - a. Proof of recordation of the restrictive covenant
  - b. The final monitoring report (Year 10) shall document that all preserved areas, including Buffers are intact in their approved condition
  - c. No more than 5% aerial cover over the entire preservation area and/or individual areas no larger than ¼ acre in size beyond that identified in the baseline evaluation of the preservation areas may be made up by invasive species such as *Typha latifolia*, *Phragmites australis*, *Lonicera japonica*, *Pueraria lobata*, or *Ailanthus altissima*. Any deviation from this standard must be agreed upon by the IRT acting through the Chair(s) prior to approval of the MBI and mitigation plan. *Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at [http://www.dcr.virginia.gov/natural\\_heritage/documents/invlist.pdf](http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf)*

*Stream buffer preservation areas are those portions of the stream buffer in which no work, including but not limited to disturbance, grading, clearing, or planting is conducted.*

3. In all restoration, creation, and enhancement Buffer areas,
  - a. A minimum of 400 woody stems of native trees and shrubs per acre (including volunteers) from the top of the stream bank landward and/or within the wetland shall be achieved by the end of the first growing season following planting and maintained each monitoring year until canopy coverage is 30%. Canopy coverage shall be at least 30% each monitoring year thereafter. *(The number of woody stems per acre may vary under certain circumstances. For example, if invasive species need to be controlled upon implementation of the project, then a lower density may be appropriate in order to mow and/or spray).*

- b. Native non-invasive herbaceous plant coverage shall be at least 60% by the end of the first growing season, and at least 80% each monitoring year thereafter. Any seeds used for plant establishment should conform to the Virginia Seed Law (Sections 3.1-262 Code of Virginia) and Virginia Seed Regulations (2 VAC 5-290-10 et seq) and shall be free of tall fescue, Bermuda grass, and other allelopathic turf grass species, as well as plant species on the Virginia Department of Conservation and Recreation's Invasive Alien Plant List.
  - c. No more than 5% aerial cover per 500 linear foot stream segment, and/or buffer cell, field, or block may be made up by invasive species such as *Typha latifolia*, *Phragmites australis*, *Lonicera japonica*, *Pueraria lobata*, or *Ailanthus altissima*. Any deviation from this standard must be agreed upon by the IRT acting through the Chair(s) prior to approval of the MBI and mitigation plan. *Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at [http://www.dcr.virginia.gov/natural\\_heritage/documents/invlist.pdf](http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf)*
  - d. The Year 5 and the final monitoring report (typically Year 10) shall contain documentation by cell, field, or block that demonstrates that all vegetation within the buffer area is healthy and thriving and the average tree height of all surviving trees within sample plots are at least 5 feet in height.
4. In vegetated wetland Restoration/Creation areas success shall be evaluated by each cell, field, or block:
- (a) Wetland hydrology, defined as saturation of the major part of the root zone (in the upper 12 inches of the soil profile) or ponding upon the soil surface for at least twelve and one-half percent (12.5%) of the growing season measured in consecutive days must be achieved (for the purpose of this determination, the growing season is defined as the period in which temperatures are expected to be above 28°F in 5 out of 10 years). This is the period between \_\_\_\_ and \_\_\_\_ in \_\_\_\_ County/City; or the period during which the soil temperature in a wetlands in \_\_\_\_ County/City is greater than biological zero (5°C) at a depth of 50 cm (19.7 inches) if such data is available), and  
  
*A hydroperiod consisting of saturation of the major part of the root zone (the upper 12 inches of the soil profile) or ponding upon the soil surface for between five percent (5%) and twelve and one-half percent (12.5%) measured in consecutive days may have wetland hydrology, but strong corroborative evidence would be required (such as positive tests with  $\alpha, \alpha$ , diperydyl, algal mats, common occurrence of oxidized rhizospheres within 12 inches of the soil surface, and blackened leaves.).*
  - (b) Wetland vegetation dominance, defined as a vegetation community where more than 50% of all dominant species are facultative ("FAC") or wetter using "routine delineation methods" as described in the "Corps of Engineers Wetland Delineation Method," Technical Report 87-1 ("1987 Manual") (or insert reference to any approved

*Regional Supplements as they become available prior to MBI approval*) must be achieved; and

(c) Native plant density in forested and shrub/scrub wetland areas of at least 400 living woody stems per acre with an indicator of FAC or wetter shall be maintained through the end of the monitoring period or until canopy coverage of woody species is greater than 30%, whichever comes first. Stem counts shall include all established stems (both planted and volunteer individuals).

For areas within a bank in which establishment of hard or soft mast is desirable, at least 150 living stems per acre of those mast species must be achieved by the end of the first growing season following planting and maintained through the end of the third growing season following planting.

Once canopy cover exceeds 30% in any field, cell, or block area met, woody species counts in those areas may be halted;

*(d) No more than 5% aerial cover and/or areas larger than 1/4 acre in size dominated by invasive species such as Typha latifolia or Phragmites australis may be present in each cell, field, or block. Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at [http://www.dcr.virginia.gov/natural\\_heritage/documents/invlist.pdf](http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf); and*

(d) Native non-invasive herbaceous plant coverage shall be at least 60% by the end of the first growing season, and at least 80% each monitoring year thereafter. Any seeds used for plant establishment should conform to the Virginia Seed Law (Sections 3.1-262 Code of Virginia) and Virginia Seed Regulations (2 VAC 5-290-10 et seq) and shall be free of tall fescue, Bermuda grass, and other allelopathic turf grass species, as well as plant species on the Virginia Department of Conservation and Recreation's Invasive Alien Plant List.

(e) Native plant coverage in emergent wetland areas of at least \_\_\_% must be achieved by the end of the first growing season, \_\_\_% must be achieved by the end of the second growing season, and \_\_\_% must be achieved by the end of the third growing season and maintained through the end of the monitoring period.

(f) Plant coverage in floating aquatic areas of at least \_\_\_% must be achieved during a portion (July and August) of the first growing season, \_\_\_% must be achieved during a portion of the second growing season, and \_\_\_% must be achieved during a portion of the third growing season and maintained during a portion of each subsequent growing season (i.e., these plants do not persist in colder periods of the growing season, thus this requirement only pertains to the middle portion of the growing season).

(g). Until canopy coverage exceeds 30%, the average height of all woody stems of tree species including volunteers in each cell, field, or block must increase by not less than an average of 10% per year by the fifth (Year 5 following construction) and tenth (Year 10 following construction) monitoring years. As an alternative standard, the fifth year monitoring report (Year 5) and tenth year (Year 10) shall contain documentation that all vegetation within the buffer areas is healthy and thriving and the average tree height of all established and surviving trees is at least 5 feet in height.

(h) *Soil Success Criteria shall be evaluated for wetland Creation areas located on non-hydric soils. In that event, the following success criteria shall be followed:*

- (1) For coarse textured (sandy) surface soils, positive indicators of hydric soil formation must be demonstrated within 6 inches of the soil surface. Groundwater monitoring may be used as a positive indicator for all monitoring years after reaching the final grade, in which case, wells must demonstrate free water within 6 inches of the surface for 15 consecutive days during the growing season.
- (2) For fine textured soils (silts, clays, loams), positive indicators of hydric soil formation must be demonstrated within 12 inches of the soil surface. Groundwater monitoring may be used as a positive indicator for all monitoring years after reaching the final grade, in which case, wells must demonstrate free water within 12 inches of the surface for 15 consecutive days during the growing season.
- (3) Positive indicators of hydric soil formation may include redoximorphic features including, but not limited to redox concentrations, redox depletions, reduced matrices, positive tests with  $\alpha, \alpha$ , diperydyl, or other field indicators contained in the Field Indicators of Hydric Soils of the U.S.
- (4) A complete soil morphologic description shall be documented pre and post construction and at the 3<sup>rd</sup>, 7<sup>th</sup>, and 10<sup>th</sup> year following construction to document changes in overall soil morphology, particularly the development of redoximorphic features over time (such as a reduction in matrix chroma or development of redox depletions), to demonstrate that soils at the site are progressing towards hydric soil conditions. At a minimum, soil profiles shall be described at a distance of 10 to 30 feet from each well.

#### 5. Stream Success Criteria

*It is important to note that this is not a standard set of Criteria to be placed on all projects. It is a standard set of Criteria to choose from, however, the bank sponsor may propose additional criteria. Criteria should be project-specific based goals and objectives, type of restoration activity, reference data, current stream condition vs. anticipated restored condition, and the stream type being restored or created.*

The overall goal for the stream compensation is to ensure that the dimension, pattern, and profile of the stream enhancement and restoration areas: 1) remain within the natural range of variability present in the reference data obtained for the design; 2) remain stable; 3)



exhibit appropriate habitat diversity; and 4) have healthy viable riparian buffers. In addition, restoring appropriate biological diversity and integrity should be the aim of any project.

The IRT will use best professional judgment, visual observations and monitoring reports to evaluate attainment of success criteria and in determining whether part or the entire bank site is successful or whether corrective actions are warranted.

(a) STREAM PRESERVATION AREAS

For the linear footage of stream in which no instream or bank work is accomplished, but stream preservation is done (regardless of riparian area activities) (as described in Section II), the following success criteria will apply:

Dimension

The analysis of representative riffle cross-sections shall indicate that they have not aggraded, degraded, widened, or narrowed to the point where they have become unstable or will cause instability. The following measurements will be used to aid in making this determination each monitoring year:

1. The Width / Depth Ratio Stability Rating (measured Width / Depth Ratio divided by the approved as-built Width / Depth Ratio) shall not be greater than 1.3. If the channel is incising, then the Width / Depth Ratio Stability Rating shall not be less than 0.7.
2. The Bank Height Ratio shall not increase or decrease by an amount greater than 0.2 of the approved as-built Bank Height Ratio.

*Other measurements to consider include cross-sectional (bankfull) area of the channel, floodprone elevation, bankfull elevation, floodprone width, entrenchment ratio, mean depth, bankfull width, and hydraulic radius. It may be useful to consider paired cross-sections of riffles and pools, with at least one pair per reach and stream channel type. Useful depictions include pool width ratio and pool depth ratios.*

(b) STREAM ENHANCEMENT

For the linear footage of stream with stream enhancement activities (as defined in Section II), the following success criteria will apply in addition to those outlined in Section V.E.5.a:

**Stream Reach Stability**

The analysis of the streambank from the top of the bank to the ordinary high water mark shall indicate a significant amount of natural protection to prevent streambank erosion that could jeopardize the stability of the streambank or the stream reach.

The following measurements will be used to aid in making this determination each monitoring year:

1. Where streambank plantings were undertaken: The numbers of live stakes, planted, or volunteer woody species providing bank stabilization from the top of bank to ordinary high water mark shall be at least 1 living stem per 50 square feet per stream edge along the bank by the end of the first growing season following planting and maintained each monitoring year until canopy coverage is 50% for any identified reach. Canopy coverage shall be at least 50% each monitoring year thereafter.
2. Native non-invasive herbaceous plant coverage shall be at least 80% by the end of the first growing season, and at least 80% each monitoring year thereafter, until canopy cover exceeds 30%. Any seeds used for plant establishment should conform to Virginia Seed Law (Sections 3.1-262 Code of Virginia) and Virginia Seed Regulations (2 VAC 5-290-10 et. seq) and shall be free of tall fescue, Bermuda grass, and other allelopathic turf grass species, as well as plant species on the Virginia Department of Conservation and Recreation's Invasive Alien Plant List.
3. The individual Index Values of the Bank Erodibility Hazard Index (BEHI) rating for any identified reach shall be equal to or less than the previous year's Index Value. In addition, the Total Score shall be equal to or less than the previous year's Total Score, and shall have a Total Score of "Moderate" by Monitoring Year 3, and a Total Score of "Low" by Monitoring Year 5, and maintained at "Low" throughout the remainder of the monitoring period.
4. The U.S. Forest Service Stream Reach Inventory and Channel Stability Evaluation (Pfanckuch, 1975) rating shall be "Good" each monitoring year, beginning with Year 2.

#### **Pattern**

The analysis of the plan-view survey or field measurements shall indicate that the stream is not migrating significantly to the point where it will cause significant bank erosion and cause instability.

The following criteria will be used to aid in making this determination each monitoring year:

1. The sinuosity of the stream does not increase or decrease by an amount greater than 0.1 of the approved as-built pattern.
2. The thalweg of each channel cross-section does not move by more than 10% of the width of the approved as-built channel width in any given year.

3. The Radius of Curvature / Bankfull Width Ratio does not increase or decrease by an amount greater than 0.2 of the as-built condition. For instance, if the as-built ratio is 3.0, the acceptable ratio shall be 2.8 to 3.2 remain within the range of variability present in the reference data

#### (c) STREAM ENHANCEMENT WITH STRUCTURES

For the linear footage of stream with stream enhancement with structures activities (as defined in Section II), the following success criteria will apply in addition to those outlined in Sections V.E.5.a and V.E.5.b:

##### Structures

The analysis of each instream structure shall indicate that it is performing its intended function, and not adversely affecting the stream. The following measurements will be used to aid in making this determination each monitoring year:

1. Absence of under cutting, washing around, or erosion of the bank or streambed associated with any instream structure, excluding any minor channel scour within the thalweg immediately downstream of a structure caused by its intended redirection of flow.
2. The invert elevation (controlling elevation) of the header rocks or logs of any vane, j-hook, cross-vane, W-weir, or other structure shall not vary more than 0.2 feet from the approved as-built.

##### Materials (if applicable)

The analysis of the pebble count data shall not show a significant change in streambed materials to the point that indicates a shift in bedload material due to stream instability. The following measurement will be used to aid in making this determination each monitoring year:

The D50 size particle remains within its approved as-built size class (silt, sand, gravel, cobble, or boulder)

#### (d) STREAM RESTORATION

For the linear footage of stream with stream restoration activities (as defined in Section II), the following success criteria will apply in addition to those outlined in Sections V.E.5.a, V.E.5.b, and V.E.5.c:

##### **Profile**

The analysis of the longitudinal profile shall indicate that the bed elevation has neither aggraded nor degraded to the point where it will cause instability.

The following criteria will be used to aid in making this determination each monitoring year:

The analysis of the Longitudinal Profile does not indicate significant alterations in the locations, depths, and slopes of stream features (riffle, run, pool, and glide)

**Materials** (*if not included in Section V.E.5.c*) **in gravel bed streams only**

The analysis of the pebble count data shall not show a significant change in streambed materials to the point that indicates a shift in bedload material due to stream instability.

The D50 size particle shall remain within its approved as-built size class (silt, sand, gravel, cobble, or boulder).

5. At the written request of the Bank Sponsor, the IRT will perform a compliance visit to determine whether all Success Criteria have been satisfied.

**Exhibit N.  
Monitoring  
Requirements**

Timing. Monitoring activities shall occur during the growing season, and at least once during the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup> and 10<sup>th</sup> growing seasons following completion of grading. After Year 3, physical monitoring of stream condition (e.g. Longitudinal profiles, cross-sections, channel Width and Depth) may be conducted outside of the growing season. For stream chemical and biological monitoring, monitoring event shall occur consistently in either spring or fall of each monitoring year. Spring sampling shall be conducted between March 1 and May 31. Fall sampling shall be conducted between September 1 and November 30.

In addition, monitoring shall adhere to the following schedules:

- (a) For any year in which planting was conducted, monitoring of woody vegetation shall take place no earlier than October and at least 6 months following planting;
- (b) Monitoring of vegetation (herbaceous and woody species) shall be conducted during the growing season.
- (c) If all performance criteria have not been met in the 10<sup>th</sup> year, then a monitoring report shall be required for each consecutive year until two sequential annual reports indicate that all criteria have been successfully satisfied.
- (d) Submittal of a final monitoring report (typically prepared the 10<sup>th</sup> growing season following completion of construction activities, including planting) shall be required.

The monitoring program *for upland buffer preservation areas* shall consist of:

Visual Observations: Visual observations shall be provided with each monitoring report through a written discussion of the buffer condition, any significant changes to the buffer, and photographic documentation, as necessary to further describe the buffer condition. Visual observations including name of the observer and date of the observation shall also be noted on the As-Built drawings

The monitoring program *for upland buffer restoration/establishment/reestablishment areas* shall consist of:

1. Visual Description. Visual descriptions shall be provided with each monitoring report by one of the following means: (i) ground level photographs, taken facing north, south, east and west, from stations located adjacent to each vegetation plot [permanent markers shall be established to ensure that the same locations (and view directions) are monitored in each monitoring period], or (ii) one color aerial photograph (8" x 10" or larger) depicting the entire site. An aerial photograph should be taken after site construction (including planting) and again in the 3<sup>rd</sup> and 7<sup>th</sup> year following final grading

2. Vegetation. Sample plots shall be located on a stratified random basis over the site in order to sample all habitat areas of buffer at locations adjacent to each photo location marker. The following *minimum* numbers of samples will be required:

If the buffer area is < 5 acres, then a minimum of 3 plots/acre is necessary

If the buffer area is > 5 acres but less than 20 acres, then a minimum of 2 plots/acre is necessary.

If the buffer area is > 20 acres, then a minimum of 1 plot/acre is necessary

However, all cells, fields, or blocks shall be sampled.

Each plot shall be of a size no less than 400 square feet for woody plants and 3'x3' for herbaceous plants (or circular with approximately the same surface area). Alternative sampling methods (*for instance use of point-line, point frame, or line-intercept sampling techniques; use of species-area curves or sample size analyses to establish numbers of samples, etc.*) may be submitted for IRT review and approval, acting through the Chair(s). The vegetation data shall be collected in each sample plot during the growing season and shall include:

(a) For herbaceous plots, identification of all herbaceous species found in the sampling plot (with corresponding estimate of percent cover, indicator status, native status, planted/volunteer category for each species), and the percent of bare ground and open water.

(b) For woody plots, identification of all live woody species found in the sampling plot (with corresponding indicator status, native status, planted/volunteer category, stem count, extrapolated stems/acre), number of dead stems.

(a) Vegetation species identification by common and scientific name;

(b) Estimates of percentage cover overall, and for each species utilizing the following cover classes:

**Cover class, range and midpoint used in data analysis.**

<b>Descriptio</b>	<b>Range</b>	<b>Midpoint</b>
Cover class 1	1 – 5	2.5
Cover class 2	6 – 25	15
Cover class 3	26 – 50	37.5
Cover class 4	51 – 75	62.5
Cover class 5	76 – 95	85
Cover class 6	95 – 100	97.5

**\*Mueller-Dombois and Ellenberg (1974).**

Cover class data shall be relativized within each plot to 100% cover to allow for comparison between plots of varying sizes

;

(c) Identification of dominant species in each vegetation stratum

- (d) Species Richness – the number of species found at the site at time of data collection (include all species found in a plot with individual % cover estimates)
- (f) Survival of planted species (per plot and per acre); and
- (g) Percent cover and/or stem count of non-native or invasive species in each vegetation layer,
- (h) Average height of planted woody species in each sample plot and percent change in height by species since previous monitoring event

The monitoring program for *wetlands* (both restoration and creation) shall follow the guidelines established below:

1. Visual Description. Visual descriptions shall be provided with each monitoring report in narrative form along with documentation by one of the following means: (i) ground level photographs, taken facing north, south, east and west, from stations located adjacent to each vegetation plot and hydrology monitoring station [permanent markers shall be established to ensure that the same locations (and view directions) are monitored in each monitoring period], or (ii) one color aerial photograph (8" x 10" or larger) depicting the entire site. An aerial photograph should be taken after site construction (including planting) and again in the 3<sup>rd</sup> and 7<sup>th</sup> year following final grading
2. Hydrology. This is a \_\_\_\_\_ driven system on top of a \_\_\_\_\_ substrate. For surface saturation driven systems located on top of a clayey substrate, soil saturation measurement devices may be used in lieu of groundwater wells and other secondary hydrology indicators to determine groundwater elevations and/or hydro period in these wetlands areas. Specific details on the soil saturation measurement device and location or groundwater monitoring wells shall be provided in the Final Construction Documents for IRT approval, acting through the Chair(s) as described in Exhibit D (Mitigation Site Plan). For each monitoring report, either 60 days of continuous automated monitoring, or 8 consecutive weekly measurements shall be provided during the growing season to demonstrate achievement of the hydrology performance criterion (actual monitoring may be of longer duration, as needed, to obtain proof of wetland hydrology).
3. Vegetation. Sample plots shall be located on a stratified random basis over the site in order to sample all areas of restored/constructed wetlands at locations adjacent to each photo location marker. The following minimum numbers of samples will be required:

If the site is < 5 acres, then a minimum of 3 plots/acre is necessary

If the site is > 5 acres but less than 20 acres, then a minimum of 2 plots/acre is necessary.

If the site is > 20 acres, then a minimum of 1 plot/acre is necessary.

All cells, fields, or blocks shall be sampled.

Each plot shall be of a size no less than 400 square feet for woody plants and 3'x3' for herbaceous plants (or circular with approximately the same surface area). Alternative sampling methods may be submitted for IRT review and approval, acting through the Chair(s). The vegetation data shall be collected in each plot during the growing season and

shall include:

- (a) For herbaceous plots, identification of all herbaceous species found in the sampling plot (with corresponding estimate of percent cover, indicator status, native status, planted/volunteer category), and the percent of bare ground and open water.
- (b) For woody plots, identification of all live woody species found in the sampling plot (with corresponding indicator status, native status, planted/volunteer category, stem count, extrapolated stems/acre), number of dead stems.
- (a) Vegetation species identification by common and scientific name and wetland indicator status (Reed 1988);
- (b) Estimates of percentage cover overall, and for each species utilizing the same cover classes required for upland buffer restoration presented above  
Cover class data shall be relativized within each plot to 100% cover to allow for comparison between plots of varying sizes
- (c) Identification of dominant species in each vegetation stratum
- (d) Species Richness – the number of species found at the site at time of data collection (include all species found in a plot with individual % cover estimates)
- (e) Counts of woody stem density by species (per plot and #/acre);
- (f) Survival of planted species (per plot and per acre); and
- (g) Percent cover and/or stem count of non-native or invasive species in each vegetation layer,
- (h) Average height of planted woody species in each sample plot and percent change in height by species since previous monitoring event
- (i) An invasive species assessment including percent cover and/or stem count;

*If the approved MBI or mitigation plan requires specific data on oak (Quercus) species then the following data will be required:*

- (i) Number and species of native Quercus (sp) rated FAC or wetter (excluding FAC-) growing in wetlands (total and #/acre).*

The monitoring program **for streams** shall follow the guidelines established below:

Within one week after any storm event that meets or exceeds a 1-year, 24-hour duration, as determined by the onsite rain gauge or the nearest National Weather Service station the stream(s) shall be visually inspected for damages. Any damage noted shall be reported to the Corps and DEQ in writing within 1 week of inspection, with supporting photographs, and accompanied by a remediation plan. Photographs and narrative shall be utilized to summarize performance and necessity of remediation efforts in the next monitoring report.

1. Stream Channel Preservation- For the linear footage where no instream work was accomplished (regardless of riparian buffer activities), the following monitoring shall occur:

Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. A minimum of one cross-section per 1000 linear feet will be required. Total number required will vary depending on project length



and complexity. Additional cross-sections may be required to show areas where aggradation, degradation, erosion, and mid-channel bars have developed.

The following will be documented at each cross-section:

- Ground level photographs shall be provided with each monitoring report for the purpose of documenting vegetation and stream stability. The photographs will be taken annually during November or December of that monitoring year at representative cross-sections and will clearly show the channel upstream and downstream, the riparian buffer area, and each stream bank.
- Cross-sectional measurements shall include streambanks, streambed, water surface, bankfull, and adjacent floodplain elevations.
- The same cross section for all previous monitoring years will be overlain on this cross section.

2. Stream Enhancement - For the linear footage of stream with stream enhancement activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation areas:

Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. Representative cross-sections (with permanent markers established during the first monitoring interval) will be surveyed at intervals on a representative sample of riffles and pools. The total number required will vary depending on project length and complexity. Additional cross-sections may be required to show areas where aggradation, degradation, erosion, and mid-channel bars have developed.

- a. Sample plots for stream bank vegetation (10 square feet in size) shall be located on each bank 100 feet upstream or downstream of each cross-section where streambank plantings were completed. Sampling shall be conducted in accordance with Section VI.B of this document
- b. The Bank Erodibility Hazard Index (BHI) will be assessed at each permanent cross-section and additional locations selected in consultation with the IRT to provide a representative assessment.
- c. Beginning with Year 2, The U.S. Forest Service Stream Reach Inventory and Channel Stability Evaluation (Pfankuch, 1975) will be performed at each permanent cross-section and additional locations to provide a representative assessment.
- d. Radius of curvature within a representative longitudinal profile
- e. Sinuosity of representative section.
- f. Bankfull shear stress and mean depth and slope (calculated using dimensionless shear stress).
- g. Bankfull event gage documentation.

*The number of stream gages will be determined on a case-by-case basis for each Bank depending on the number of stream reaches and proposed mitigation types.*

h. *(for habitat structures)* Photographs documenting the structural integrity and function at each habitat structure. Documentation of use by intended species.

3. Stream Enhancement with Structures: Photo documentation will be provided for each structure, regardless of type, depicting the full width, length, and landscape position so that all portions of the structure are visible. For the linear footage of stream with stream enhancement with structures activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation and Stream Enhancement areas:

- a. Each instream structure shall have the following data collected:
  - i. Photographs documenting structural integrity and function
  - ii. Surveyed profile documenting invert elevation
- b. *(For constructed riffles)* Wetted-perimeter cross-section pebble count at constructed riffles.

4. Stream Restoration: For the linear footage of stream with stream restoration activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation, Stream Enhancement, and Stream Enhancement with Structures areas:

- a. A surveyed longitudinal profile of the stream within the thalweg with measurements of the locations, depths, and slopes of riffles, runs, pools, and glides. A separate profile will be prepared depicting all previous longitudinal profiles superimposed.
- b. Stream classification pebble count
- c. Bar sample of pavement/sub-pavement sample
- d. Wetted-perimeter cross-section pebble count of representative riffles *(not constructed riffles)*
- e. The D50 analysis of the pebble count data
- f. Monitoring of the pre- and post restoration instream habitat and macroinvertebrate community

Chemical and biological monitoring event shall occur in years 1, 2, 3, 5, 7, and 10 and consistently in either spring or fall of each monitoring year. Spring sampling shall be conducted between March 1 and May 31. Fall sampling shall be conducted between September 1 and November 30. Water chemistry and benthic samples shall be collected simultaneously at each of the monitoring locations. The number and location of monitoring stations shall be determined, and approved by the IRT, on a case-specific basis and shall remain consistent throughout the monitoring period.

Scientific Collection permits for conducting benthic sampling shall be obtained from Virginia Department of Game and Inland Fisheries (information available at <http://www.dgif.virginia.gov/permits/guide.asp>). All field sampling as well as laboratory sample processing shall be performed by or under supervision of a professional aquatic biologist.

**Chemistry** – Temperature, total dissolved oxygen, pH, and conductivity shall be collected at each designated monitoring location site using a multi-probe meter. *[Detailed information on testing, inspection, and maintenance requirements of all multi-probe meters for measurement of stream physicochemical parameters can be found in Section IV of the “Standard Operating Procedures Manual for the Department of Environmental Quality Office of Water Quality Monitoring and Assessment Program” located at <http://www.deq.virginia.gov/watermonitoring/pdf/guidancemanual/wqmsop.pdf>]*

**Biological** – A quantitative survey for benthic macroinvertebrates and a habitat assessment shall be conducted at designated monitoring locations. Benthic macroinvertebrates shall be identified to the genus level. *[Detailed procedures and methods for biological monitoring, field methods, laboratory methods, and quality assurance can be found in Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers (2008) at [http://www.deq.virginia.gov/biomonitoring/documents/BioMonQAPP\\_13Aug2008.pdf](http://www.deq.virginia.gov/biomonitoring/documents/BioMonQAPP_13Aug2008.pdf)]*

The Virginia Department of Environmental Quality has developed the “*Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers*” (2008) for their biological monitoring program. This document shall serve as the basis for the field monitoring and laboratory data collection methods. Two sampling procedures are presented:

**Single Habitat** is used for streams in which riffles with appropriate substrate (cobble) are available for sampling and are large enough so that at least 1m<sup>2</sup> of the substrate can be sampled.

**Multiple Habitat** is used in cases where no riffles are present, the riffles in the reach are too small and/or too few to sample 1m<sup>2</sup> of substrate. Multi-habitat sampling is most commonly performed in, but not limited to, low gradient streams.

Habitat Assessment: A habitat assessment shall be conducted at each bioassessment site. Procedures and forms for habitat assessment can be located in Appendix B (iii) of the “*Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers*” (2008).

**For non-coastal streams**, use the resulting benthic macroinvertebrate data to calculate the Stream Condition Index for Virginia Non-Coastal Streams (VSCI). This Stream Condition Index for Virginia Non-Coastal Streams is found at <http://www.deq.virginia.gov/watermonitoring/pdf/vastrmcon.pdf>.

**For coastal streams**, use the resulting data to generate a Coastal Plain Macroinvertebrate Index.

The data sheets for the chemical and biological monitoring can be found in *Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers (2008)* at [http://www.deq.virginia.gov/biomonitoring/documents/BioMonQAPP\\_13Aug2008.pdf](http://www.deq.virginia.gov/biomonitoring/documents/BioMonQAPP_13Aug2008.pdf)

The objective of habitat and benthic macroinvertebrate sampling is to allow for comparison between mitigation banks involving stream channel restoration activities; to identify issues that may need to be addressed in the restoration design; to determine realistic expectations for the post-restoration aquatic community; and to inform future stream restoration efforts.

*An Access database used to calculate VSCI and CPMI can be provided upon request.*

### **Exhibit O. Monitoring Report Requirements**

Monitoring reports shall include at a minimum the following information:

1. A Title page indicating the bank name, (umbrella bank name if applicable), site name (if applicable), bank phase (if applicable), monitoring year, any requested action (e.g. credit release, IRT review) Bank Sponsor identification (name, address, phone number and email address), and Preparer identification (name, address, phone number and email address)..
2. An aerial photograph, taken either the 3rd or 7th year following final grading (if allowed in accordance with national security provisions) during the growing season, depicting the completed phases of the Mitigation Bank with the photo date and approximate scale noted, and ground level photographs as described in Exhibit N;
3. A detailed narrative summarizing the condition of the Bank and all regular maintenance and monitoring activities;
4. A drawing based upon the grading plans of the Property that depicts topography, and the location of wells, sampling plots, cross-section, and permanent photo stations;
5. For preservation activities including Buffer preservation: Photographic documentation and discussion of visual observations.
6. For buffer restoration/enhancement/reestablishment: Results of vegetation survey including per plot reporting of all herbaceous species present (with corresponding estimate of percent cover, indicator status, native status, planted/volunteer category for each species), all woody species present (with corresponding indicator status, native status, planted/volunteer category,, percent cover of bare ground and/or open water, dominant species identification, percent cover and/or stem count of non-native or invasive species in each vegetation layer, species richness, % non-native/invasive vegetation in each vegetation layer, survival rate of planted vegetation, woody stem density by species in sample plot and by acre, an estimate of natural revegetation, average height of woody species in each sample and percent change in height since previous monitoring event in accordance with the appropriate success standards in Exhibit M.; and
7. ***For wetland restoration/creation:*** Results of vegetation monitoring including per plot reporting of all herbaceous species present (with corresponding estimate of percent cover, indicator status, native status, planted/volunteer category for each species), all woody species present (with corresponding indicator status, native status, planted/volunteer category, stem count, extrapolated stems/acre), percent cover of bare ground and/or open water, determination of hydrophytic vegetation (using prevalence index and dominance ratio methods, e.g. “50:20 rule”), species richness, % cover of non-native/invasive vegetation in each vegetation layer, survival rate of planted vegetation, an estimate of natural revegetation, woody stem density by species in each sample plot and by acre, percent cover and/or stem count of non-native or invasive species in each vegetation layer, average height of woody species in each sample plot and percent change in height since previous monitoring event in accordance with the appropriate success standards in Exhibit M.; soils data (for wetland creation areas, and the

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results of hydrology measurements, including depth of standing water and daily precipitation data for the monitoring period from \_\_\_\_\_ to \_\_\_\_\_ with a comparison to historical average precipitation;

*If the approved MBI or mitigation plan requires specific data on oak (Quercus) species then the monitoring report shall also include the number and species of Quercus (sp) rated FAC or wetter (excluding FAC-) in each sample plot (counts and numbers per acre).*

**8. For Stream preservation, enhancement, and restoration activities:**

Monitoring reports shall present yearly data in tabular and graphical format comparing as-built, current, and previous years monitoring data.

Monitoring reports shall include a discussion of any deviation from as-built or previous year's data.

8. A corrective action plan, if necessary, which shall include any proposed actions or maintenance activities, a schedule, and a monitoring plan (e.g., the control of undesirable species, the repair of a damaged water control device, the replacement of damaged, planted vegetation, etc.).

9. All submittals shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

9. A summary of Credits created by the Bank and the permits that have been Debited against these Credits cumulatively and for this monitoring year.

10. As-Built Report: An as-built report shall be submitted to the IRT within 60 days of completion of mitigation activities depicted in the BDP (Exhibit D). The report shall include:

- a) plan view of the constructed/restored wetlands, streams, and adjacent buffers with location of all permanent sampling stations, photo stations, monitoring wells, instream and stream bank structures, and all permanent cross-sections and profiles;
- b) photographs of the completed Site taken from permanent photo stations. Photos from each station must be grouped with corresponding photos from previous monitoring reports;
- c) profiles of instream structures, cross-sections, and longitudinal stream profiles taken from permanent locations and compared to design plans;
- d) pebble counts and summary geomorphologic data; Pebble counts from each station must be grouped with corresponding pebble counts from previous monitoring reports
- e) Planting zones, phases, and densities;
- f) Stream gage locations;
- g) As-built elevations.

h) Revised credit breakdown in the same format as in Exhibit E.

11. A map depicting areas associated with previous credit releases and the year of those releases, as well as the location and extent of current requests for credit release

12. Each monitoring report will include detailed resource documentation, tables summarizing attainment of success criteria, and a revised summary table of actual wetland and stream credits based on field measurements.

13. Any additional information required to adequately characterize site conditions (as needed).

**Exhibit P Sample Credit Ledger**

*Separate ledgers shall be provided for wetlands and streams.*

Bank Name

<u>Project Name</u>	<u>Corps Permit #</u>	<u>DEQ Permit #</u>	<u>Permittee</u>	<u>Transaction Date</u>	<u>Impact</u> *	<u>Mitigation</u> *	<u>HUC</u>	<u>Type of Impact</u>	<u>Type of Mitigation</u>

\* Wetland impacts and credits should be reported to the hundredth of an acre.  
Stream impacts and compensation should be reported in whole numbers (no decimals)



**Exhibit Q**  
**Long-Term Management Plan**

**Note: The Virginia Interagency Review Team developed this general outline to assist in the development of the Long-term Management Plan for mitigation banks.**

**Objectives and tasks are provided for illustrative purposes only and may not represent management requirements for a specific bank. Long-term Steward and the IRT members shall meet and confer upon the request of any one of them, to consider revisions to the Long-term Management Plan which may be necessary or appropriate to better conserve the habitat and conservation values of the Bank Property.**

*(Template Version Date: July 2009)*

**Long-term Management Plan**  
**For**  
**The \_\_\_\_\_ Site of the**  
**The \_\_\_\_\_ Mitigation Bank**

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## Long-Term Management Plan

### I Introduction

#### A Purpose of Establishment

The \_\_\_\_\_ (“Bank”) was established by the Mitigation Bank Instrument (“MBI”) to compensate for unavoidable impacts to, and to conserve and to protect waters of the U.S. The Bank (*Site*) property includes \_\_\_\_\_ acres of waters of the U.S. including \_\_\_\_\_ acres [*insert as applicable: of /all of which are*] preserved wetlands, \_\_\_\_\_ acres of created or restored wetlands, \_\_\_\_\_ feet of restored stream channel, \_\_\_\_\_ linear feet of enhanced stream channel, \_\_\_\_\_ acres of preserved riparian buffer, \_\_\_\_\_ acres of restored or enhanced riparian buffer. The IRT Agencies include the Norfolk District of the U.S. Army Corps of Engineers, Region 3 of the U.S. Environmental Protection Agency, the Virginia Field Office of the U.S. Fish and Wildlife Service, the Virginia Department of Environmental Quality, the Virginia Department of Game and Inland Fisheries, the Virginia Department of Conservation and Recreation, and the Virginia Department of Forestry. Terms used in this management plan have the same meaning as defined in the MBI.

#### B Purpose of this Long-term Management Plan

The purpose of this long-term management plan is to ensure the Bank or Bank Site is managed, monitored, and maintained in perpetuity. This management plan establishes objectives, priorities and tasks to monitor, manage, maintain and report on the waters of the U.S., covered species and covered habitat on the Bank. This management plan is a binding and enforceable instrument, implemented in accordance with the MBI and the real estate protection instrument (conservation easement or declaration of restrictions) covering the Bank property.

#### C Long Term Steward and Responsibilities

The Long-Term Steward is \_\_\_\_\_. The Long-Term Steward, and subsequent Long-Term Stewards upon transfer, shall implement this long-term management plan, managing and monitoring the bank property in perpetuity to preserve its habitat and conservation values in accordance with the Bank’s MBI, conservation easement and/or declaration of restrictions, and the long-term management plan. Long-term management tasks shall be funded through the Long-Term Management Fund. The Long-Term Steward must maintain a copy of the MBI and all addendums associated with the Bank (*Site*) including all deed restrictions and easements. The Long-Term Steward shall be responsible for providing an annual report to the IRT detailing the time period covered, an itemized account of the management tasks and total amount expended. Any subsequent grading, or alteration of the site’s hydrology and/or topography by the Long-Term Steward or its representatives must be approved by the IRT and the necessary permits, such as a Section 404 permit and/or Virginia Water Protection Permit, must be obtained if required.

#### D. Eminent Domain

If the Bank is taken in whole or in part through eminent domain, the Long-Term Steward shall use all monies received as compensation for lands and all associated services and values taken to provide replacement compensation within the same service area subject to IRT approval. The IRT shall have the right to participate in any proceeding associated with the determination of the amount of such compensation. Replacement compensation may be determined in consultation with the IRT.

## **II Property Description**

### **A Setting and Location**

The Bank (*Site*) is located at \_\_\_\_\_ [*include address and county*], in the Commonwealth of Virginia, designated as Parcel No. \_\_\_\_\_. The Property is shown on the general vicinity map (Figure 1) and the bank property map (Figure 2). The general vicinity map shows the Bank location in relation to cities, towns, or major roads, and other distinguishable landmarks. The Bank property map shows the Bank property boundaries on a topographic map.

### **B History and Land Use**

[*Describe past and present land use including grazing practices*].

The land in the general area of the Bank site is currently \_\_\_\_\_ [*Describe adjacent land and local area land uses.*]

**C Cultural Resources** – (*if applicable, refers to Cultural Resources Survey for the Bank – attached as an Exhibit to the MBI*)

[*Describe all existing architectural features including battlefields, historic districts, roads, levees, fencing, and buildings, and their intended future use on the area. If such structures are likely to be considered "historic properties" pursuant to state or federal historic resource preservation laws.*]

[*Describe any known archeological sites without providing their specific locations on the property, and include a summary of the results of any site surveys/inventories, including who conducted them. An assessment of the impacts of management should be given for such sites.*]

### **D Hydrology and Topography**

[*Describe hydrology and topography of Bank site. Indicate whether wetlands are driven by surface flows (i.e., fluvial systems) or groundwater flows from offsite sources. Describe precipitation onto and off of the site. Describe the Strahler order of the streams onsite, the channel classification, and the duration of the hydroperiod*]

### **E Soils**

*[Describe soils on the Bank site.]*

**F Existing Easements**

*[Include descriptions/locations of existing easements, their nature (buried pipeline, overhead power, ingress/egress, mineral or timber rights etc.), authorized users (if known), access procedures, etc. Depict easements, rights of way, ingress, and egress routes on an attached map.]*

**G Adjacent Land Uses**

*[Detail the baseline adjacent land uses. These land uses may change over time; however, the description of the baseline conditions will give the Long-Term Steward some idea of the conditions present when the management plan was first developed. Detailing adjacent land uses will identify areas that may be of management concern or items that may compromise biological integrity over time.]*

**III Habitat and Species Descriptions**

**A Baseline Description of Biological Resources on Bank Site**

*[Include a general description of geographic location and features, topography, soils, vegetation (assessment of native vs. invasive and non-native species), a quality assessment of all wetland and streams on the bank site. An overview of native plant species present, if applicable, their habitat and management requirement should be presented here.]*

**B Summary of Bank Development Plan (if applicable)**

*[Describe all created and/or enhanced waters of the U.S., including acreages and/or lengths Provide final map showing the location of waters of the U.S.]*

**C Endangered and Threatened Species**

*[Describe all federal and state endangered and threatened species that occur or may occur on the bank site. If applicable, provide map showing their location.]*

**D Rare Species and Species of Special Concern**

*[Description of rare species and species of special concern that occur or may occur on the bank site. If applicable, provide map showing their location.]*

**IV Management and Monitoring**

The overall goal of long-term management is to foster the long term viability of the Bank site's waters of the U.S., and any listed species/habitat. Routine monitoring and minor maintenance tasks are intended to assure the viability of the Bank site in perpetuity.

## A Biological Resources

The approach to the long-term management of the Bank site's biological resources is to conduct annual site examinations and monitoring of selected characteristics to determine stability and ongoing trends of the preserved, restored, enhancement, and created waters of the U.S., including wetlands and streams. Annual monitoring will assess the Bank's condition, degree of erosion, establishment of invasive or non-native species, water quality, fire hazard, and/or other aspects that may warrant management actions. While it is not anticipated that major management actions will be needed, an objective of this long-term management plan is to conduct monitoring to identify any issues that arise, and using adaptive management to determine what actions might be appropriate. Those chosen to accomplish monitoring responsibilities will have the knowledge, training, and experience to accomplish monitoring responsibilities.

Adaptive management means an approach to natural resource management which incorporates changes to management practices, including corrective actions as determined to be appropriate by the IRT in discussion with the Long-Term Steward. Adaptive management includes those activities necessary to address the affects of climate change, fire, flood, or other natural events. Before considering any adaptive management changes to the long-term management plan, the IRT will consider whether such actions will help ensure the continued viability of Bank's biological resources.

*[The list that follows is not meant to be exhaustive and some sites may have more elements to consider and some may have fewer.]*

The Long-Term Steward for the Bank site shall implement the following:

### **Element A.1 Waters of the U.S., including wetlands**

**Objective:** Monitor, conserve and maintain the Bank site's waters of the U.S., including wetlands and streams. Limit any impacts to waters of the U.S. from vehicular travel or other adverse impacts.

**Task:** At least one annual walk-through survey will be conducted to qualitatively monitor the general condition of these habitats. General topographic conditions, hydrology, general vegetation cover and composition, invasive species, erosion, will be noted, evaluated and mapped during a site examination. Notes to be made will include observations of species encountered, water quality, general extent of wetlands and streams, and any occurrences of erosion, structure failure, or invasive or non native species establishment.

**Task:** Establish reference sites for photographs and prepare a site map showing the reference sites for the Bank file. Alternatively, utilize photographic reference sites, if any, developed during interim bank

management period. Reference photographs will be taken of the overall Bank site at least every five years from the beginning of the long-term management, with selected reference photos taken on the ground more frequently, \_\_\_\_\_ times per year (*if applicable*).

Special attention should be paid to any area adjacent to or draining from non-bank lands. Streams and wetlands should be observed near bank boundaries to observe if increased sediment deposition has occurred. The report should provide a discussion of any recent changes in the watershed (i.e., subdivision being developed upstream of stream bank).

**Element A.2 Threatened/Endangered Plant Species Monitoring** (*if applicable*)

*[Note: This methodology may vary for different plant species as determined in consultation with the appropriate agencies]*

Objective: Monitor population status and trends.

Objective: Manage to maintain habitat for \_\_\_\_\_.

Task: Monitor status every year by conducting population assessment surveys. The annual survey dates will be selected during the appropriate period as identified by the applicable member of the IRT and will generally occur from \_\_\_\_\_ through \_\_\_\_\_ each year. Occupied habitat will be mapped and numbered to allow repeatable data collection over subsequent survey years. Abundance will be assessed semi-quantitatively using broad abundance categories, i.e., 0, 1 - 100, 101 - 500, 501 - 1,000, and >1,000 plants.

Task: Visually observe for changes to occupied habitat, such as changed hydrology or vegetation composition. Record any observed changes. Size of population (1 acre, etc).

Task: Implement other tasks that enhance or monitor habitat characteristics for \_\_\_\_\_.

**Element A.3 Threatened/Endangered Animal Species Monitoring** (*if applicable*)

*[Note: Species-specific objectives and tasks will need to be developed in consultation with the appropriate IRT agencies]*

Objective: Monitor population status and trends.

Objective: Manage to maintain habitat for \_\_\_\_\_.

Task: Monitor status every year by conducting population assessment surveys. *[The annual survey dates will be selected during the appropriate period each year.]*

Task: Implement other tasks that enhance or monitor habitat characteristics for \_\_\_\_\_.

#### **Element A.4 Invasive Species**

*[Note: Species-specific objectives and tasks will need to be developed in consultation with the appropriate IRT agencies]*

Invasive species threaten the diversity or abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat.

Objective: Monitor and maintain control over invasive species that diminish site quality for which the bank was established. The Long- Term Steward shall consult the *Virginia Department of Conservation and Recreation's Invasive Alien Plant list* at [http://www.dcr.virginia.gov/natural\\_heritage/documents/invlist.pdf](http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf) for guidance on what species may threaten the site and on management of those species.

Task: Mapping of invasive species cover or presence shall occur during the first five years of bank management, to establish a baseline. Mapping shall be accomplished through use of available technologies, such as GIS and aerial photography.

Task: Each year's annual walk-through survey (or a supplemental survey) will include a qualitative assessment (e.g. visual estimate of cover) of invasive species. Additional actions to control invasive species will be evaluated and prioritized in coordination with the IRT.

Attached to this plan are fact sheets (including identification aid) for all invasive/non-native species known to be present on the site. (Should we include this for all highly invasive or likely species and/or and discussion on the areas of greatest concern – areas affected by storm damage, fire, or recent die-off, areas next to roads or maintained lands?)

#### **Element A.5 Vegetation Management**

Objective: Analyze effects of any authorized silvicultural manipulations on the wetland, streams, and buffers on the bank site. If determined appropriate, develop and implement specific silvicultural manipulations (e.g. selective thinning) in coordination with the IRT. [Site specific targets for vegetation may be specified here and task revised or added to achieve those targets].

Objective: Adaptively manage vegetation based on site conditions and data acquired through monitoring to maintain biological values.



Task: Review and explore potential vegetation management regimes as proposals and/or opportunities and funding arise. If determined to potentially maintain site quality, develop specific silvicultural practices, amend this long-term management plan with the IRT's approval to reflect those practices, and implement silvicultural actions as funding allows.

Task: Implement vegetation management techniques, if determined beneficial and as funding allows, to allow development of vegetation as identified in the MBI. Implementation of vegetation management techniques must be approved by the IRT.

## **B Security, Safety, and Public Access**

The Bank will be fenced or appropriately marked and shall have no general public access, nor any regular public use. Research and/or other educational programs or efforts, hunting, fishing, and passive recreational activities may be allowed on the Bank site as deemed appropriate by the IRT, but are not specifically funded or a part of this long-term management plan.

Potential mosquito abatement issues will be addressed through the development of a plan by the Long-Term Steward and any local mosquito control district or local health department in coordination with and approved by the IRT.

Potential wildfire fuels will be reduced as needed where approved by the IRT.

### **Element B.1 – Trash and trespass**

Objective: Monitor sources of trash and trespass.

Objective: Collect and remove trash, repair vandalized structures, and rectify trespass impacts.

Task: During each site visit, record occurrences of trash and/or trespass. Record type, location, and management mitigation recommendations to avoid, minimize, or rectify a trash and/or trespass impact.

Task: At least once yearly collect and remove as much trash as possible and repair and rectify vandalism and trespass impacts.

### **Element B.2 – Fire Hazard Reduction**

Objective: Maintain the site as required for fire control while limiting impacts to biological values.

Task: Reduce vegetation in any areas recommended by authorities, and as approved by the IRT, for fire control.

## **C Infrastructure and Facilities**

*[Fence and gate maintenance and repair frequency will be dependent on trespass and access control issues, as well as whether grazing is utilized as a vegetation management technique and to what extent.]*

### **Element C.1 Fences, Gates, Signage, Crossings, and Property Boundaries**

Objective: Monitor condition of fences, gates, signage, crossings, and property boundaries.

Objective: Maintain fences, gates, signage, crossings and property boundaries to prevent casual trespass, allow necessary access, and *[if applicable: facilitate management.]*

Task: During each site visit, record condition of fences, gates, signs, crossings, and property boundaries. Record location, type, and recommendations to implement repair or replacement to fence, gate, signage, crossings or property boundary markers, if applicable.

Task: Maintain fences, gates, signs, crossings and property boundary markers as necessary by replacing posts, wire, gates, and signs. Replace fences and/or gates, as necessary, and as funding allows. Note any trespass by livestock.

### **Element C.2 Berms, Structures, and Roads**

Objective: Monitor condition of berms, structures, and roads.

Objective: Maintain berms, structures, and roads to facilitate management and maintain conditions of wetlands and streams

Task: During each site visit, record condition of berms, structures, and roads. Record location, type, and recommendations to implement repair or replacement to berms, structures, and roads, if applicable.

Task: Maintain berms, structures, and roads as necessary. Replace berms, structures, and roads as necessary, and as funding allows.

## **D Reporting and Administration**

### **Element D.1 – Annual Report**

Objective: Provide annual report on all management tasks conducted and general site conditions to IRT and any other appropriate parties. Each report shall include a cover page

with the following information: the bank name, (umbrella bank name if applicable), site name (if applicable), bank phase (if applicable), Long-Term Steward (name, address, phone number, and email address), monitoring year, and any requested action (e.g. funding release, maintenance recommendations requiring IRT approval).

Task: Prepare annual report and any other additional documentation. Include a summary. Complete and circulate to the IRT and other parties by December 31 of each year. Reports should be distributed electronically.

Task: Make recommendations with regard to (1) any enhancement measures deemed to be warranted, (2) any problems that need near-, short-, and long-term attention (e.g., weed removal, fence repair, erosion control), and (3) any changes in the monitoring or management program that appear to be warranted based on monitoring results to date. Provide documentation of the cost of any recommended maintenance and repairs.

## **V Transfer, Replacement, Amendments, and Notices**

### **A Transfer**

Any subsequent transfer of responsibilities under this long-term management plan to a different Long-Term Steward shall be requested by the Long-Term Steward in writing to the IRT, shall require written approval by the IRT, and shall be incorporated into this long-term management plan by amendment.

The long-term steward shall be required to ensure that any subsequent property owners (if not identified as the long-term steward) are notified of the deed restriction, conservation easement, purpose and location of the bank lands, and requirement for long-term stewardship.

### **B Replacement**

If the Long-Term Steward fails to implement the tasks described in this long-term management plan and is notified of such failure in writing by any of the IRT, the Long-Term Steward shall have 90 days to cure such failure. If failure is not cured within 90 days, the Long-Term Steward may request a meeting with the IRT to resolve the failure. Such meeting shall occur within 30 days or a longer period if approved by the IRT. Based on the outcome of the meeting, or if no meeting is requested, the IRT may designate a replacement Long-Term Steward in writing by amendment of this long-term management plan. If the Long-Term Steward fails to designate a replacement Long-Term Steward, then such public or private land or resource management organization acceptable to and as directed by the IRT may enter onto the Bank property in order to fulfill the purposes of this long-term management plan.

### **C Amendments**

The Long-Term Steward, property owner, and the IRT may meet and confer from time to time, upon the request of any one of them, to revise the long-term management plan to better meet management objectives and preserve the conservation values of the Bank property. Any proposed changes to the long-term management plan shall be discussed with the IRT and the Long-Term Steward. Any proposed changes will be designed with input from all parties. Amendments to the long-term management plan shall be approved by the IRT in writing shall be required management components and shall be implemented by the Long-Term Steward.

If the VDGIF or USFWS determine, in writing, that continued implementation of the long-term management plan would jeopardize the continued existence of a state or federally listed species, any written amendment to this long-term management plan, determined by either the VDGIF or USFWS as necessary, shall be a required management component and shall be implemented by the Long-Term Steward.

**D Notices**

Any notices regarding this long-term management plan shall be directed as follows:

Long-Term Steward (name, address, telephone and FAX)

\_\_\_\_\_  
\_\_\_\_\_

Property Owner (name, address, telephone and FAX)

\_\_\_\_\_  
\_\_\_\_\_

IRT Chair:

U.S. Army Corps of Engineers  
Norfolk District  
[DISTRICT ADDRESS, TELEPHONE, FAX]

IRT Co-Chair:

Virginia Department of Environmental Quality  
[ADDRESS, TELEPHONE, FAX]

IRT Members:

U.S. Fish and Wildlife Service  
[ADDRESS, TELEPHONE, FAX]

U.S. Environmental Protection Agency, Region 3  
[ADDRESS, TELEPHONE, FAX]

Virginia Department of Game and Inland Fisheries  
[ADDRESS, TELEPHONE, FAX]:

Virginia Department of Conservation and Recreation  
[ADDRESS, TELEPHONE, FAX]

Virginia Department of Forestry  
[ADDRESS, TELEPHONE, FAX]:

## **VI Funding and Task Prioritization**

### **A Funding**

*[The list of tasks in Table 1 is not meant to be exhaustive. Some sites may have more elements to consider and some may have fewer depending on the attributes of the bank.]*  
Table 1 summarizes the anticipated costs of long-term management for the Bank. These costs include estimates of time and funding needed to conduct the basic monitoring site visits and reporting, trash removal, fence repair, etc. and a prorated calculation of funding needed to fully repair and/or replace fences and other structures every \_\_\_\_ years. The total annual funding anticipated is approximately \$\_\_\_\_\_, therefore, with the current annual estimated capitalization rate of \_\_\_\_ the total endowment amount (The Long-Term Management Fund) required will be \$\_\_\_\_\_.

\_\_\_\_\_ shall hold the endowment principal and interest monies (The Long-Term Management Fund) as required in the MBI, which consists of monies that are paid into it in trust, and is appropriated to fulfill the purposes for which payments into it are made. These interest monies will fund the long-term management, enhancement, and monitoring activities on Bank lands in a manner consistent with this long-term management plan.

### **B Task Prioritization**

Due to unforeseen circumstances, prioritization of tasks, including tasks resulting from new requirements, may be necessary if insufficient funding is available to accomplish all tasks. The Long-Term Steward and the IRT shall discuss task priorities and funding availability to determine which tasks will be implemented. In general, tasks are prioritized in this order: 1) required by a local, state, or federal agency; 2) tasks necessary to maintain or remediate the Bank Site (including unauthorized impacts); and 3) tasks that monitor resources, particularly if past monitoring has not shown downward trends. Equipment and materials necessary to implement priority tasks will also be considered priorities. Final

determination of task priorities in any given year of insufficient funding will be determined in consultation with the IRT and as authorized by the IRT in writing.

**C. Enforcement**

The IRT and its authorized agents shall have the right to inspect the Property and take actions necessary to verify compliance with this Long-Term Management Plan. The Long-Term Management Plan herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the IRT, including the Corps or DEQ. Failure by any agency (or owner) to enforce the Long-Term Management Plan contained herein shall in no event be deemed a waiver of the right to do so thereafter.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

\_\_\_\_\_

Long-Term Steward

\_\_\_\_\_

Date

**INTERAGENCY REVIEW TEAM**

By the IRT Chair:

\_\_\_\_\_

U.S Army Corps of Engineers, Norfolk District      Date

By: \_\_\_\_\_

Its: \_\_\_\_\_

By the IRT Chair:

\_\_\_\_\_

Virginia Department of Environmental Quality      Date

By: \_\_\_\_\_

Its: \_\_\_\_\_

\_\_\_\_\_

Virginia Marine Resources Commission      Date

By: \_\_\_\_\_

Its: \_\_\_\_\_