POTOMAC RIVER BASIN TIDAL WETLAND MITIGATION PROJECTS AND CHESAPEAKE BAY BASIN STREAM MITIGATION PROJECTS IN VIRGINIA

REQUEST FOR PROPOSALS

NOVEMBER 12, 2020

First Round Proposal Submissions due by April 30, 2021
(or as specified in any addenda to this RFP)

1. GENERAL ADMINISTRATIVE PROVISIONS

1.1. STATEMENT OF PURPOSE

It is the intention of The Nature Conservancy ("Conservancy" or "TNC"), to solicit Proposals for a Contractor or Contractors that can provide one or more full delivery **TIDAL WETLAND mitigation project(s) in the Potomac River basin and/or STREAM mitigation project(s) in the Chesapeake Bay basin** within the Commonwealth of Virginia for which the Virginia Aquatic Resources Trust Fund (VARTF) was utilized as the compensatory mitigation. TNC will also consider lump sum purchase of **mitigation credits** from an approved mitigation bank or banks. Those receiving this Request for Proposal (RFP) are referred to as "Contractor."

THIS IS NOT AN ORDER.

THE NATURE CONSERVANCY (TNC) is a District of Columbia, USA, non-profit corporation with its principal place of business in Arlington, Virginia, USA. TNC has offices across the U.S. and in over 79 countries and territories around the world.

Since 1951, The Nature Conservancy has been working with communities, businesses and people like you to protect more than 125 million acres of land and 5,000 miles of rivers worldwide. We also operate more than 100 marine conservation projects globally. Our mission is to conserve the lands and waters on which all life depends. Our vision is a world where the diversity of life thrives, and people act to conserve nature for its own sake and its ability to fulfill our needs and enrich our lives. Please see www.nature.org for more details on what TNC does and where we work.

1.2. TNC'S PROCUREMENT PROCESS

Procurement activities will be conducted in a nondiscriminatory manner with fair treatment given to all Contractors.

1.3. TNC'S OBLIGATIONS

TNC incurs no obligation or liability whatsoever by reason of issuance of this RFP or action by anyone relative thereto.

1.4. CONTRACTOR'S OBLIGATIONS

Contractor must analyze and respond to all sections of this RFP providing sufficient information to allow TNC to evaluate the Proposal. Contractor, by submitting its Proposal, agrees that any costs incurred by the Contractor in responding to this RFP, are to be borne by Contractor and may not be billed to TNC.

Contractor's proposal must match the order in which the RFP was submitted or clearly state where the information resides. If TNC has any confusion or difficulty in retrieving the required information from a Contractor's proposal, it may result in disqualification of such proposal. **Contractor may not have the ability to resubmit its proposal to TNC.**

TNC requests firm fixed pricing for Contractor's proposal. ***If Contractor is chosen as an award winner and any additional costs are presented at the time of agreement negotiations or implementation, TNC has the right to rescind Contractor's organization as the award winner.***

1.5 SUBCONTRACTING

No portion of the work shall be subcontracted without prior written consent of TNC. In the event that Contractor desires to subcontract some part of the work specified in the contract, Contractor shall furnish TNC the names, qualifications and experience of the proposed subcontractor(s). Contractor shall, however, remain fully liable and responsible for the work to be done by subcontractor(s) and shall assure compliance with all the requirements of the contract.

1.6 DISPOSITION OF PROPOSALS

All material submitted in response to this RFP will become the property of TNC and may be returned only at the option of TNC and at the expense of the Contractor. Successful and unsuccessful bidders will be notified in writing or via email. TNC shall not be obligated to detail any of the results of the evaluation.

1.7 CONTRACTUAL COMMITMENT OF PROPOSAL

The contents of submitted Proposals will be considered obligations of the successful Contractor. No information should be submitted that is not intended to be incorporated into the Proposal and any contract that may result from such Proposal. If there is any inconsistency between the terms herein and any of the other contract documents, the terms in the other contract documents shall prevail.

1.8 CONFIDENTIALITY

Any data, documentation or other business information furnished or disclosed to the Contractor shall be deemed the property of TNC and must be returned to TNC upon request.

1.9 DISCLOSURE STATEMENT

TNC, being a non-profit organization, relies heavily on contributions from its members. In order to eliminate any conflict of interest or perceived conflict of interest, it will be necessary to require the disclosure of the names of any of Contractor's employees that will be working, directly or indirectly, on the project, that currently hold or have ever held, a position on TNC's worldwide Board of Governors, or on a TNC state chapter Board of Trustees, or are or have been employed by TNC. It will also be necessary to disclose what percent ownership, if any, these persons have in Contractor's business and whether or not they have a controlling interest in Contractor's business. If selected for this work, TNC will need the names, title, type of board on which these persons served, and the years they held that board or employment position.

The above-mentioned employees of the successful bidder will be required to sign the attached TNC Disclosure Form (Attachment G). TNC will evaluate all information based on its internal policies and procedures regarding conflict of interest, copies of which will be provided upon request.

2. PROPOSAL SUBMISSION AND EVALUATION

2.1 PROPOSAL SUBMISSION REQUIREMENTS

2.1.1 Contractor will send its response to this RFP via email to the address below.

Chris DuBois
Restoration Coordinator
Email: cdubois@tnc.org

2.1.2 Contractor will provide all information required as outlined in Attachment A.

2.2 PROPOSAL EVALUATION/SELECTION PROCESS

2.2.1 Contractors are to make written proposals, which present Contractor's qualifications and understanding of the work to be performed. Proposals should be as thorough and detailed as needed so that TNC may properly evaluate 1) the Contractor's capabilities to provide the required goods/services and 2) whether the proposed project meets TNC's mitigation and conservation goals. Contractors are asked to address each evaluation criterion listed in Attachment A and to be specific in presenting their qualifications. Selection of the successful contractor will be based upon evaluation of the proposals in relation to the selection criteria, and upon in-person interviews. One or more qualified applicants may be interviewed. TNC will accept multiple proposals to address the mitigation needs and may select more than one Contractor to provide the services requested in this RFP.

2.2.2 TNC will determine if a project/proposal submitted through this RFP meets VARTF's mitigation requirements as well as the overall conservation goals of TNC. TNC reserves the right to make a site visit and request/collect any information that it deems necessary to determine the feasibility of a project. **TNC reserves the right to refuse or disqualify any project/proposal that does not meet its mitigation or conservation goals.**

2.3 QUESTIONS REGARDING THE RFP

Contractor may submit written questions regarding this RFP to TNC via email listed in 2.1.1. TNC will post a summary of all questions and answers as an addendum to the RFP on TNC's website on the VARTF page at www.nature.org/vartf. TNC will use its best efforts to answer questions to provide Contractor the information and time required to submit a complete and accurate proposal. Contractor understands and agrees that it has a duty to inquire about and clarify any RFP questions that the Contractor does not fully understand or believes may be interpreted in more than one way. TNC, however, is not required to answer all questions that are not pertinent to the RFP or considered to be TNC's Proprietary information. Contractor also understands and agrees that it is responsible for continually checking the website for addenda to the RFP up until the last posted due date of proposals and assuring that all addenda have been reviewed and addressed as applicable in Contractor's proposal.

2.4 PROPOSAL DUE DATE

Proposals shall be delivered to TNC in accordance with Section 2.1 with a rolling deadline according to the schedule below or as specified in addenda to this RFP to be considered for each review period.

Proposals Due	**TNC Potential Selection**
April 30, 2021	May 31, 2021
July 31, 2021	August 31, 2021
October 31, 2021	November 30, 2021

TNC will review and select or reject proposals after each due date. TNC will post on the VARTF website www.nature.org/vartf on or around the potential selection date if proposals will continue to be accepted for the subsequent due dates. If TNC decides to extend the deadlines for submission of proposals, the new deadlines will be specified in addenda to this RFP posted on TNC's website at www.nature.org/vartf a minimum of two weeks prior to the deadline for acceptance of proposals. Contractor understands and agrees that it is responsible for continually checking the website for addenda to the RFP up until the last posted due date of proposals.

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3. ATTACHMENTS

A Proposal Submission Requirements and Selection Criteria
B Checklist of Required Information Related to Site Selection and Mitigation Approach
C Scope of Work for Mitigation Projects
    Exhibit 1. Site Selection Criteria USACE Norfolk District and Virginia Department of Environmental Quality Checklist
    Exhibit 2. Norfolk District Prospectus Checklist
    Exhibit 3. DHR Coordination Form
    Exhibit 4. Species Conclusion Table
    Exhibit 5. SDP Monitoring Exhibits F, J and K
    Exhibit 6. Anticipated Credit Release Schedule
D Watershed Maps
E Contractor Questionnaire
F The Nature Conservancy's Standard Contract for Services
G The Nature Conservancy's Disclosure Form

ATTACHMENT A:
PROPOSAL SUBMISSION REQUIREMENTS AND SELECTION CRITERIA

A.1 PURPOSE

TNC is seeking suitable projects to meet the mitigation liability generated by unavoidable impacts in the Potomac River and Chesapeake Bay basins within the Commonwealth of Virginia for which the Virginia Aquatic Resources Trust Fund (VARTF) was utilized as the compensatory mitigation. The primary objectives are to restore, enhance and/or preserve TIDAL WETLAND systems in the Potomac River basin and/or STREAM systems in the Chesapeake Bay basin. In general, stream mitigation is comprised of activities that stabilize stream banks, establish or protect riparian buffer areas, improve water quality through reduction of erosion and sedimentation, or preserve pristine resources. Such activities can significantly reduce erosion and sedimentation, improve wildlife habitat, and improve water quality. In general, wetland mitigation is comprised of activities that create, restore, enhance, or preserve wetland resources. Such activities improve wetland functions and may result in gain of wetland acreage in the case of creation and restoration.

The scope of work requires the Contractor to provide **a full delivery TIDAL WETLAND mitigation project(s) within the Potomac River basin and/or STREAM mitigation project(s) within the Chesapeake Bay basin in Virginia** that will meet or exceed the standards for compensatory mitigation in Virginia. The mitigation banking guidelines developed and provided by the Virginia Department of Environmental Quality (DEQ) and the United States Army Corps of Engineers – Norfolk District (Corps) should be used to guide the types of mitigation projects identified. Stream mitigation activities may include stream bank grading and sloping, in-stream work or repairs, structure placement, live stake planting, buffer establishment or enhancement, cattle exclusion, and/or long-term protection/preservation. Tidal wetland mitigation activities may include grading, ditch plugging, berm construction, hydraulic control structure installation, and planting of native vegetation. The following link provides general guidelines for wetland and stream mitigation within Virginia, and includes the Unified Stream Methodology (USM) for stream projects:
http://www.deq.virginia.gov/Programs/Water/WetlandsStreams/Mitigation.aspx.

A.1.1 Mitigation Bank Credits

TNC will consider a lump sum purchase of mitigation credits from approved mitigation banks that service the HUCs identified in this RFP. If the Contractor is proposing to sell TNC bank credits, they should provide responses to all questions and requests for information as outlined in this RFP. The Contractor shall provide documentation necessary to evaluate the bank site, including but not limited to a letter of credit availability for the amount of credits that may be satisfied by the bank, the signed MBI, current credit ledger balance from RIBITS (if RIBITS is accurate and up to date), etc. Lastly, the Contractor must show that the bank site is in compliance with all terms of the MBI and is in good standing with the IRT.

A.1.2 Conversion of Bank Site

TNC will not consider proposals that convert approved mitigation bank sites to Trust Fund projects. Approved mitigation banks with signed MBIs should not present a proposal that terminates the MBI to allow pursuit of funding the project through the Trust Fund.

A.2 PROPOSAL SUBMISSION REQUIREMENTS

Contractors are to make written proposals, which present detailed information on the proposed project(s) and Contractor's qualifications and understanding of the work to be performed. Proposals should be as thorough and detailed as needed so that TNC may properly evaluate the 1) Contractor's capabilities to provide the required goods/services and 2) whether the proposed project meets TNC's mitigation and conservation goals. Proposals will be evaluated in relation to the selection criteria in Section A.3. The Contractor shall address each of the selection criteria to aid TNC in its analysis and ranking of the proposal.

For tidal locations the proposal should address site selection, appropriate modifications to design criteria, and consider risk-based decision-making models. Specifically, the proposal should include a quantitative estimate to measure SLR inundation over time by using the NOAA Sea Level Rise Modeler https://coast.noaa.gov/slr/. The Intermediate-High Estimate or Intermediate Estimate should be utilized for the modeling. Using this modeler, the proposal should include a current description of habitat types in areas designated for landward marsh migration and how those areas will transform with SLR over the next several decades (e.g.; in 30 years, assuming a 1.5' increase in water levels, there will be X acres of low marsh, X acres of high marsh, and X acres of scrub-shrub). Designs should include appropriate planting palettes that allow for landward marsh migration (Spartina placement at MHW rather than lower elevation). The proposal should also consider vertical accretion in tidal marshes which may include estimates and monitoring techniques to measure organic matter and sediment deposition, with emphasis on success of plant abundance and biomass growth that allows for this vertical accretion. The project property should include "retreat zones" for the tidal ecosystem and the placement of an easement on those areas to ensure the egress route is protected, to the extent practicable.

Regarding monitoring requirements and success criteria for tidal projects, please use the mitigation plan of the New Mill Creek tidal bank as guidance for this proposed site. This bank's criteria have been approved by VMRC and should be used as a standard format for success and reporting requirements. The mitigation plan for this bank can be found on RIBITS.

Additionally, preferred sites would align with TNC's priority of contributing to a "TNC Resilient and Connected" terrestrial, coastal, and/or freshwater system. These areas have been identified by TNC scientists and planners as areas that allow for habitat and species migration in response to climate change. If a proposed tidal site does not align with these areas, please provide a response as to how this particular site would allow for sea level rise. TNC's resilience mapping tools and data downloads are available at:

- http://maps.tnc.org/resilientland/
- https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/freshwater/fwresilience/Pages/default.aspx
- https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/climate/CoastalResilience/Pages/Resilient-Coastal-Sites--for-Conservation-across-the-Northeast-and-Mid-Atlantic-Seaboard.aspx

The Contractor shall provide a minimum of the following information in its proposal. Contractors may provide additional information if desired.

1. Detailed information on project selection and technical approach, addressing at a minimum the items in the checklist in Attachment B

2. For proposed mitigation projects, a detailed proposal and technical approach for completing all tasks described in the Scope of Work (Attachment C), as listed below.

Task 1. Pre-Application Process
Task 2. Prospectus Process
Task 3. Historic Resources and/or T&E Species Surveys (if Required)
Task 4. Surface Water Delineation
Task 5. Topographic/Geomorphic Survey
Task 6. Preliminary Mitigation Design
Task 7. Site Development Plan Process
Task 8. Establish Stewardship Endowment
Task 9. Recordation of Long-Term Site Protection
Task 10. Credit Delivery (Preservation, RTE or Watershed Adjustment Factor, Conservation Easement, as applicable)
Task 11. Final Mitigation Design
Task 12. Implementation of Livestock Exclusion and Credit Delivery, as Applicable (Adjustment Factor Release)
Task 13. Acquisition of Permits
Task 14. Establish Long-Term Management Endowment
Task 15. Establish Maintenance and Monitoring Fund
Task 16. Implementation of Construction and Planting
Task 17. As-Built Survey and Report and Credit Delivery (Construction Release)
Tasks 18-23. Success Monitoring and Maintenance and Credit Delivery (Monitoring Release and Final Release)

3. Cost Proposal and Payment Schedule
   a. A cost proposal shall be provided as follows (as applicable):

Credit Type	Credits Delivered	Total Cost	Cost/Credit
Tidal Wetland Credits			
USM Stream Credits			

   b. For proposed mitigation projects, the Contractor shall also provide proposed payment amounts and due dates associated with the project milestones for each project proposed, per the format in the table below. The cost proposal shall include all costs of implementing the Scope of Work in Attachment C.

Task	Project Milestone	Delivery Date (# of days from Contract Execution)	Payment Amount
1	Pre-Application Process Completed[1]		
2	Prospectus Process Completed, and IEL Received by TNC[1]		
3	Historic Resources and/or T&E Species Surveys (if Required)[1]		
4	Surface Water Delineation		
5	Topographic/Geomorphic Survey		
6	Preliminary Mitigation Design		
7a	Site Development Plan Approved by TNC and Submitted to IRT		
7b	Site Development Plan Signed by IRT and TNC[1]		

8	Establish Stewardship Endowment[2]		
9	Recordation of Long-Term Site Protection		
10	Credit Delivery (Preservation, RTE or Watershed Adjustment Factor, Conservation Easement, as applicable)		
11	Final Mitigation Design Approved by TNC and IRT		
12a	Implementation of Livestock Exclusion (as applicable)		
12b	Credit Delivery (Livestock Exclusion Adjustment Factor, as applicable)		
13	Acquisition of Permits		
14	Establish Long-Term Management Endowment[2]		
15	Establish Maintenance and Monitoring Fund[1]		
16a	50% Implementation of Construction		
16b	100% Implementation of Construction		
16c	Completion of Planting		
17a	As-Built Survey and Report		
17b	Credit Delivery (Construction Release)		
18a	Success Monitoring and Maintenance Year 1		
18b	Credit Delivery (Monitoring Release Year 1)		
19a	Success Monitoring and Maintenance Year 2		
19b	Credit Delivery (Monitoring Release Year 2)		
20a	Success Monitoring and Maintenance Year 3		
20b	Credit Delivery (Monitoring Release Year 3)		
21	Success Monitoring and Maintenance Year 5		
22	Success Monitoring and Maintenance Year 7		
23a	Success Monitoring and Maintenance Year 10		
23b	Credit Delivery (Final Release)		

[1]The Contractor shall not proceed with tasks beyond this task until TNC provides written notice to proceed, which is contingent on the Corps providing approval to move forward. signing the SDP in Task 7 and providing written approval to move forward with construction following Task 15.

[2]Adjustments to the payment amounts for these tasks may be warranted following completion of Task 7 based on the final site budget in the SDP approved by the IRT, in which case the Contract shall be amended to reflect the new payment amounts.

c. The Contractor shall specify expiration date of bid. Submitted bid pricing must be good through April 30, 2022.

The full delivery contract between TNC and the Contractor will include a monetary penalty for every credit or portion of a credit that is not delivered based on the cost/credit and crediting analysis approved in the Site Development Plan.

4. Contractor Qualifications
   a. Contractor Questionnaire (Attachment E)
   b. Provide the following for the Contractor:
      i. Contact information for 3 references
      ii. Information on at least 3 mitigation projects Contractor has worked on that will demonstrate the Contractor's ability to perform the tasks required in the Scope of Work in Attachment C
      iii. Information on Contractor's experience conducting mitigation projects in Virginia
      iv. Names, qualifications, and experience of specific members of the project team
      v. Previous experience of the Contractor and proposed subcontractors working together on similar projects

5. Subcontractors
    a. Any subcontractors must be identified along with the defined work they will perform. The names, qualifications and experience of the proposed subcontractor(s) must be provided. TNC will not refuse a proposal based on the use of subcontractors but does retain the right to refuse the subcontractors selected. Contractor shall remain solely responsible for all subcontracted work. Describe your rationale for using subcontractors.
    b. Provide the following for the proposed construction firm:
        i. Contact information for 3 references
        ii. Information on at least 3 mitigation projects construction firm has worked on that will demonstrate the construction firm's ability to perform the tasks required in the Scope of Work in Attachment C
        iii. Information on construction firm's experience conducting mitigation projects in Virginia
        iv. Names, qualifications, and experience of specific members of the project team
6. Contracting
    a. Do you agree to use attached TNC contract (Attachment F)? If not:
        i. Review attached contract and express any concerns you have regarding the terms of the Agreement using the following conventions:
            - Agreed – where the terms are acceptable as stated.
            - Modification Proposed – where Contractor is unable to accept the terms as stated but will accept a modification of the terms. Contractor must provide: (1) the reason for its inability to accept the term as stated and (2) modified language, which would be acceptable to the Contractor.
            - Not Agreed – where the term is completely unacceptable, and no modification is possible. Please state the reason such term is unacceptable.
        ii. Attach a draft copy of your contract for TNC review.
7. Signed Disclosure Form (Attachment G)

A.3 SELECTION CRITERIA

Proposals will be evaluated in relation to the selection criteria below.

Selection Criteria

- 30% - Project site selection and proposed mitigation activities (additional detail below)
- 25% - Cost (additional detail below)
- 20% - Qualification and relevant experience of the Contractor, construction firm, other subcontractors, and project team
- 20% - Technical approach for creating deliverable products
- 5% - Quality of proposal/presentation

Project Site Selection and Proposed Mitigation Activities

- Project Size
    - The project must be of adequate size to achieve the initial mitigation goals and ensure long term success with an adequate buffer. A minimum buffer of 100 feet should be included. Projects that protect buffers 200 feet or larger will be considered.
- Credits Generated and Geographic Location
    - TNC is seeking mitigation projects that will deliver the following compensation credits (CC) in the following Hydrologic Unit Codes (HUCs) within the Commonwealth of Virginia:

TIDAL Wetland Mitigation Projects

River Basin	Project Location (HUC)	TIDAL Wetland Credits Generated	Credit Type
Potomac	02070011 or 02070010	1.75	A minimum of 1.75 credits must come from restoration or creation

STREAM Mitigation Projects

River Basin	Project Location (HUC)	STREAM (USM) Credits Generated	Credit Type
Chesapeake Bay	Priority HUC is 02080108, but project could also be within 02080102, 02080101, or 02080111	1200	A minimum of 50% of credits must be restoration/enhancement credits

  - Projects that will generate the credits stated above will be given priority in the selection process. Projects that provide more than the CC above will be considered if costs allow. Projects that provide less than the CC will be considered but will be given a lower ranking. Contractors may submit multiple projects to address the range of credits requested.
  - Maps showing the areas encompassed by these HUCs are provided in Attachment D.
- TNC Priority Areas/Compensation Planning Framework
  - Projects within or immediately adjacent to priority resilient and connected landscapes identified by TNC will be given preference in the selection process. Priority resilient and connected landscapes can be assessed using the Resilient Land Mapping Tool located at: http://maps.tnc.org/resilientland.
  - Projects that contribute to restoration or protection of complex stream networks ranked by TNC as highest or high resiliency will be given preference in the selection process. Freshwater resiliency data can be downloaded at the following link: http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/freshwater/fwresilience/Pages/default.aspx
  - Projects within or immediately adjacent to priority resilient coastal systems identified by TNC will be given preference in the selection process. Coastal resiliency data can be accessed at the following link: https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/climate/CoastalResilience/Pages/Resilient-Coastal-Sites--for-Conservation-across-the-Northeast-and-Mid-Atlantic-Seaboard.aspx
  - Projects within or immediately adjacent to TNC aquatic and terrestrial priority areas will be given preference in the selection process. Description and mapping of priority areas can be found in "The Nature Conservancy's Watershed Approach to Compensation Planning for the Virginia Aquatic Resources Trust Fund" – Exhibit A of the Program Instrument (www.nature.org/vartf).
- Protected Lands
  - Projects immediately adjacent to other protected lands will be given priority in the selection process.
- Natural Heritage Resources
  - Projects with Heritage Elements within or immediately adjacent to the project area will be given priority in the selection process. Any project that will directly benefit an Endangered,

Threatened, and/or Sensitive species or community type will be given priority in the selection process.

- Impaired Waters
  - Projects that contribute to improved water quality for identified/designated impaired waters will be given priority in the selection process.
- Watershed Based Approach
  - Projects founded on a watershed approach will be given priority over other projects.
- Mitigation Type
  - Mitigation type (restoration, creation, enhancement, preservation) will be used in the selection process. Projects that provide restoration, creation, and enhancement opportunities are the priority. Preservation activities may be a component but should not be the focus of the project.
- Ecological Benefits
  - Projects that have higher ecological benefit (water quality, flood storage, habitat, etc.) will be given priority in the selection process.
- Long-Term Site Protection
  - Projects that will be protected by a conservation easement will be given priority over projects protected by a deed restriction.

Cost

The budget for the project(s) should including ALL project costs, as described in the scope of work, including land protection, long-term management, maintenance and monitoring, and financial assurances. If appropriate, more than one project may be awarded. Contractors shall provide with their proposals a total cost and a cost/credit for each proposed project and each credit type. Projects with a lower total cost and a lower cost per credit ratio will be given priority in the selection process.

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ATTACHMENT B:
CHECKLIST OF REQUIRED INFORMATION RELATED TO SITE SELECTION AND MITIGATION APPROACH

1. General Property Information
    a. Landowner name and address, property address, tax map parcel numbers
    b. Property and proposed mitigation site acreage
    c. Information on any easements, liens, rights of way, reserved timber or mineral rights on the mitigation site or adjoining lands.
    d. Maps
        i. Provide vicinity map of property
        ii. Provide maps showing the property boundary/mitigation site with aerial photograph and USGS topographic map
        iii. Map showing location of encumbrances or structures within the property (roads, utilities, and associated rights-of-way, culverts or other structures, etc.)
        iv. Provide a GIS shapefile of the property boundary/mitigation site
2. Site Location
    a. Identify the geographic location of the mitigation site.
    b. Identify current zoning of the mitigation site and adjacent lands.
    c. Identify any current, planned, or foreseeable activities upstream or upgradient of the mitigation site that may adversely affect the project.
    d. Identify any areas upstream of, upslope of, or adjacent to the mitigation site that are zoned or identified for future development in the comprehensive plan, long-range plan, or zoning overlay.
    e. Does proposed riparian buffer protection provide greater protection than state or local requirements?
    f. Is mitigation site consistent with local planning requirements?
    g. Describe any eminent threats to the property
3. Existing Conditions
    a. Describe current site conditions including land use, vegetation (extent of natives, invasives, etc.), hydrology (streams, wetlands, ponds, etc.), buffers, and soils.
    b. Identify previous land uses of the site and adjacent properties.
    c. Summarize the historical hydrology of the site.
    d. Describe order(s) of streams on the mitigation site.
    e. Describe watersheds of project streams (drainage area size, land use and maps)
    f. Indicate whether a jurisdictional determination of "waters of the U.S." has been made by the Corps.
    g. Provide photographs documenting existing conditions
4. Suitability
    a. Describe the ecological suitability of the site to achieve the objectives of the proposed mitigation site, including the physical, chemical, and biological characteristics of the site and how that site will support the planned types of aquatic resources/functions.
    b. Site Selection Criteria
        i. Complete Site Selection Criteria USACE Norfolk District and Virginia Department of Environmental Quality Checklist (see Attachment C, Exhibit 1 of this RFP
    c. Maps

i. Provide maps showing natural heritage elements, impaired waters, protected lands, TNC priorities, and aquatic resources on and in the vicinity of the property

8. Goals and Objectives
    a. Identify the objectives of the proposed mitigation site and the aquatic functions to be restored/enhanced (water quality improvement, flood storage, wildlife habitat, etc.).
    b. Identify any regional or local benefits derived from the mitigation site.
    c. Identify any potential threats to the mitigation site or resource type the site intends to provide and/or protect.
9. Concept Design Plan
    a. Identify the methods of proposed compensation (stream restoration, stream enhancement, stream preservation, wetland creation/restoration, wetland enhancement, wetland preservation, buffer restoration/enhancement, buffer preservation, etc.) that will be provided.
    b. Describe the work intended to accomplish site activities
    c. Describe why the proposed mitigation activities are warranted and how they will achieve project goals and ecological benefits.
    d. Identify the general need for and technical feasibility of the proposed mitigation site.
    e. Identify an estimated amount (acres/linear footage) of each compensation type that will be provided, and width of riparian buffer that will be protected.
    f. Provide mitigation credit analysis, including USM forms and wetland credit calculator.
    g. Provide mapping of proposed mitigation activities
10. Proposed Service Area
    a. Provide a map identifying the proposed service area of the mitigation site(s).
    b. Provide a rationale for determining the limits of the proposed service area.
11. Project Limitations
    a. T&E species
        i. Identify any potential species surveys, time of year restrictions, or other limitations for T&E species that are likely to be required or might influence implementation or permitting of the project
    b. Cultural resources
        i. Provide historical resources screening focusing on Section 106 permitting restrictions (http://www.achp.gov/106summary.html).
        ii. Identify potential 106 surveys or other limitations that are likely to be required or might influence permitting or implementation of the project
    c. Site constraints
        i. Describe any site constraints such as encumbrances or structures (roads, utilities, and associated rights-of-way, culverts or other structures), site access, etc.
12. Long-Term Protection & Management
    a. Identify the proposed future ownership arrangements for the site.
    b. Provide proof of the landowner's intent to participate according to the Contractor's plans for the project
    c. Identify the proposed site protection instrument (deed restriction, conservation easement, etc.) and the likely responsible parties.
    d. Provide proof of the conservation easement holder's intent to hold the easement, if an easement will be the site protection instrument. TNC does not plan to serve in this capacity.
    e. Identify the proposed long-term management strategy and identify the likely Long-Term Steward that would be responsible for long-term management. TNC does not plan to serve

in this capacity.

f. Provide proof of the Long-Term Steward's intent to serve as the Long-Term Steward
g. Provide a title report and copies of deeds (if any) for encumbrances on the property, such as rights-of-way associated with utilities or roads, and retained rights (mineral, timber, surface, subsurface, natural gas, water, etc.) If there are retained rights, provide a plan for extinguishing those rights.
h. Provide proof that any liens will be subordinated to the easement.

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ATTACHMENT C:
SCOPE OF WORK FOR TIDAL WETLAND MITIGATION PROJECTS IN THE POTOMAC RIVER BASIN AND STREAM MITIGATION PROJECTS IN THE CHESAPEAKE BAY BASIN OF VIRGINIA

PURPOSE
The purpose of this project is to provide TIDAL WETLAND and/or STREAM mitigation to offset unavoidable impacts in the Potomac River and Chesapeake Bay basins for which the Virginia Aquatic Resources Trust Fund (VARTF) was utilized as the compensatory mitigation. The scope of work requires the Contractor to provide **a full delivery TIDAL WETLAND mitigation project(s) within the Potomac River basin and/or STREAM mitigation project(s) within the Chesapeake Bay basin in Virginia** per the specifications herein that will meet or exceed the standards for compensatory mitigation in Virginia as determined by the United States Army Corps of Engineers (Corps), the Virginia Department of Environmental Quality (DEQ), and the Interagency Review Team (IRT).

CONTRACTOR TASKS AND DUTIES
The specific tasks to be completed by the Contractor are detailed below.

TASK 1. PRE-APPLICATION PROCESS
The Contractor will complete the required pre-application review process. The current Corps-approved pre-application review process is outlined below.

1. The Contractor shall submit the following information for pre-application review to the U.S. Army Corps of Engineers (Corps) (copying TNC). A sample completed pre-application submittal is available for download at www.nature.org/vartf.
    a. A pre-application request form signed by the landowner.
    b. A brief description of the site location and existing conditions, project purpose, and proposed mitigation activities
    c. Mapping to include location map, landscape assessment map, aerial map of mitigation area, proposed mitigation activities map, and proposed geographic service area map
    d. Existing condition photographs
2. Upon receipt of a complete pre-application request, the Corps PM will schedule a site visit and invite the Virginia Department of Environmental Quality (DEQ) and TNC to attend.
3. The Contractor shall attend the pre-application site visit with TNC, the Corps, and DEQ to review the current site conditions and proposed mitigation activities.
4. Upon completion of the site visit, the Corps PM will provide the Contractor and TNC with:
    a. A recommendation to move forward with submittal of a draft prospectus, any applicable comments, a link to the Norfolk Page of RIBITS AND instructions for submitting the draft prospectus
    OR
    b. A recommendation to not move forward with submittal of a prospectus and any applicable comments.

[Note: This process is anticipated to take 3-6 months from submittal of the pre-application to the Corps. The Contractor shall not proceed with tasks beyond Task 1 until TNC provides written notice to proceed, which is contingent on the Corps providing approval to move forward.]

TASK 2. PROSPECTUS PROCESS

The Contractor will complete the required prospectus process. The current Corps-approved prospectus process is outlined below.

1. The Contractor shall submit the following information to the Corps (copying TNC) no less than two weeks prior to the IRT meeting. A sample completed prospectus is available for download at www.nature.org/vartf.
   a. A completed Site Selection Criteria USACE Norfolk District and Virginia Department of Environmental Quality Checklist (see Exhibit 1 of this Scope of Work)
   b. A completed Norfolk District Prospectus Checklist (see Exhibit 2 of this Scope of Work)
   c. A completed Project Proposal that includes the following:
      i. Vicinity map
      ii. Description of the work proposed
      iii. V-CRIS map
      iv. Description of eminent threats to property
      v. Potential crediting (wetland vs. stream and tidal vs. non-tidal)
      vi. Updated VARTF watershed liability
      vii. Description of the current property owner
      viii. Discussion of whether the Contractor will be purchasing the land or just easements
      ix. Brief description of current site conditions
      x. Proposed Geographic Service Area
   d. A proposed budget that includes the following (as applicable):
      i. Long-term management
      ii. Monitoring and Maintenance
      iii. Purchase costs
      iv. Legal expenses
      v. Environmental Assessment Form
      vi. Survey
      vii. Appraisal
      viii. Title search and insurance
      ix. Closing fees
      x. Stewardship startup costs
      xi. Stewardship endowment
      xii. Delineation cost
      xiii. Travel cost
      xiv. Historic/Cultural resource survey costs
      xv. Design and construction costs
      xvi. Other
   e. A completed DHR coordination package that includes the following:
      i. A vicinity map with the project boundaries clearly marked
      ii. A V-CRIS map
      iii. A copy of the V-CRIS printouts for all known resources
      iv. A completed DHR coordination form (see Exhibit 3 of this Scope of Work)
      v. A copy of any completed surveys
   f. A completed T/E coordination package that includes the following:
      i. A review of the USFWS IPAC system: http:ecos.fws.gov/ipac
      ii. A completed Species Conclusion Table (see Exhibit 4 of this Scope of Work)
2. The Contractor shall present the prospectus at the IRT meeting.

3. If requested by the IRT, the Contractor shall attend a site visit with the IRT and TNC.
4. Upon completion of the Corps' 30-day review the Contractor will correct any deficiencies that are identified, by the IRT or TNC, in the project proposal. The Corps' 30-day review starts at the date of IRT meeting.
5. Within 15 days from the Corps' determination that the project proposal is complete, the Corps PM will move forward with a 30-day public notice.
6. Upon receipt of a complete project proposal AND a complete DHR coordination package the Corps PM will initiate coordination with the DHR.
7. Within 15 days of the public notice suspense date the Corps PM will forward all comments received to the IRT, Contractor, and TNC.
8. Within 30 days of the public notice suspense date, the Corps PM will provide TNC an "Initial Evaluation Letter" (IEL). The IEL will provide TNC with one of the following:
    a. A recommendation of approval to move forward with development of the Site Development Plan AND approval of all/portion of the proposed budget.
    OR
    b. A recommendation of approval with changes to the original proposal. (Once all outstanding issues are resolved an official decision on how to proceed will be provided by the Corps PM)
    OR
    c. A recommendation that the project does not move forward.

[Note: This process is anticipated to take 6-12 months from submittal of the prospectus to the Corps. The Contractor shall not proceed with tasks beyond Task 2 until TNC provides written notice to proceed, which is contingent on the Corps providing approval to move forward.]

TASK 3. HISTORIC RESOURCES AND/OR T&E SPECIES SURVEYS (IF REQUIRED)

If required by the permitting agencies, the Contractor shall complete surveys of historic resources (Section 106) or T&E species. The Contractor shall follow the recommendations and requirements for field work and reporting provided by the Corps and other appropriate agencies (e.g., Virginia Department of Historic Resources, Virginia Department of Game and Inland Fisheries, U.S. Fish and Wildlife Service, Virginia Department of Conservation and Recreation).

[Note: The Contractor shall not proceed with tasks beyond Task 3 until TNC provides written notice to proceed, which is contingent on the results of the historic resources survey and the Corps providing approval to move forward.]

TASK 4. SURFACE WATER DELINEATION

The Contractor shall complete a detailed delineation of waters of the U.S. within the project area subject to jurisdiction by the Corps under Section 404 of the Clean Water Act and all surface waters subject to jurisdiction under Virginia DEQ laws and regulations, and shall obtain confirmation of the delineation from the Corps. This delineation includes all open water, streams, wetlands, and drainage features. The Contractor shall utilize the Routine Determination Method as outlined in the 1987 *Corps of Engineers Wetland Delineation Manual* and methods described in the most recent regional supplement to the manual to identify and delineate the waters and wetlands in the project area.

The Contractor shall conduct a review of available information on aquatic features onsite, including available resources such as National Wetlands Inventory (NWI) maps, USGS topographic maps, aerial

color infrared photography and soils maps. Site visits shall then be conducted to delineate and flag the boundaries of wetlands and other Waters of the U.S.

The Contractor shall provide a final surface water delineation report, including but not limited to, detailed wetland and stream boundary maps, copies of all field data sheets, a narrative describing delineation findings, and a copy of the Corps confirmation letter. The report shall also include a table that lists the acreage of wetlands (to the nearest 0.01 acre) and stream length (to the nearest linear foot) for each wetland and stream feature. The streams shall be categorized as perennial, intermittent, or ephemeral, and wetlands shall be categorized according to wetland type (emergent, scrub-shrub, forested). The Contractor shall also provide ArcGIS shapefiles of the wetland and stream delineation boundaries.

TASK 5. TOPOGRAPHIC/GEOMORPHIC SURVEY

The Contractor shall establish survey control and datum for the project area and complete a detailed topographic survey to be used for mitigation design efforts.

The Contractor will complete the following activities within the project area:

- Establish survey control network, which will be tied to the Virginia Geodetic Survey grid system using N.A.D. 1983 State Plane Coordinates and NAVD 88 elevation datum.
- Provide detailed topography along stream corridors, wetlands, fields, and any intersecting ditches, drainageways and berms within the project area
- Detailed stream cross-sections sufficient to support the natural channel design process and development of a detailed hydraulic model.
- Representative longitudinal profile surveys of each stream reach that include: thalweg, left and right top of bank, left and right toe of bank, water surface elevations, and floodplain topography.
- Field locate all trails, structures, fences, roads, utilities and associated rights-of-way that are visible within survey area.
- Field locate culverts, including inverts and dimensions (pipe size and length), pipe types, cover over pipes and depth pipes are buried (if present).
- Field locate centerline and edge of pavement extending approximately 50’ each side of culvert and stream crossings.
- Field locate edges of farm roads within project area.
- Field locate all trees 10” and greater within the project area.
- Map edge of vegetation.

The Contractor shall prepare a digital file (in AutoCAD or ArcGIS format) of the site survey and a sealed copy for the survey control points.

TASK 6. PRELIMINARY MITIGATION DESIGN

The Contractor shall complete a preliminary mitigation design plan to provide a minimum of the credits described in the Contractor’s proposal. The preliminary mitigation design plan shall contain all information required for submittal with the Site Development Plan (SDP) for IRT approval, and shall meet or exceed the standards for compensatory mitigation in Virginia as determined by the Corps, DEQ, and the IRT for this Project.

<u>Existing Conditions Assessment</u>

The Contractor shall conduct fieldwork to identify existing conditions within the project area and evaluate potential stream, wetland, and buffer mitigation activities. The assessment of existing

conditions shall evaluate the geomorphic, channel stability, soils, hydrology, and riparian vegetation conditions within the project area and throughout the watershed to support the natural channel design process and the selection of appropriate stream and wetland mitigation measures. Information gathered as a part of this evaluation shall include:

- Stream assessment
    - Narrative description of each stream reach
    - Length of each stream reach, perennial flow determination, and Rosgen stream classification and physical attributes
    - Graphical and tabular summary of stream reach data collected in the field, with an analysis of bankfull cross-sectional area, width/depth ratio, entrenchment ratio, and bank height ratio
    - Characterization of the existing condition of the streams and riparian buffers using the Virginia Unified Stream Methodology (USM). USM Form 1 shall be completed and submitted for each reach.
    - Stream cross sections, longitudinal surveys, and pebble count data
    - Bank Erodibility Hazard Index and Near Bank Stress survey sufficient to estimate an annual rate of erosion (expressed as estimated tons of sediment per year)
    - Representative digital photographs to document existing conditions taken upstream and downstream of each cross-section and at other locations as needed to document existing conditions and locations of proposed activities
- Wetland assessment
    - Narrative description of existing wetlands
    - Acreage, type, and condition of existing wetlands
    - Assessment of hydric soils presence/absence utilizing soil mapping and an analysis of NRCS Hydric Soil Field Indicators.
    - Soil characterization to determine the soil properties and characteristics and its suitability to support wetland restoration/creation activities, including soil classification and analysis (texture, color, etc.) at representative sample points in the project area. The Contractor shall note depth to hydric soil indicators at each sample point and include which hydric soil indicator(s) is met at each sample point using the NRCS Hydric Soil Field Indicators nomenclature.
    - Assessment of a reference wetland in the project area or vicinity. The Contractor shall conduct fieldwork to evaluate the soils, hydrology, and vegetation conditions within the reference wetland and provide data to support appropriate wetland mitigation measures provided in the design plan.
    - Site hydrology assessments
    - Representative digital photographs to document existing conditions and locations of proposed activities
- Riparian vegetation assessment to identify appropriate species for stream, wetland, and riparian buffer restoration/enhancement activities
- Detailed depiction of stream reaches, wetlands, open water bodies, and other jurisdictional drainage features
- Visual observations and other important site conditions
- Narrative describing existing conditions, the need for intervention, and the potential type, extent, and credit estimate for mitigation measures for streams, wetlands, and buffers
- Potential issues related to construction access and adverse environmental impacts
- Other relevant data to support the recommended mitigation approaches
- GIS layers

Non-native and Invasive Species Assessment

The Contractor shall identify and map non-native and invasive species in the project area. Native status shall be determined using the *Digital Atlas of the Virginia Flora*. Invasive status shall be determined using the Virginia Department of Conservation and Recreation's *Invasive Alien Plant Species of Virginia*. Narrative descriptions of non-native and invasive species shall be provided, along with maps showing location and extent of species.

Preliminary Mitigation Design Plan

The Contractor shall utilize existing condition data, topographic and geomorphic survey data, vegetation survey data, reference reach data, reference wetland data and other available information to evaluate stream and wetland mitigation alternatives and develop a preliminary mitigation design that clearly depicts and describes areas and extents of potential stream, wetland, and buffer mitigation activities. The preliminary mitigation design shall contain all information required for submittal with the SDP for IRT approval and shall meet or exceed the standards for compensatory mitigation in Virginia as determined by the Corps, DEQ, and the IRT for this Project. The project shall be designed to ensure it will meet the success criteria for mitigation in Virginia. Exhibit 5 of this Scope of Work provides the standard monitoring requirements and success criteria for VARTF mitigation projects, based on the current SDP template.

Every effort shall be made during the design and construction phases to minimize disturbance to existing forest and wetlands. The Contractor shall be responsible for working with/around all infrastructure in the design of the project. Stream mitigation measures shall include livestock exclusion and stream restoration. Stream design shall be based on natural channel design principles and shall ensure and detail stable and appropriate tie-ins with all drainages in the project area and with the portions of streams up and downstream of the project area. Wetland restoration activities shall include livestock exclusion, eliminating channel incision and filling ditches and channels throughout the floodplain to raise the local water table, eliminating invasive species, and re-vegetating the wetland area with native species. Buffer enhancement activities shall include removal of non-native and invasive species and enhancement with native plantings. The design shall include a riparian buffer, wetland, and streambank planting plan for the project area. Planting will occur in the dormant season. The plantings used will be native species common to the area, which are suitable for growth in local riparian conditions and from areas within the same or adjacent USDA Plant Hardiness Zone or NRCS Land Resource Region as the project site.

The Contractor shall prepare and submit an electronic version (pdf and CADD/GIS files) of the draft preliminary mitigation design, which will include (as appropriate):

- Results of the existing conditions assessment
- Stream and wetland delineation
- Detailed depiction of results of topographic/geomorphic survey
- Results of the non-native and invasive species inventory and assessment
- Narrative description of the preliminary mitigation design
- Detailed plan view maps depicting the proposed mitigation activities
- Typical sections to convey design concepts
- Streambank bioengineering techniques details
- In-stream structures details
- Soils mapping
- Hydrologic information

- A management plan for non-native and invasive species control to ensure success criteria are met
- Seeding and planting plans (including vegetation community types, species to be planted and quantities by area, application rates, and planting densities by area)
- USM Forms 1, 3, and 4 for each stream reach (pdf and EXCEL format)
- Wetland credit calculators
- Tables indicating the proposed USM and wetland credits to be generated by the project
- GIS files
- Other supporting concept design information, and any other information required for submittal of the preliminary mitigation design with the SDP for IRT approval

The Contractor shall attend and facilitate a meeting with TNC to review the draft preliminary mitigation design and shall provide TNC with meeting notes following the meeting. Following the meeting, TNC shall review the draft preliminary mitigation design and provide comments to the Contractor. Based upon comments and agreed-to-items resulting from TNC's review, the Contractor shall refine the draft for final submission.

TASK 7. SITE DEVELOPMENT PLAN PROCESS

The Contractor will complete the required Site Development Plan (SDP) process and deliver to TNC a final fully executed SDP document. The current Corps-approved SDP process is outlined below.

The SDP must include the preliminary mitigation design plan, all the items provided in the template VARTF SDP, and a final budget. The Contractor must track changes on the template VARTF SDP when creating the SDP for the subject site. The template VARTF SDP is available for download at www.nature.org/vartf.

The Contractor shall submit the SDP in electronic version (Word, pdf and CADD/GIS files as appropriate) to TNC for review. TNC shall review the SDP and provide comments to the Contractor. Based upon comments and agreed-to-items resulting from TNC's review, the Contractor shall refine the SDP for submission to the Corps.

Following approval by the Corps that the SDP is complete, the Corps will forward the SDP to the VARTF Interagency Review Team (IRT) for a 35-day comment period. Following the comment period, the Corps will forward comments to TNC/the Contractor. The Contractor shall work with TNC as needed to address comments. Once comments are addressed to the satisfaction of the Corps, the Corps will sign the SDP which authorizes TNC to move forward with development of the final mitigation design.

[Note: This process is anticipated to take 12-18 months from submittal to the Corps. The Contractor shall not proceed with tasks beyond Task 7 until TNC provides written notice to proceed, which is contingent on the Corps signing the SDP.]

TASK 8. ESTABLISH STEWARDSHIP ENDOWMENT

The Contractor will be responsible for funding the Stewardship Endowment to ensure monitoring and enforcement of the real estate protection document. The Stewardship Endowment Fund monies will be placed into an endowment or other secure mechanism, in any case approved by the Corps/IRT, owned and managed by, and in the name of, the real estate protection document holder, to generate an annual return that is calculated to cover the anticipated annual expenses. The holder of the real estate protection document shall meet the requirements specified in Chapter 10.1 Virginia Conservation Easement Act of

the Code of Virginia. Contractor may invoice for this task following submittal to the IRT and approval by the IRT of documentation that the endowment has been established. Such endowment monies may be transferred by TNC directly to the real estate protection document holder, in TNC's discretion.

TASK 9. RECORDATION OF LONG-TERM SITE PROTECTION

The Contractor will record the real estate protection document in the land records of the appropriate locality. The Contractor will provide a copy of the proposed protection document and current title commitment to TNC and the Corps for review, either with the SDP or prior to submittal of the SDP. The protection document and the SDP must be approved by TNC and the Corps, and ***the SDP must be signed before proceeding with recordation of the protection document***. Contractor may invoice for this task following submittal to TNC of the recorded conservation easement and recording receipt.

TASK 10. CREDIT DELIVERY (PRESERVATION, RTE OR WATERSHED ADJUSTMENT FACTOR, CONSERVATION EASEMENT RELEASE, AS APPLICABLE)

The Contractor shall develop and obtain IRT approval of a credit release request for credits associated with preservation, RTE or watershed adjustment factors, or conservation easement, as applicable. The credit release request shall follow the approved SDP credit release schedule(s), unless otherwise agreed to by TNC. The approved SDP credit release schedule(s) are expected to follow the IRT-approved credit release schedule template (see Exhibit 6 of this Scope of Work). The Contractor shall submit the draft credit release request to TNC for review prior to submittal to the IRT. **Payments for this task shall be reduced, for every credit or portion of a credit that is not delivered according to the credit release schedule(s) in Exhibit 6 of this Scope of Work, as adjusted in the SDP approved by the IRT and included in an amendment to the Contract, or as otherwise approved by TNC.**

TASK 11. FINAL MITIGATION DESIGN

After the SDP is signed, the Contractor shall address IRT and TNC comments and incorporate additional details to advance the preliminary mitigation design to final design plans sufficient to obtain IRT approval of the final design and support all required permitting and implementation of design activities. All construction plans, technical specifications, and/or special construction specifications shall be prepared by or under the supervision of an engineer properly licensed to perform the Work.

The final mitigation design plans will include the following in addition to preliminary mitigation design plan information from Task 6:

- Technical specifications
- General notes and construction sequence and schedule
- Narrative description of proposed mitigation activities
- Final credit calculations and tables
- Stream and wetland existing conditions data, reference reach and database data, reference wetland data, and design criteria
- Stream and floodplain plans showing proposed alignment, grading limits, and in-stream structure types and locations
- Grading plans
- Typical sections for the stream and floodplain
- In-stream structure and bio-engineering details
- Outlet control details
- Design stream planform view and profiles showing proposed thalweg and bankfull
- Invasive species management plans

- Planting plans, details, and proposed vegetation species lists
- Erosion and sedimentation control measures
- Ingress/egress routes
- GIS files

The Contractor shall submit the final design plans in electronic version (Word, pdf and CADD/GIS files as appropriate) to TNC for review. TNC shall review the final design plans and provide comments to the Contractor. Based upon comments and agreed-to-items resulting from TNC's review, the Contractor shall refine the final design plans for submission to the Corps.

The Corps will forward the final design plans to the IRT for review. Following the comment period, the Corps will forward comments to TNC/the Contractor. The Contractor shall work with TNC as needed to address comments. Once comments are addressed to the satisfaction of the Corps, the Corps will provide approval of the final design.

TASK 12. IMPLEMENTATION OF LIVESTOCK EXCLUSION AND CREDIT DELIVERY, AS APPLICABLE (ADJUSTMENT FACTOR RELEASE)

If applicable, the Contractor shall implement the livestock exclusion activities per the approved final design plans. Following implementation, the Contractor shall develop and obtain IRT approval of a credit release request for livestock exclusion adjustment factor credits. The credit release request shall follow the approved SDP credit release schedule, unless otherwise agreed to by TNC. The approved SDP credit release schedule is expected to follow the IRT-approved credit release schedule template (see Exhibit 6 of this Scope of Work). The Contractor shall submit the draft credit release request to TNC for review prior to submittal to the IRT. **Payments for this task shall be reduced, based on the crediting analysis and cost/credit approved in the Site Development Plan, for every credit or portion of a credit that is not delivered according to the credit release schedule in Exhibit 6 of this Scope of Work, as adjusted in the SDP approved by the IRT and included in an amendment to the Contract, or as otherwise approved by TNC.**

TASK 13. ACQUISITION OF PERMITS

The Contractor shall be responsible for acquiring all required permits and authorizations, including the Joint Permit Application (JPA), needed to implement the mitigation design. This includes filling out and signing all necessary permit applications, providing all necessary information (plans, contact info, etc.) to acquire the permits, paying all fees required to acquire the necessary permits (including any survey or other costs associated with historic resources or T&E species review), coordinating and attending any necessary site or other meetings required to secure permits or authorizations, and addressing agreed upon comments resulting from the permitting agencies' review.

The Contractor shall be responsible for complying with all conditions of all federal, state, and local permits and requirements for the duration of the project and this Contract. Any ramifications (fines, fees, delay in work, etc.) related to the violation of the requirements of the permits shall be the responsibility of the Contractor. The Contractor shall inform TNC immediately of any permit issues/violations that occur on the site.

The Contractor shall notify TNC of any permit conditions and/or restrictions imposed or recommended by the permitting agencies during the permitting process. The Contractor shall not proceed with discussions with the permitting agencies regarding permit conditions and/or restrictions until TNC and the Contractor have agreed on a response to the agencies.

The Contractor shall submit applications for all required permits to complete the implementation of the design following execution of the final SDP and IRT approval of the final design plans for the project. The Contractor shall submit copies of all permit documents to TNC following issuance of permits/authorizations.

TASK 14. ESTABLISH LONG-TERM MANAGEMENT ENDOWMENT

The Contractor will be responsible for funding the Long-Term Management Fund to implement the Long-Term Management and Maintenance Plan. The Long-Term Management Fund monies will be placed into an endowment or other secure mechanism, in any case approved by the Corps/IRT, to generate an annual return that is calculated to cover the anticipated annual expenses. The Long-Term Management Fund monies will be used and managed by the Long-Term Steward for the project site. Contractor may invoice for this task following submittal to the IRT and approval by the IRT of documentation that the endowment has been established.

TASK 15. ESTABLISH MAINTENANCE AND MONITORING FUND

The Contractor will be responsible for funding the Maintenance and Monitoring Fund and implementing corrective actions during the 10-year monitoring period as needed to ensure attainment of success criteria. The Maintenance and Monitoring Fund monies will be placed into an interest-bearing account or other mechanism approved by TNC. The Maintenance and Monitoring Fund will be used by the Contractor to conduct maintenance and monitoring activities during the 10-year monitoring period. Contractor may invoice for this task following submittal to TNC and approval by TNC of documentation that the fund has been established.

[Note: The Contractor shall not proceed with tasks beyond Task 15 until TNC provides written notice to proceed, which is contingent on the Corps providing approval to proceed with implementation following easement recordation, IRT approval of final design plans, acquisition of permits, and establishment of the Stewardship Endowment, Long-Term Management Endowment, and Maintenance and Monitoring Fund.]

TASK 16. IMPLEMENTATION OF CONSTRUCTION AND PLANTING

Construction Oversight

The Contractor shall be responsible for management of the project and for oversight of all mitigation activities and all contractors hired to implement mitigation activities. The Contractor shall retain the responsibility for the quality and completion of their work and the work of their subcontractors and for adhering to applicable regulations, permits, plans, and specifications.

The Contractor shall notify TNC at least 5 calendar days prior to beginning construction and within 5 calendar days prior to the anticipated demobilization date.

The Contractor shall be responsible for ensuring all components of the design (including all grading, seeding, stabilization, erosion and sediment control measures, invasive species management, planting, and construction tasks) are implemented according to the final design plans and specifications. During the field activities, the Contractor shall use best professional judgment to implement necessary changes to the approved design or technical specifications if site conditions warrant such a change. However, the Contractor shall notify TNC as soon as possible to discuss this change.

The Contractor shall be on-site as needed during the construction phase to ensure that the site is built in accordance with the design plans, specifications and approved permits. The Contractor shall communicate regularly with the construction firm and shall meet with the construction firm on-site as needed regarding the progression of construction.

The Contractor shall submit reports at 50% and 100% completion of construction. The reports shall include adequate data to show that all components have been constructed and installed according to the final design plans and construction documents, or are within acceptable tolerances, and any changes or deviations from these documents have been approved by TNC. At a minimum, the reports shall include data sheets with built elevations of wetland outlets, wetland areas, in-stream structures, and data collected and plotted for channel cross sections located approximately every 500 feet of channel length to verify correct channel dimensions. The 50% construction complete report shall be submitted within 10 days of 50% completion of construction, and the 100% construction completion report shall be submitted within 10 days of 100% completion of construction and prior to demobilization, and in both cases such reports shall be submitted no later than submission of the invoices for Tasks 16(a) and 16(b) respectively.

Meetings shall be conducted on the site at pre-construction, 50% completion, and 100% completion with TNC and the Contractor to ensure that all activities are satisfactorily planned for and completed. A person qualified in each design phase of the project shall be available when required to support the necessary visits. The 100% construction meeting shall be held prior to demobilization.

Construction

The Contractor shall implement the construction activities as approved in the final design plan and shall provide all materials and labor to complete such activities.

The Contractor shall provide a payment bond and a performance bond in a penal sum equal to the cost of implementing the design including construction and planting. The bond shall be in a form acceptable to TNC and shall be issued by a corporate surety with an AM Best rating of A- or better. The performance bond shall be payable to TNC and its successors and assigns, shall be conditioned on the Contractor's faithful performance of the project required by this Contract, and shall be executed by a corporate surety acceptable to TNC that is authorized to do business in Virginia. The payment bond shall protect those who have a direct contractual relationship with the Contractor or its subcontractors and who supply labor or materials in connection with the project, and shall be executed by a corporate surety acceptable to TNC that is authorized to do business in Virginia. Upon request of any person or entity appearing to be a potential beneficiary of the payment bond, Contractor shall promptly furnish a copy of the bond to such person or entity. The bond can be released upon TNC approval of Task 17 – As-built Survey and Report.

The Contractor shall be responsible for all coordination to locate and protect utilities present within the project corridor. The Contractor shall stakeout the location of the proposed stream channel and wetlands prior to commencing excavation operations. The survey shall identify the general locations of the centerline and the centerline offsets along the new stream channel, the wetland grading limits, and existing wetlands. The Contractor shall be responsible for conducting construction activities in a manner that does not damage utilities, other structures, roads or trails, and shall repair any damages to utilities, other structures, roads or trails occasioned by such activities.

Finished grades must not deviate by more than +/- 0.3 feet from elevations shown on final design plan. The Contractor, with TNC approval, may determine that elevations need to be adjusted to ensure proper stream and wetland function and/or fit with surrounding field conditions. The Contractor shall then re-grade these areas to meet the appropriate elevations. If finished grades deviate more than +/- 0.3 feet from the plan elevations and the Contractor, with TNC approval, determines that the deviation does not compromise stream channel or wetland stability or function, additional grading shall not be required.

The Contractor shall apply a mix of temporary stabilizing native seed and permanent native seed to all disturbed areas. Invasive or non-native species shall not be included in any seed mix applied to the site. The Contractor shall also install erosion control matting per approved specifications on all disturbed streambanks immediately following construction. The Contractor shall restore all disturbed areas (including stockpile and staging areas) prior to demobilization. The Contractor shall be responsible for the off-site transport and disposal of all unused construction materials (e.g., rock, fill, trees, etc.) not properly used or properly disposed of on-site.

Invasive Species Management

The Contractor shall implement the invasive species management activities as approved in the final design plan and shall provide all materials and labor to complete such activities. All herbicides used shall be safe for use in/near aquatic environments and shall be applied in a manner that is safe for the environment and consistent with product labeling. Herbicide applications shall be conducted under the appropriate weather conditions. Every precaution shall be taken to ensure that native non-target species are not harmed by spray drift or other management activities.

Planting

The Contractor shall implement the planting activities as approved in the final design plan and shall provide all materials and labor to complete such activities. The Contractor shall order the species and quantities indicated in the approved planting plan and these materials shall be installed during the dormant season in accordance with the approved plan. In the case that adequate planting stock is not available, or other stock may be more suitable, suggestions for additional or alternate species shall be coordinated with the IRT. All planting materials must be handled and installed in accordance with best management practices.

TASK 17. AS-BUILT SURVEY AND REPORT AND CREDIT DELIVERY (CONSTRUCTION RELEASE)

The Contractor will be responsible for the delivery of an as-built report for mitigation activities. The as-built survey shall be certified by a licensed land surveyor or a licensed professional engineer. The as-built report will include adequate data to show that all components have been constructed, installed, managed, and/or planted according to final design plans. The as-built report shall also be used for comparison during future success monitoring. The data collection and reporting shall be consistent with the approved monitoring plan and success criteria described in the approved SDP Exhibits F, J and K. Exhibit 5 of this Scope of Work provides the standard monitoring requirements and success criteria for VARTF mitigation projects, based on the current SDP template.

The Contractor shall install all monitoring equipment needed to complete the as-built survey and implement the monitoring program described in the approved SDP Exhibits F, J and K. Permanent monitoring stations shall be installed for geomorphic, hydrologic, vegetation, and photographic monitoring. The Contractor shall ensure that the monitoring stations are sufficient in number and location to meet the requirements of the monitoring program and enable determination of future

conditions relative to the success criteria. The locations of the monitoring stations shall be determined by the Contractor. To document the occurrence of bankfull events (as well as larger events), the Contractor shall also provide and install a gage within the restored channel prior to the completion of the as-built survey.

The Contractor shall conduct pre-construction, construction, and post-construction photo monitoring to document the existing conditions, the progress of the construction, and the final site conditions. The directional orientation of the photos shall remain constant during all photo monitoring events.

Pre-Construction Photo Monitoring – Photographs shall be taken prior to commencing activities at the site to document existing site conditions.

Construction Photo Monitoring – The frequency of photographs taken during construction activities shall be at the discretion of the Contractor. However, the frequency should be sufficient to capture the milestones of the restoration activities (weekly, at a minimum).

Post-Construction Photo Monitoring – Following all site activities, photographs shall be taken to document the final stream channel and banks, in-stream structures, restored/created/enhanced wetland areas, buffer/floodplain, and overall site conditions.

The as-built report shall include the following:

1. A title page indicating the Mitigation Site name, watershed, Mitigation Site phase (if applicable), monitoring year, Sponsor identification (name, address, phone number and email address), and preparer identification (name, address, phone number and email address).
2. A detailed narrative summarizing the condition of all areas of the Mitigation Site and results of the as-built survey.
3. Plan view of the stream, adjacent floodplain, wetlands, and buffer areas. Plan view shall show:
    a. Location of all permanent monitoring stations (photographic, hydrology wells, vegetation, cross sections, longitudinal profile termini, stream gage).
    b. All stream restoration features including channel pattern and all in-stream and streambank structures. Design and as-built elevations should be shown.
    c. Identification of limits of mitigation activities, including a breakdown of the acreages and lengths of each activity (e.g., stream restoration, enhancement, and preservation, wetland restoration, creation, enhancement, and preservation, riparian area re-establishment and preservation). Wetland type should be indicated for each wetland area.
    d. All wetland restoration/creation features and adjacent floodplains. Design and as-built elevations should be shown.
    e. Topographic survey elevations, including spot elevations within stream mitigation areas and on any water control structures or diversions. Vertical survey information shall be accurate to within 0.2’.
    f. Mitigation Site boundary.
    g. Crossings, utilities, trails, roads, etc. if applicable.
4. Photographs (dated and labeled, including directional orientation) taken from permanent photo stations.
5. Planting area details including dates planted, species planted, total planting density, and quantity planted by species within each planting area. Show comparison of planting details to design planting plan and discuss comparison.

6. Detailed information regarding seed mixtures, including dates seeded, species seeded, areas seeded, amount of seed used per acre and method of spreading.
7. Detailed information regarding final status of road/access areas.
8. Detailed stream restoration and stream preservation cross-sections taken from permanent cross-sections. Items on the cross-section shall include streambanks, streambed, water surface, bankfull, and adjacent floodplain elevations. Show comparison to design cross-sections and discuss comparison.
9. Detailed information on installed in-stream structures (structure location, elevation, anchoring, etc.) Show comparison to design profile and discuss comparison.
10. Longitudinal profiles of the streams. Items on the profile shall include the thalweg, water surface, and bankfull. Measurements of the locations, depths, and slopes of riffles, runs, pools, glides, and in-stream structures should be shown. Show comparison to design longitudinal profile and discuss comparison.
11. Stream classification pebble count, bar sample of pavement/sub-pavement sample, wetted-perimeter cross-section pebble count of representative riffles (not constructed riffles), the D50 analysis of the pebble count data.
12. The Bank Erodibility Hazard Index (BEHI) will be assessed at each permanent cross-section.
13. Surveyed stream pattern measurements to include at a minimum radius of curvature within a representative reach, and sinuosity of a representative section.
14. Summary table of geomorphological data. Geomorphological data shall include at a minimum – bankfull width, bankfull mean depth, width/depth ratio, bank height ratio, bankfull cross-sectional area, radius of curvature ratios, sinuosity, thalweg station, and average stream slope.
15. Detailed topographic survey on all constructed wetland areas sufficient to capture the microtopography of slopes and morphology of wetland areas.
16. Mitigation activity tables containing the as-built acreage/length of each mitigation activity and associated credits generated.
17. As-built USM forms
18. As-built wetland credit calculator
19. A narrative/discussion of the comparison and/or discrepancies from the design or from unstable conditions, in general.
20. Any additional information required to adequately characterize Mitigation Site conditions (as needed).

The Contractor shall submit the as-built report to the permitting agencies and TNC within 30 calendar days after 100% completion of construction activities. The Contractor shall deliver the as-built report in electronic version and provide TNC with the CADD or GIS data for the as-built. Depending on the schedule, if a delay is proposed between completion of construction and completion of planting, the Contractor shall submit an as-built report documenting as-built conditions of construction following completion of construction and a second report documenting as-built conditions of planting following completion of planting.

The Contractor shall develop and obtain IRT approval of a credit release request for stream, wetland and buffer construction. The credit release request shall follow the approved SDP credit release schedule(s), unless otherwise agreed to by TNC. The approved SDP credit release schedule(s) are expected to follow the IRT-approved credit release schedule template (see Exhibit 6 of this Scope of Work). The Contractor shall submit the draft credit release request to TNC for review prior to submittal to the IRT. **Payments for this task shall be reduced, based on the crediting analysis and cost/credit approved in the Site Development Plan, for every credit or portion of a credit that is not delivered according to the**

credit release schedule in Exhibit 6 of this Scope of Work, as adjusted in the SDP approved by the IRT and included in an amendment to the Contract, or as otherwise approved by TNC.

TASKS 18-23. SUCCESS MONITORING AND MAINTENANCE AND CREDIT DELIVERY (MONITORING RELEASE AND FINAL RELEASE)

The Contractor will perform monitoring events on the site in years 1, 2, 3, 5, 7, and 10. Year 1 monitoring will be conducted during the first growing season after project construction and planting have been completed. The Contractor will follow the success criteria, monitoring requirements, and monitoring reporting requirements outlined in the approved SDP Exhibits F, J and K, which are expected to follow the IRT-approved SDP template (see Exhibit 5 of this Scope of Work). Note that the IRT has stated that baseline preservation monitoring for stream preservation areas can be collected during Year 1 monitoring and baseline preservation monitoring for buffer preservation areas should be collected during design/SDP development; thus a separate ("Year 0") monitoring event to collect preservation data is not required. The Contractor will develop monitoring reports each year that present the results of the annual monitoring events, summary of corrective action completed at the site since the last monitoring event, recommendations for further corrective actions, and documentation of any coordination with the IRT in regards to the site.

The Contractor shall submit the monitoring reports to TNC by November 15th of each monitoring year. TNC shall review the monitoring report and provide comments to the Contractor. Based upon comments and agreed-to-items resulting from TNC's review, the Contractor shall refine the monitoring report for final submission. Final reports shall be submitted no later than December 15th of each monitoring year. The Contractor shall deliver the report in electronic version (pdf and CADD/GIS files).

The Contractor will also be responsible for implementing all corrective actions during the 10-year monitoring period as needed to ensure attainment of success criteria.

The Contractor shall develop and obtain IRT approval of credit release requests associated with monitoring success. Following the end of the success monitoring period, the Contractor will deliver a report documenting the credits achieved through the project for presentation to TNC and the IRT for final approval and release of mitigation credits. The credit release requests shall follow the approved SDP credit release schedule(s), unless otherwise agreed to by TNC. The approved SDP credit release schedule(s) are expected to follow the IRT-approved credit release schedule template (see Exhibit 6 of this Scope of Work). The Contractor shall submit the draft credit release request to TNC for review prior to submittal to the IRT. **Payments for this task shall be reduced, based on the crediting analysis and cost/credit approved in the Site Development Plan, for every credit or portion of a credit that is not delivered according to the credit release schedule in Exhibit 6 of this Scope of Work, as adjusted in the SDP approved by the IRT and included in an amendment to the Contract, or as otherwise approved by TNC.**

Attachment C: Exhibit 1.

Site Selection Criteria USACE Norfolk District and Virginia Department of Environmental Quality Checklist

(Exhibit C: Site Selection Criteria USACE Norfolk District and Virginia Department of Environmental Quality October 2018)

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Exhibit C
Site Selection Criteria

USACE Norfolk District and Virginia Department of Environmental Quality
October 2018

Bank/Site Name

ORM Number

Date

1. Principal Criteria (check all that apply)

- ☐ **a. Site activities will result in at least 80% of wetland credits obtained through wetland restoration/creation**
- ☐ **b. Site activities will result in at least 50% of stream credits obtained through stream restoration/enhancement**
- ☐ **c. Site is contiguous or connected to other aquatic resources**
- ☐ **d. Site contains minimal or no INU species**
- ☐ **e. Site has not been logged in the past 5 years**
- ☐ **f. Site abuts and/or adjoins an existing preservation/ conservation area, etc.**
- ☐ **g. Site has no known encumbrances (ie easements, liens, rights of way, reserved timber, severed surface or subsurface mineral or natural gas rights, etc.) on the site, on adjacent properties or within the watershed of the site that will negatively affect the compensation goals**
- ☐ **h. Immediately adjacent land is less than 10% impervious cover**
- ☐ **i. Site does not contain any impoundments that are not proposed for removal**
- ☐ **j. Site is able to be protected long-term through the recordation of an appropriate site protection instrument or other mechanism that will support the long-term protection of the site**
- ☐ **k. Site is expected to provide in-kind compensation (similar hydrologic regime)**

2. Watershed Scale Features (check all that apply)

- ☐ **a. Site activities will contribute to habitat diversity ****
- ☐ **b. Site activities will remove pollutants from waters ****
- ☐ **c. Site activities will remediate inputs of substantial amounts of sediment****
- ☐ **d. Site will contribute to habitat connectivity**

****Explanation required. Provide supplemental information in an attachment to this Checklist**

3. Development Trends in the Watershed Where Site is Located
(check all that apply)

****Explanation required. Provide supplemental information in an attachment to this Checklist**

- ☐ **a. Site will address watershed needs for habitat protection as identified in a wildlife action plan, compensation planning framework, habitat Conservation Plan, etc.****
- ☐ **b. Site will address watershed needs for water quality improvement/reduction in sediment loads as identified in the 303(d) list****
- ☐ **c. Less than 50% of land use within the watershed is residential/commercial/industrial**
- ☐ **d. Less than 50% of land use within the watershed is agricultural**
- ☐ **e. Future land use plans (ie local comprehensive plans, conservation plans) show minimal or no change**
- ☐ **f. No water withdrawal permits issued within the vicinity of the site**
- ☐ **g. No point source permits within the vicinity of the site**

4. Watershed vs. Site Specific Water Quality Goals
(check all that apply)

****Explanation required. Provide supplemental information in an attachment to this Checklist**

- ☐ **a. Site is likely to contribute to improved water quality within the watershed and not solely within the site boundaries****
- ☐ **b. Site will include preservation/establishment/rehabilitation of the entire watershed upstream of the project to the drainage divide**
- ☐ **c. No downstream impoundments (excluding drinking water) that would limit the watershed benefits derived from site activities**
- ☐ **d. Site will improve water quality conditions of existing wetlands identified by VDEQ (WetCAT) as "Somewhat Severely Stressed" or "Severely Stressed"****

5.Site Compatibility with Adjacent Land Use
(check all that apply)

****Explanation required. Provide supplemental information in an attachment to this Checklist**

- ☐ **a. Site is within an area identified as meriting conservation in an approved watershed management plan, wildlife action plan, national forest management plan, or conservation plan****
- ☐ **b. Site is not likely to be affected by current activities occurring on adjacent properties**
- ☐ **c. Site will not be affected by likely future activities occurring on adjacent properties**
- ☐ **d. Site activities will not affect adjacent properties****
- ☐ **e. Site is not adjacent to silvicultural operations**
- ☐ **f. Site is not adjacent of agricultural land**
- ☐ **g. Properties adjacent to the site do not have the potential to spread INU species to the site****

6. Positive Effects Site will have on Ecological/Cultural Resources (check all that apply)

****Explanation required. Provide supplemental information in an attachment to this Checklist**

- ☐ **b. Site activities will conserve/restore natural communities identified by VDCR as imperiled****
- ☐ **c. Site activities will conserve/restore karst resources identified by VDCR as imperiled****
- ☐ **d. Site activities are within areas that have been identified by VDGIF as meriting improvement****
- ☐ **e. Site activities will conserve/restore areas designated by VDGIF as wild trout streams****
- ☐ **d. Site activities will conserve/restore areas designated by VDGIF as anadromous fish use areas****
- ☐ **e. Site activities will restores/preserve/enhance areas designated by VDGIF as Threatened and Endangered Species Waters****
- ☐ **f. Site activities will protect state or federal threatened and/or endangered species****
- ☐ **g. Site contains historical cultural resources that will be preserved****
- ☐ **h. Site activities will establish new or expand existing wildlife corridors****
- ☐ **i. Site activities will result in removal of barriers to fish passage****
- ☐ **j. Site results in score of 1 or greater for potential wetland, riparian, or upland restoration or preservation as identified by the Watershed Resource Registry (WRR)****
- ☐ **k. Site will improve habitat conditions of existing wetlands identified by VDEQ (WetCAT) as “Somewhat Severely Stressed” or “Severely Stressed”****

7. Hydrologic Sources/ Ecological Features (check all that apply)

- ☐ **a. Site activities do not consist of wetland creation in the uplands unless adjacent to existing streams or wetlands**
- ☐ **b. Site activities do not consist of stream creation**
- ☐ **c. Site activities do not entail impounding or diverting water from other areas to the project site**
- ☐ **d. Site activities do not entail excavation to reach groundwater**

8. Physical/Chemical Characteristics (check all that apply)

****Explanation required. Provide supplemental information in an attachment to this Checklist**

- ☐ **a. Sites receiving waters are 303(d) listed**
- ☐ **b. Site qualifies for preservation only, as 1) the resources provide important physical, chemical, or biological functions to the watershed, 2) the resource contribute significantly to the ecological sustainability of the watershed, 3) the IRT has determined that preservation is appropriate and practicable, 4) the resources are under threat of destruction or adverse modification, and 5) the site will be permanently protected through an appropriate real estate instrument****
- ☐ **c. Site activities will not result in the construction of artificial or unnatural wetlands that will have limited opportunity to provide the desired functions**
- ☐ **d. Past land use was PC crop or ditched wetlands**
- ☐ **e. Past land use was agriculture/silviculture****
- ☐ **f. Past land use was commercial or industrial****
- ☐ **g. No impoundments exist upstream of the site that will cause thermal increases in water temperature, decreases in dissolved oxygen, erosion and degradation of the channel downstream from the impoundment, or dam failure from a storm event****
- ☐ **h. Site activities will result in all onsite impoundments being removed and streams re-established/ rehabilitated**

Attachment C: Exhibit 2.

Norfolk District Prospectus Checklist

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ATTACHMENT C: Exhibit 2.

Norfolk District Prospectus Checklist [per 33CFR 332.8(d)(2)]

October 2009

☐ 1) Contact information (name, address, telephone number, email address, etc.) for the Sponsor, the land owner and the agent.

☐ 2) Indicate whether the sponsor owns the land or is acquiring an interest in the proposed bank sites (fee simple acquisition, easement, etc).

3) Identify the objectives of the proposed mitigation bank.
- ☐ a) Identify the method(s) of proposed compensation (wetland creation/restoration, stream restoration/enhancement, preservation, etc.) that will be provided.
- ☐ b) Identify an estimated amount (acres/linear footage) of each compensation type that will be provided.
- ☐ c) Identify the aquatic functions to be restored/enhanced (water quality improvement, flood storage, wildlife habitat, etc.).

4) Describe how the bank will be established.
- ☐ a) Summarize the work intended to accomplish site activities.
- ☐ b) Describe how the proposed work will meet identified goals and objectives.
- ☐ c) Provide a vicinity map (USGS topographic map).
- ☐ d) Provide a current aerial photograph identifying the area to be included within the bank limits.
- ☐ e) Provide a conceptual development plan showing the proposed work.

5) Identify the proposed service area.
- ☐ a) Provide a map identifying the proposed service area of the bank.
- ☐ b) Provide a rationale for determining the limits of the proposed service area.

6) Identify the general need for and technical feasibility of the proposed mitigation bank.
- ☐ a) Identify any watershed plans the mitigation project would accommodate.
- ☐ b) Identify any regional or local benefits derived from the bank.
- ☐ c) Identify any potential threats to the bank site or resource type the bank intends to provide and/or protect.
- ☐ d) Discuss the proposed construction work required to develop the bank and its feasibility.

7) Describe the ecological suitability of the site to achieve the objectives of the proposed mitigation bank, including the physical, chemical, and biological characteristics of the bank site and how that site will support the planned types of aquatic resources/functions.
- ☐ a) Summarize current site conditions including land use, vegetation, hydrology, and soils (forested, row-cropped, pasture, ditched and drained wetland, previously channelized streams, etc). Pictures are helpful.
- ☐ b) If known, include information on rare or T/E species, historic properties, impaired waters (303(d) streams), etc.
- ☐ c) Identify any known encumbrances (mortgages, liens, rights-of-way, servitudes, easements, etc.) on the property.

☐ d) Identify previous land uses of the site and adjacent properties.
☐ e) Identify current zoning and any existing and/or proposed development adjacent to the bank site.
☐ f) Identify current zoning of the bank site.
☐ g) Summarize the historical hydrology of the site.
☐ h) Indicate whether a jurisdictional determination of "waters of the U.S." has been made by the Corps. This will be needed to support development of an MBI and mitigation plan
☐ i) Identify which of the Virginia Off-site Mitigation Location Guidelines are met by the proposal and how they were met.

8) Identify the proposed future ownership arrangements and long-term management strategy for the proposed mitigation bank.
☐ a) Identify the proposed long-term management strategy.
☐ b) Identify the likely party that would be responsible for long-term management.
☐ c) Identify the proposed site protection instrument that would be utilized and the likely responsible parties.

☐ 9) Summarize the qualifications of the sponsor to successfully complete the type of mitigation project proposed. Including information describing past actions undertaken by the sponsor that demonstrate experience in the restoration, creation, preservation, or enhancement of aquatic resources.

10) Assurance of sufficient water rights and/or hydrological influences on the site to support the long-term sustainability of the mitigation bank.
☐ a) Describe any existing hydrologic disturbances on and adjacent to the site.
☐ b) Identify any temporary or long-term structural management requirements (levees, weirs, culverts, etc.) needed to assure hydrologic/vegetative restoration.
☐ c) Describe generally (a water budget is not required at this point):
☐ i. Water source(s) and losses (precipitation, surface runoff, groundwater, stream, tidal, etc.)
☐ ii. Hydroperiod (seasonal depth, duration, and timing of inundation and/or saturation)
☐ iii. Approximate contributing drainage area (map and size).

☐ 11) Names and mailing addresses of all adjacent property owners (APOs). If there are more than 3 APOs, mailing labels should be provided with the prospectus.

Attachment C: Exhibit 3.

DHR Coordination Form

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ATTACHMENT C: Exhibit 3.

U.S. Army Corps Of Engineers
Norfolk District

DATE SENT:

SUSPENSE DATE: *30 days plus 3 mail days*

VDHR COORDINATION FORM

AGENCY NAME: Corps of Engineers, Regulatory Branch

PROJECT NAME:

CORPS PROJECT NUMBER:

CORPS PROJECT MANAGER:

APPLICANT'S NAME AND ADDRESS:

CONSULTANT'S NAME AND ADDRESS:

PROJECT INFORMATION

PROJECT DESCRIPTION: *Brief description of the project including dimensions/acreages. Note if the site has been previously disturbed.*

PROJECT LOCATION:

PERMIT AREA/AREA OF POTENTIAL EFFECT: *State the dimensions/acreage of the permit area, including the area of ground disturbance.*

KNOWN HISTORIC PROPERTIES:

A) **ARCHAEOLOGICAL SITES:**
B) **ARCHITECTURAL:** *(include any structures likely to be 50 years or older within view shed of permitted structures)*

CORPS EFFECT DETERMINATION: (*If enough information available*)

___ Initial Coordination Only (effect unknown)
___ No Effect
___ No Adverse Effect
___ Adverse Effect
Comments:

ENCLOSURES:

____ Project Vicinity Map or Quad Sheet (with location marked)
____ Plan view drawings with permit area marked
____ Printout from VDHR Virginia Cultural Resource Information System (VCRIS)
____ VCRIS inventory form for known historic properties
____ Photos of structures (if available)
____ Copies of previous correspondence from VDHR

Attachment C: Exhibit 4.

Species Conclusion Table

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ATTACHMENT C: Exhibit 4.

Project Name:

Date:

Species/Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Species Info / Habitat Description	Notes / Determination
Eagles (Haliaeetus leucocephalus)				
Eagle Nests				
Eagle Concentration Areas				
Critical Habitat				
Other (other species not listed above or required coordination for NOAA, DCR, & VDGIF)				

Attachment C: Exhibit 5.

SDP Monitoring Exhibits F, J and K

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ATTATCHMENT C: Exhibit 5. SDP
Monitoring Exhibits F, J and K

EXHIBIT F
PERFORMANCE STANDARDS

The wetland Performance Standards should demonstrate that the wetlands that were preserved, enhanced, restored and created meet the intended objectives and functions of the Mitigation Site. The stream Performance Standards should demonstrate that the stream channels that were preserved, enhanced, and restored meet the intended objectives and functions of the Mitigation Site and attain dynamic equilibrium.

The Conservancy and IRT will use monitoring reports, visual observations, and best professional judgment to evaluate attainment of Performance Standards and in determining whether the Mitigation Site/Phase has met its goals and objectives, or whether corrective action or Adaptive Management are warranted.

All final and approved Performance Standards, and any deviation in Performance Standards, must be approved by the Chairs in consultation with the IRT prior to implementing the Performance Standards. Any decision whether or not a project meets the Performance Standards is within the sole discretion of the IRT, Chairs, applicable Board, official, or court, and shall not be subject to appeal.

All Performance Standards marked ***(Required)*** are required if those preservation, enhancement, restoration or creation activities apply to the Mitigation Site/Phase.

Important Note: If there is no appropriate Performance Standard listed below the Conservancy may propose a suitable Performance Standard, subject to IRT review and approval.

The following standards will be used to assess project performance:

FINANCIAL AND OTHER REPORTS

Submittal of required documentation, including monitoring and financial reports, as-built drawings, proof of escrow deposits and withdrawals in accordance with SDP Sections 18 and 25.

WETLAND, RIPARIAN BUFFER, UPLAND BUFFER PRESERVATION PERFORMANCE STANDARDS

1) Document compliance with the INU Management Plan as approved in the MWP.

2) Any preservation areas that were cleared to provide access for construction of restoration or enhancement activities must meet the Performance Standards described in Buffer areas below.

RIPARIAN OR UPLAND BUFFER PERFORMANCE STANDARDS

In all restored or enhanced Riparian and Upland Buffer areas:

FORESTED BUFFER VEGETATION

*(Choose either Number 2 or Number 3 below **OR** choose Number 4)*

1) ***(Required)*** A minimum of 400 woody stems of native tree species per acre (including volunteers) shall be achieved by the end of the first growing season following planting and maintained each monitoring year until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter. The number of woody stems of native tree species per acre may vary under certain circumstances. Such deviations must be approved by the Chairs in consultation with the IRT.

2) The Year 5 and Year 10 reports shall contain documentation of a 10% increase per year in tree height of all established and surviving trees. This standard applies until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

3) The Year 5 and Year 10 reports shall contain documentation that the average tree height of all established and surviving trees is at least 5 feet. This standard applies until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

4) In the Coastal Plain or Piedmont physiographic regions, the total stem area at groundline (SAG) for all woody vegetation must be greater than or equal to:

(a) 1st growing season	0.6 ft^2/acre
(b) 2nd growing season	1.0 ft^2/acre
(c) 3rd growing season	1.5 ft^2/acre
(d) 5th growing season	3.8 ft^2/acre
(e) 7th growing season	8.9 ft^2/acre
(f) 10th growing season	29.1 ft^2/acre

5) ***(Required)*** Document compliance with the INU Management Plan as approved in the MWP.

SCRUB/SHRUB BUFFER VEGETATION

(All Required)

1) A minimum of 400 woody stems of native tree or shrub species per acre (including volunteers) shall be achieved by the end of the first Growing Season following planting and maintained each monitoring year until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter. The number of woody stems of native tree species per acre may vary under certain circumstances. Such deviations must be approved by the Chairs in consultation with the IRT.

2) Native or 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, until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

3) Document compliance with the INU Management Plan as approved in the MWP.

FIELD OR GRASS BUFFER VEGETATION
(All Required)

1) Native or 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, until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

2) Document compliance with the INU Management Plan as approved in the MWP.

VEGETATED NONTIDAL WETLAND PERFORMANCE STANDARDS

WETLAND ENHANCEMENT

1) Wetland Enhancement Performance Standards are required for all wetland Enhancement areas and should be chosen from the Performance Standards for wetland Restoration/Creation areas. The Performance Standards should be based on the wetland functions that are being enhanced. (*Example: If an existing wetland lacks vegetative layers and wetland vegetation is being enhanced, choose from among the vegetation Performance Standards for wetland Restoration/Creation*.)

WETLAND RESTORATION/CREATION

1) WETLAND HYDROLOGY

(a) The site is inundated (flooded or ponded) or the water table is ≤12 inches below the soil surface for ≥14 consecutive days during the growing season.

(b) The overall seasonal hydroperiod (depth, degree, duration, and periodicity) is similar to that of the reference wetland or targeted wetland type.

2) WETLAND SOILS (Applies to all areas where soils have been cut or filled)
(Choose at least two (2) of the following standards specific to the soil type)

(a) ***(Required)*** For coarse textured (sandy) surface soils, positive indicators of hydric soil formation must be demonstrated within 6 inches of the soil surface.

(b) ***(Required)*** For fine textured soils (silts, clays, loams), positive indicators of hydric soil formation must be demonstrated within 12 inches of the soil surface.

(c) ***(Required)*** The subsoil shall have a bulk-density of less than 90 lbs/cubic foot (1.45 g/cc) for clay textures, grading to less than 112 lbs/cubic foot (1.80 g/cc) for sands (prior to adding organic matter or topsoil to the site). Replaced topsoil layers should also be remediated to a similar bulk density range.

(d) For all monitoring years after reaching the final grade piezometers or shallow wells demonstrate free water within 12 inches of the surface for 14 consecutive days during the growing season.

(e) Redoximorphic features including, but not limited to redox concentrations, redox depletions, and reduced matrices are present.

(f) Positive tests with reagent occur within 60 percent or more of a specific layer in at least two or three soil samples. A reaction to alpha-alpha-Diperydyl reagent must occur within a 2-inch layer of the upper 4 inches in soil that is inundated but not saturated, a 2.5-inch layer of the upper 5 inches in sandy textured soils, and a 4-inch layer of the upper 12 inches in clayey soils.

(g) A minimum of three of five Indicator of Reduction in Soil (IRIS) tubes must have 30 percent iron removed from a zone 6 inches or more thick. The zone of removal must begin within 6 inches of the soil surface for all soil textures.

3) FORESTED WETLAND VEGETATION
*(Choose either Letter (c) or Letter (d) **OR** choose Letter (e))*

(a) **(Required**) Wetland Vegetation Dominance: More than 50% of all dominant tree, shrub, and herbaceous plant species shall be facultative (FAC) or wetter (FACW or OBL).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 1987 Corps of Engineers Wetland Delineation Manual and the most current version of the appropriate Regional Supplement to the Manual must be achieved.

(b) **(Required)** Native stem density of at least 400 living woody stems of native tree species per acre with an indicator of FAC or wetter shall be maintained through the end of the monitoring period or until canopy coverage of tree species is at least 30%, whichever comes first. Canopy coverage shall be at least 30% each monitoring year thereafter.

(c) The Year 5 and Year 10 reports shall contain documentation that the average tree height of all established and surviving trees has increased by not less than an average of 10% per year. This standard applies until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

(d) Year 5 and Year 10 reports shall contain documentation that the average tree height of all established and surviving trees is at least 5 feet in each plot. This standard applies until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

(e) In the Coastal Plain or Piedmont physiographic regions, the total stem area at groundline (SAG) for all woody vegetation must be greater than or equal to:

(a) 1st growing season	0.6 ft^2/acre
(b) 2nd growing season	1.0 ft^2/acre

(c) 3rd growing season 1.5 ft^2/acre
(d) 5th growing season 3.8 ft^2/acre
(e) 7th growing season 8.9 ft^2/acre
(f) 10th growing season 29.1 ft^2/acre

(f) **(Required)** Document compliance with INU Management Plan as approved in the MWP.

4) SCRUB/SHRUB WETLAND VEGETATION
(All Required)

(a) Wetland Vegetation Dominance: More than 50% of all dominant tree, shrub, and herbaceous plant species shall be facultative (FAC) or wetter (FACW or OBL).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 1987 Manual and appropriate Regional Supplement to the Manual *(or insert reference to any approved Regional Supplements as they become available prior to SDP approval)* must be achieved.

(b) Native stem density of at least 400 living woody stems of native tree or shrub species per acre with an indicator of FAC or wetter shall be maintained through the end of the monitoring period

(c) Native or 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, until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

(d) Document compliance with INU Management Plan as approved in the MWP.

5) EMERGENT WETLAND VEGETATION
(All Required)

(a) Wetland Vegetation Dominance: More than 50% of all dominant herbaceous plant species shall be facultative (FAC) or wetter (FACW or OBL). 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 1987 Manual and appropriate Regional Supplement to the Manual *(or insert reference to any approved Regional Supplements as they become available prior to SDP approval)* must be achieved.

(b) Native or 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. until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

(c) Document compliance with INU Management Plan as approved in the MWP.

VEGETATED TIDAL SALTWATER WETLAND PERFORMANCE STANDARDS
(Performance standards for Tidal Freshwater wetland sites may differ from the items below and will be proposed at the time of the Mitigation Site's SDP submittal).

WETLAND RESTORATION/CREATION

1) WETLAND HYDROLOGY
(All Required)

(a) Submission of an as-built survey which documents that the elevations provided in the construction plans have been achieved.

(b) Daily inundation and drainage of the site with tidal water is required to provide the necessary tidal hydrology to promote the growth and success of the planted wetland vegetation.

(c) Any constructed tidal channels within the tidal wetland areas shall maintain a relatively stable cross-sectional area, sufficient to provide the necessary tidal hydrology to the site. There will likely be short-term variability, with areas of accretion and erosion, until equilibrium with the tidal currents is established.

2) WETLAND SOILS
(All Required)

(a) Presence of soil under hydric conditions.

(b) Soil organic matter increase to be documented by:
(1) Surface algal mats.
(2) Root growth from increasing vegetation growth.

3) WETLAND VEGETATION
(All Required)

(a) Wetland Vegetation Dominance: More than 50% of all dominant herbaceous plant species shall be facultative (FAC) or wetter (FACW or OBL). 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 1987 Manual and appropriate Regional Supplement to the Manual *(or insert reference to any approved Regional Supplements as they become available prior to SDP approval)* must be achieved.

(b) Planted vegetation survival after the first full growing season shall be at least 90%.

(c) Vegetative Cover shall be at least the following for each monitoring year:

(1) Year 1	10 – 20%
(2) Year 2	30 – 50%
(3) Year 3	50 – 70%
(4) Year 5,7,10	70 – 80%

(d) Invasive Species
   (1) Aerial coverage of *Phragmites australis,* shall not exceed 5% per plot.
   (2) Document compliance with INU Management Plan as approved in the MWP.

(e) Natural recruitment of plant species: Colonizing species documented in sampling quadrats.

4) PRIMARY PRODUCTION *(All Required)*

(a) Increasing vegetation cover.

(b) Increased stem height.

5) PRIMARY AND SECONDARY CONSUMER UTILIZATION *(All Required)*

(a) Faunal observations from sampled quadrats.

(b) Document observations of additional consumers during sampling events.

6) HIGHER CONSUMER UTILIZATION (birds, mammals, fish, etc.) *(All Required)*

(a) Seining of channels for fish and shellfish.

(b) Document observations of birds using the site.

(c) Document observed mammals and mammal tracks and scat.

STREAM PERFORMANCE STANDARDS

STREAM PRESERVATION AREAS (Applies to all linear footage of preserved stream channel where stream restoration/enhancement is occurring upstream and within the Mitigation Site/Phase) *(Choose at least two (2))*

1) The Width / Depth Ratio Stability Rating (measured Width / Depth Ratio divided by the Year 1 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 by an amount greater than 0.2 of the Year 1 Bank Height Ratio.

3) The Entrenchment Ratio (ER) shall be appropriate for the channel type. (*Example: For restored C, DA, or E stream types, the ER shall be greater than 2.2. For restored B stream types, the ER shall be greater than 1.4. The ER may not be an appropriate measure for A stream types*).

4) The Bankfull stream Cross-Sectional Area shall not increase or decrease by an amount greater than 25% of the as-built stream cross-sectional area.

STREAM ENHANCEMENT OR STREAM ENHANCEMENT WITH STRUCTURES

1) Stream Enhancement Performance Standards are required all stream Enhancement or Enhancement with Structures areas and should be chosen from the Performance Standards for stream Restoration areas. The Performance Standards and should be based on the stream functions that are being enhanced. (*Example: If an existing stream lacks stable stream banks and stream bank enhancement is undertaken, choose from among the appropriate Performance Standards for lateral stability of stream Restoration*).

STREAM RESTORATION

1) FLOODPLAIN CONNECTIVITY
(Choose one (1))

(a) The reach-averaged Bank Height Ratio (average of the calculated Bank Height Ratios for all riffle cross-sections within a given reach) shall not increase by an amount greater than 0.2 of the as-built Bank Height Ratio.

(b) The reach-averaged Entrenchment Ratio (average of the calculated Entrenchment Ratios for all riffle cross-sections within a given reach) shall not decrease by an amount greater than 0.5 from the as-built Entrenchment Ratio, or the Entrenchment Ratio (ER) shall be appropriate for the channel type and/or design approach. (*Examples: For restored C, DA, or E stream types, the ER shall be greater than 2.2. For restored B stream types, the ER shall be greater than 1.4. The ER may not be an appropriate measure for A stream types*.)

2) LATERAL STABILITY/BANK MIGRATION
(Choose four (4))

(a) ***(Required)*** The Total Score of Bank Erodibility Hazard Index (BEHI) for a reach 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. For C or E stream types, a Total Score of "Low" or better shall be achieved by monitoring Year 5, and maintained at "Low" or better throughout the remainder of the monitoring period. For B stream type channels, a Total Score of "Moderate" or better shall be maintained throughout the remainder of the monitoring period.

(b) The reach-averaged Width / Depth Ratio Stability Rating (average of the calculated Width / Depth Ratio Stability Ratings for all riffle cross-sections within a given reach = Width / Depth Ratio divided by the as-built Width / Depth Ratio) shall not be less than
0.7 or greater than 1.3, or each measured Width / Depth Ratio shall remain within the design conditions.

(c) The Bankfull stream Cross-Sectional Area shall not increase or decrease by an amount greater than 25% of the as-built stream cross-sectional area.

(d) The reach-averaged Meander Width Ratio (Meander or Belt Width divided by

the Bankfull Width) for a perennial stream in an alluvial valley (C or E stream types) shall be equal to or greater than 3.5, or each measured Meander Width shall remain within the range represented in the design conditions.

(e) The sinuosity of the stream shall not increase or decrease by an amount greater than
0.1 of the approved as-built sinuosity, or the sinuosity of the stream shall remain within the range represented in the design conditions.

(f) The reach-averaged Radius of Curvature / Bankfull Width Ratio (average of the calculated Radius of Curvature Width Ratios for the reach) does not increase or decrease by an amount greater than 0.2 of the as-built condition, or each measured Radius of Curvature shall remain within the range represented in the design conditions.

(g) **(Required)** The numbers of live stakes and woody stems of native tree and shrub species providing bank stabilization from the top of bank to the toe of slope 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 30% for any identified reach. Canopy coverage shall be at least 30% each monitoring year thereafter.

(h) Native or non-invasive herbaceous plant coverage shall be at least 60% by the end of the first growing season, 80% by the end of the second growing season, and maintained each monitoring year thereafter until canopy coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

(i) Bare ground coverage shall be no more than 40% by the end of the first growing season, 20% by the end of the second growing season, and maintained each monitoring year thereafter, until canopy coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

3) VERTICAL STABILITY/BED FORM DIVERSITY
(Choose two (2))

(a) (For perennial streams only) The reach-averaged Pool-to-pool Spacing Ratio is appropriate for the stream and valley type [*Example: The Pool-to-pool Spacing Ratio shall be 4 - 5 in C and E stream types or 2 – 4 in B stream types*], or each measured Pool-to-pool Spacing shall remain within the range represented in the design conditions.

(b) The reach-averaged Max Pool Depth Ratio (Bankfull Max Pool Depth divided by the Bankfull Mean Riffle Depth) shall remain within the typical values for the stream type [*Example: The Max Pool Depth Ratio shall be greater than 1.5 in gravel bed C and E stream types, and all B stream types. The Max Pool Depth Ratio shall be greater than 1.2 in sand bed C and E stream types*], or each measured Max Pool Depth shall remain within the range represented in the design conditions.

(c) The average riffle slope of the reach shall not increase or decrease by an amount greater than 0.1 of the approved as-built slope, or the slope of the reach shall remain

within the range represented in the design conditions.

(d) The average bankfull slope of the reach shall not increase or decrease by an amount greater than 0.1 of the approved as-built slope, or the slope of the reach shall remain within the range represented in the design conditions.

(e) (Constructed riffles only) The D50 size particle remains within its approved as-built size class (silt, sand, gravel, cobble, or boulder), or the D50 size particle remains within its design size class (silt, sand, gravel, cobble, or boulder).

4) STRUCTURE STABILITY
(All Required)

(a) Absence of collapsed structure or repositioned header rocks.
(b) Absence of under cutting, washing around, or erosion of the bank or streambed associated with any instream structure that could lead to a collapsed structure or repositioned head rock.
(c) Maintenance of pool depth immediately downstream of the structure (where appropriate), including absence of excessive scour or deposition in pool immediately downstream of the structure.
(d) All structures are exposed, unless they are specified as buried rock or log sill structures.

5) AQUATIC HABITAT
(All Required)

(a) (For perennial streams only) Habitat Assessment – The Total Score of the Habitat Assessment for each reach shall be 100 or greater at Year 1, and each monitoring year thereafter the Total Score shall be equal to or greater than the previous Year's Total Score.

REFERENCES for Performance Standards, Monitoring, and Reporting:

Barbour, M.T., J. Gerritsen, B.D. Synder, and J.B. Stribling. 1999. *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition*. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C.

Daniels, W.L. (2018). *Review Comments on Proposed Mitigation Banking Instrument Template*. Memorandum, Virginia Tech-College of Agriculture and Life Sciences, Blacksburg, VA.

Daniels, W.L., Perry, J.E., Whittecar, R.G., Fajardo, G., Bergschneider, c., and DesPres, A. 2005. Effects of Soil Amendments and Other Practices upon the Success of the Virginia Department of Transportation's Non-Tidal Wetland Mitigation Efforts. Virginia Research Council. Charlottesville, Virginia. VTRC 05-CR25-(see pp 55-56).

Davis, Sandra L., Richard R. Starr, and Christopher K. Eng. 2014. *Rapid Stream Restoration Monitoring Protocol*. CBFO-S14-01. U.S. Fish and Wildlife Service; Coastal Program – Stream Habitat Assessment and Restoration, Chesapeake Bay Field Office, Annapolis, MD.

DeBerry, Douglas A. (2018). *Vegetation Sampling on Compensatory Mitigation Sites, Literature Review.* Unpublished manuscript, College of William & Mary, Williamsburg, VA.

DeBerry, Douglas A. (2018). *Vegetation Sampling Protocol: Adapted for Use on Compensatory Mitigation Sites in Virginia*. Unpublished manuscript, College of William & Mary, Williamsburg, VA.

DEQ. 2008. *Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers*. Version 1. Prepared by Biological Monitoring Program, Office of Water Quality Monitoring and Assessment Programs, Virginia Department of Environmental Quality. Richmond,VA. http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityMonitoring/BiologicalMonitoring/BioMonQAPP_13Aug2008.pdf

DEQ. 2010. *Standard Operating Procedures Manual for the Department of Environmental Quality Office of Water Quality Monitoring and Assessment Program*. Prepared by Office of Water Quality Monitoring and Assessment Programs, Virginia Department of Environmental Quality. Richmond, VA. http://www.deq.virginia.gov/Portals/0/DEQ/Water/Guidance/wqmsop.pdf

FISRWG (10/1998). *Stream Corridor Restoration: Principles, Processes, and Practices*. By the Federal Interagency Stream Restoration Working Group (FISRWG - 15 Federal agencies of the US gov't). GPO Item No. 0120-A; SuDocs No. A 57.6/2:EN 3/PT.653. ISBN-0-934213-59-3.

Harman, W., R. Starr, M. Carter, K. Tweedy, M. Clemmons, K. Suggs, C. Miller. 2012. *A Function-Based Framework for Stream Assessment and Restoration Projects.* US Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds, Washington, DC EPA 843-K- 12-006.

Hudson III, Herman W., Perry, James E. 2018. *Development of Woody Ecological Performance Standards for Created/Restored Forested Wetlands*-Final Report.

National Technical Committee for Hydric Soils (NTCHS). 2015. *Hydric Soils Technical Note 11: Hydric Soils Technical Standard and Data Submission Requirements for Field Indicators of Hydric Soils*. Washington, DC: United States Department of Agriculture (USDA), NRCS.

Rosgen, Dave. 1996. Applied River Morphology. Pagosa Springs, CO: Wildland Hydrology.

U.S. Army Corps of Engineers. 2005. *Technical Standard for Water-Table Monitoring of Potential Wetland Sites*. WRAP Technical Notes Collections (ERDC TN-WRAP-05-2). U.S. Army Engineer Research and Development Center, Vicksburg. MS.

Wolman, Gordon M. 1954. *A Method for Sampling Coarse Riverbed Material*. Transactions, American Geophysical Union, Volume 35-6. U.S. Geological Survey, Washington, D.C.

EXHIBIT J
MONITORING AND REPORTING REQUIREMENTS

AS-BUILT MONITORING AND REPORTING

An as-built report shall be submitted to the IRT within 90 days of completion of mitigation activities for the Mitigation Site/Phase depicted in the FMWP. The as-built report shall include comparisons of the design plan to the as-built plan, using the following components:

1) Plan view maps of the constructed wetlands, streams, and adjacent buffers that depict the Mitigation Site/Phase Boundaries, as-built topography, all mitigation activities (including buffer activities), and the locations of all monitoring stations (photo stations, anticipated vegetation sampling plots, wetland monitoring wells or iris tubes, soil boring locations, stream gages, precipitation gauges, cross-sections, longitudinal profiles, pattern and bank vegetation monitoring stations, chemical and biological monitoring stations, etc.).
2) As-built longitudinal profiles of stream reaches taken from permanent locations, and overlaid with and compared to design longitudinal profiles.
3) As-built cross-sections of stream reaches taken at locations, and overlaid with and compared to design cross-sections.
4) Photographs of the completed construction taken at permanent photo stations.
5) Summary stream geomorphologic data presented in a side by side comparison of the design, reference, and as-built channels.
6) Planting composition, locations, and densities.
7) Revised credit totals for the entire Mitigation Site, the Phase for which the as-built is submitted, and individual mitigation activities, in the same format as in the Credit and Debit Procedures (Exhibit G). Explain any differences in credits totals from design to as-built plans.

GENERAL MITIGATION MONITORING GUIDELINES

Monitoring activities will follow the timing and guidelines set forth in the Monitoring Requirements section of the Program Instrument, and according to the following monitoring schedules, requirements, and reporting requirements. General conditions on monitoring and reporting include the following:

- For any year in which planting was conducted, monitoring of vegetation shall take place at least 6 months following planting.
- Monitoring of all vegetation shall be conducted during the growing season.
- After Year 2, physical monitoring of stream condition (e.g. Longitudinal profiles, cross-sections, pattern monitoring) may be conducted outside of the growing season.
- If all Performance Standards have not been met in the 10^{th} monitoring year, then a monitoring report may be required for each consecutive year until two sequential annual reports indicate that all criteria have been successfully satisfied.
- For stream chemical and biological monitoring, the 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.

MITIGATION MONITORING AND REPORTING

All monitoring reports, other than the as-built report, will include the following general items, in addition to all monitoring and reporting requirements in this Exhibit that are relevant to the Mitigation Site/Phase being monitored:

- Title page, including, where applicable, the Mitigation Site name, Phase, monitoring year(s), requested actions (credit release, adaptive management, etc.), Conservancy identification (name, address, phone number, and email address), Report preparer identification (name, address, phone number, and email address).
- Vicinity Map of the Mitigation Site, including latitude and longitude at the entrance of the site.
- A Section with all Performance Standards and monitoring requirements for the Mitigation Site/Phase.
- Complete maintenance summary for the Mitigation Site/Phase since construction, including any adaptive management or corrective action (e.g. supplemental planting, structure repair, invasive treatment, etc.).
- A map or drawing, based on the as-built drawings of the Mitigation Site/Phase, that depicts topography, all mitigation activities, and the locations of all monitoring stations (permanent photo stations, vegetation sampling plots, wetland monitoring wells or iris tubes, soil boring locations, stream gauges, precipitation gauges, cross-sections, longitudinal profiles, pattern monitoring stations, etc.).
- Overall Performance Standard table for the Mitigation Site/Phase, showing each plot, cell, or area and whether that area met Performance Standards during the current monitoring year and each previous monitoring year.
- Beginning at Year 3, a detailed narrative discussing the objectives of the Mitigation Site/Phase as described in the Mitigation Work Plan (Exhibit E), and the degree to which the Mitigation Site/Phase meets those objectives.
- A revised summary map and table depicting the total mitigation credits within the Mitigation Site/Phase and the areas where Credits have been released.
- Corrective action plan, if necessary, including the current deficiencies or issues within the Mitigation Site/Phase, proposed adaptive management, corrective actions, or maintenance activities, and an estimated schedule for completion.
- The following 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."

CREDIT RELEASE TABLE *(EXCEL spreadsheet available)*

In the columns for Year and Type of Release(s), please specify initial, construction, Year 1, etc. for all activities for which the Conservancy is requesting credit. The percentage of released mitigation credit for each activity is tracked in the right hand column. Each monitoring year, the release will be based off the amount of successful credits that are eligible to be released, not a multiplier of the two numbers as in previous credit release schedules.

Table 1. Credit Release Table

Mitigation Activity (Example)	**Credit Total (for Mitigation Site)**	**(*Year*): (*Type of Release(s) from Credit Release Schedule*)**	**(*Year*): (*Type of Release(s) from Credit Release Schedule*)**	**(*Year*): (*Type of Release(s) from Credit Release Schedule*)**	**Percentage of Released Mitigation Credits by Activity**
PHASE I					
Restoration					
Enhancement					
Preservation					
Buffer Rest					
Buffer Enh					
Buffer Pres					
Adjustment Factors					
PHASE II					
Restoration					
Enhancement					
Preservation					
Buffer Rest					
Buffer Enh					
Buffer Pres					
Adjustment Factors					
Total		*(Should match RIBITS)*	*(Should match RIBITS)*	*(Should match RIBITS)*	

LEDGER AND FINANCIAL REPORTING

Please see Section 25 of the SDP for information on submitting ledger and Financial Assurance and Long-Term Management Funding Reports.

PRESERVATION MONITORING AND REPORTING

In Wetland Preservation Areas, Riparian Buffer Preservation Areas, and Upland Buffer Preservation areas, monitoring and reporting will be driven by the Performance Standards, and shall include the following:

1) VEGETATION

a) Monitoring: Methodology necessary to demonstrate compliance with the approved INU treatment plan.

b) Reporting: Reporting necessary to demonstrate compliance with the approved INU treatment plan. At a minimum, preservation areas should be included on an updated INU species Inventory Map for the Mitigation Site/Phase that shows the current location and extent of INU species onsite, and takes into account any changes in INU species populations, such as treatment that was performed in the past year.

2) VISUAL OBSERVATIONS

a) Monitoring: Visual observations of the preservation areas shall include any changes in the buffer condition and photographic documentation of the preservation areas, if they have changed.

b) Reporting: Visual observations shall be provided with each monitoring report through written discussion of the condition of preservation areas, any changes to the buffer, and photographic documentation, as necessary to further describe the buffer condition.

RIPARIAN OR UPLAND BUFFER MONITORING AND REPORTING

In all Restored or Enhanced Riparian and Upland Buffer areas, monitoring and reporting will be driven by the Performance Standards and INU Management Plan, and will include the following:

1) VEGETATION

a) Monitoring

(1) Forested or scrub/shrub (i.e. woody) monitoring plots – Riparian and/or upland buffers shall be stratified into relatively homogeneous sample areas. These sample areas may correspond to planting zones, Phases, proposed habitat, cover/community type, or other characterizations. These sample areas do not have to be contiguous. Appropriate methods shall be used to randomly locate woody plots within sample areas (transects with random number generators, GIS randomization methods, etc.). Plots shall be re-established in new random locations each year.

Woody plots shall be circular in dimension and measure 1076 ft^2 (100 m^2), which is equivalent to a circle with a radius of 18.5 ft (5.6 m). This plot size equates to 0.025 or 1/40th of an acre, which provides a multiplier of 40x for stem density conversion to per acre values.

At a minimum, the total area covered by woody plots shall be at least 2% of the sample area *(see Table 2 below)*. However, additional plots will be required if the number of plots is determined to not be adequate. Sampling adequacy can be determined using a variety of methods (e.g. Species-area curves leveling off, variance stabilization, etc.) and shall be included in all monitoring reports. Conversely, after 3 years of sampling, if sampling adequacy analysis indicates oversampling, the number of plots may be reduced.

Table 2. Minimum Number of Woody Sampling Plots (based on 2% of total sample area)

Sample Area (ac.)	Number of Plots	Sample Area (ac.)	Number of Plots
1-5	**4***	28	**23**
6	**5**	29	**23**
7	**6**	30	**24**

8	**6**	31	**25**
9	**7**	32	**26**
10	**8**	33	**27**
11	**9**	34	**28**
12	**10**	35	**28**
13	**11**	36	**29**
14	**11**	37	**30**
15	**12**	38	**31**
16	**13**	39	**32**
17	**14**	40	**32**
18	**15**	41	**33**
19	**15**	42	**34**
20	**16**	43	**35**
21	**17**	44	**36**
22	**18**	45	**36**
23	**19**	46	**37**
24	**19**	47	**38**
25	**20**	48	**39**
26	**21**	49	**40**
27	**22**	50+	**add 1 plot per 2ac.**

* Note: For sample areas 1-5 acres in size four (4) plots are recommended to ensure the number of plots is adequate.

The woody vegetation data collected shall include identification of all live woody stems found in the sampling plot by scientific and common name with corresponding wetland indicator status, native status, stem count, dominant species, stem diameter at groundline (see below), stem height, overall canopy coverage, or others, as required by the Performance Standards.

The stem diameter at groundline (SDG) of all individual woody vegetation (any height or diameter) including trees and shrubs should be measured to the nearest 0.1 inch. If significant swelling or malformation is present, the SDG should be measured directly above where the stem returns to normal taper. For multi- stemmed vegetation, the SDG for each individual stem should be measured and combined following conversion to stem area at groundline (SAG). This effectively forms a single stem for each individual. Total SAG shall be presented as ft^2/acre for each plot and average SAG with measures of variance (e.g. standard deviation) shall be presented for each sample area.

(2) Herbaceous monitoring plots - Plots shall be located on a stratified random basis within Riparian and Upland Buffers (as described above). Herbaceous vegetation sampling plots shall be square sampling frames with inside dimensions of 3.3x3.3 ft (1x1 m), which is equivalent to an area of 10.8 ft^2 (1 m^2).
(or equivalent sized circles).

A minimum of 5 herbaceous plots per acre is required. However, additional plots will be required if the number of plots is determined to not be adequate. Sampling

adequacy can be determined using a variety of methods (e.g. Species-area curves leveling off, variance stabilization, etc.) and shall be included in all monitoring reports. Conversely, after 3 years of sampling, if sampling adequacy analysis indicates oversampling, the number of plots may be reduced.

The vegetation data collected shall include identification of all herbaceous species found in the sampling plot by scientific and common name with corresponding estimate of absolute percent cover (including bare ground and/or open water), indicator status, native status, or others, as required by the Performance Standards. For estimating herbaceous species cover, it is recommended that cover classes be used, taking the midpoints of the classes for data analysis. The following cover classes are recommended (midpoints in parentheses, rounded to nearest whole integer):

Class 1:	0-1% (1%)
Class 2:	1-5% (3%)
Class 3:	5-25% (15%)
Class 4:	25-50% (38%)
Class 5:	50-75% (63%)
Class 6:	75-95% (85%)
Class 7:	95-100% (98%)

b) Reporting

The monitoring report shall include raw and summary vegetation data. The raw data can be submitted as a supplementary Excel file and should include all vegetation data from all plots. The summary data shall present the vegetation data summarized (e.g. averages, variance, totals, etc.) for each strata (homogenous sample area described above) preferably in table form. These summary tables shall include comparisons of summarized data to all applicable Performance Standards. For Riparian and Upland Buffer areas these summary tables may include the following data (depending on the approved SDP Performance Standards and INU Management Plan); woody stem density (stems/acre), canopy coverage (percentage), woody vegetation height (feet), change in tree height (percentage/year), SAG (ft^2/acre), herbaceous plant cover (absolute percentage), and location and cover of INU species.

2) PHOTOGRAPHS

Visual observations shall be documented and provided with each monitoring report with the following:

a) Monitoring

Either ground level photographs will be taken facing north, south, east, and west, from stations located adjacent to each vegetation plot or one color aerial photograph (8" x 10" or larger) depicting the entire site will be taken. An aerial photograph should be taken after site construction (including planting) and again in the 5^{th} and 10^{th} monitoring years. Existing aerial images (if current) may be substituted (i.e. Google Earth images or state aerial images). One aerial photograph may be used for the whole Mitigation Site/Phase, including any riparian, upland, or wetland mitigation areas.

b) Reporting

For the current monitoring year, either the ground level photographs or the color aerial photograph (if applicable) will be provided with the report.

NON-TIDAL WETLAND RESTORATION/CREATION/ENHANCEMENT AREAS MONITORING AND REPORTING

In non-tidal Restored, Created, or Enhanced wetland areas, monitoring and reporting will be driven by the Performance Standards, INU Management Plan, and may include the following:

1) GROWING SEASON DOCUMENTATION

This documentation is necessary ONLY if you wish to extend the growing season beyond that which is an approximation using air temperature data from (WETs) tables (NRCS National Water and Climate Center).

a) Monitoring

(1) Growing Season – The methods of determining the beginning of the growing season of a Mitigation Site/Phase will follow the definition found in the applicable Regional Supplement to the Delineation Manual. However, dated photographs of two or more different non-evergreen vascular plants growing within the Mitigation Site/Phase AND from an adjacent forested site are required.

(2) Soil Temperature – Soil temperatures are to be measured from within the Mitigation Site/Phase limits. Daily soil temperature data collected by data loggers are preferred but information from soil thermometers may be acceptable (the thermometer used must be calibrated with proof of calibration provided). Soil temperature data should be collected at least two times a week starting in January to provide information in support of the establishment of the start of the growing season.

(3) Soil temperature and plant data must be collected at locations approved by the IRT. For Mitigation Site/Phases proposed as forested wetlands, soil temperature and plant growth data must be collected in a similarly situated (hydrogeomorphically) adjacent reference wetland area, as well as on the Mitigation Site/Phase.

(4) The Mitigation Site/Phase must be monitored each year to determine the growing season. Prior year's data expires after it is submitted to the IRT and cannot be used for future years.

b) Reporting

(1) The location (shown on map), species, and indicators of biological activity will be provided.

(2) The raw soil temperature data, collection location (shown on map), equipment used, calibration information, and dates collected will be provided.

2) HYDROLOGY

a) Monitoring

(1) The number and location of monitoring wells or other soil saturation measurement devices shall be sufficient to demonstrate that the Performance Standards for wetland hydrology are met for the proposed wetland type. Proposed monitoring well number and location shall be included on the overall proposed monitoring map in the as-built report. A minimum of 3 monitoring wells will be required for each Mitigation Site/Phase. For a Mitigation Site/Phase less than 20 acres, a minimum of 1 monitoring well per 2 acres will be required. For a Mitigation Site/Phase greater than 20 acres, a minimum of 1 monitoring well per 5 acres will be required.
(2) Specific details on the soil saturation measurement device and location or groundwater monitoring wells shall be provided in the Final Mitigation Work Plan for IRT approval, acting through the Chair(s) as described in Exhibit E.
(3) The depth of water and the hydroperiod will be measured to demonstrate that the appropriate hydrogeomorphic standards have been met and they are similar to the target wetland type or reference wetland.
(4) During the first two years, at least six months of water level data will be obtained, with timing sufficient to confirm (a) the length and depth of near –surface saturation and/or ponding and (b) the overall depth of the dry season water level draw-down.

b) Reporting

Water level data will be submitted in each monitoring report in tabular and graph format for the current monitoring year. A hydrograph for the current monitoring year will be created and submitted. The Conservancy will provide a comparison of the current monitoring year's hydrograph with a hydrograph for the wetland type that is being restored or created. Daily precipitation data for the monitoring period with a comparison to historical average precipitation data will be provided in tabular and graphic form.

3) SOILS

(For Created or Restored wetlands)

a) Monitoring

A complete soil morphologic profile and description shall be documented immediately post- construction and at the 3rd, 7th, and 10th 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 and/or concentrations), to demonstrate that soils at the site are progressing towards hydric soil conditions. Soil profiles shall be described at a distance of 10 feet from each monitoring well.

b) Reporting

Describe the soil profile, including a table with the following for each soil profile:

horizon, depth, color, texture, horizon, matrix color, redoximorphic feature type, abundance, location, and colors, and any documented field indicators per current NRCS guidance.

4) VEGETATION

a) Monitoring

(1) Forested or scrub/shrub (i.e. woody) monitoring plots – Created, restored or enhanced wetlands shall be stratified into relatively homogeneous sample areas. These sample areas may correspond to planting zones, Phases, proposed habitat, cover/community type, or other characterizations. These sample areas do not have to be contiguous. Appropriate methods shall be used to randomly locate woody plots within sample areas (transects with random number generators, GIS randomization methods, etc.). Plots shall be re-established in new random locations each year.

Woody plots shall be circular in dimension and measure 1076 ft^2 (100 m^2), which is equivalent to a circle with a radius of 18.5 ft (5.6 m). This plot size equates to 0.025 or 1/40th of an acre, which provides a multiplier of 40x for stem density conversion to per acre values.

At a minimum, the total area covered by woody plots shall be at least 2% of the sample area *(see Table 2 above).* However, additional plots will be required if the number of plots is determined to not be adequate. Sampling adequacy can be determined using a variety of methods (e.g. Species-area curves leveling off, variance stabilization, etc.) and shall be included in all monitoring reports. Conversely, after 3 years of sampling, if sampling adequacy analysis indicates oversampling, the number of plots may be reduced.

The woody vegetation data collected shall include identification of all live woody stems found in the sampling plot by scientific and common name with corresponding wetland indicator status, native status, stem count, stem diameter at groundline (see below), stem height, overall canopy coverage, aerial coverage by each species (using cover classes below), or others, as required by the Performance Standards.

The stem diameter at groundline (SDG) of all individual woody vegetation (any height or diameter) including trees and shrubs should be measured to the nearest 0.1 inch. If significant swelling or malformation is present, the SDG should be measured directly above where the stem returns to normal taper. For multi-stemmed vegetation, the SDG for each individual stem should be measured and combined following conversion to stem area at groundline (SAG). This effectively forms a single stem for each individual. Total SAG shall be presented as ft^2/acre for each plot and average SAG with measures of variance (e.g. standard deviation) shall be presented for each sample area.

(2) Herbaceous monitoring plots - Plots shall be located on a stratified random basis within Riparian and Upland Buffer areas (as described above). Herbaceous vegetation sampling plots shall be square sampling frames with inside dimensions of 3.3x3.3 ft (1x1 m), which is equivalent to an area of 10.8 ft^2 (1 m^2) (or equivalent sized

circles).

A minimum of 5 herbaceous plots per acre is required. However, additional plots will be required if the number of plots is determined to not be adequate. Sampling adequacy can be determined using a variety of methods (e.g. Species-area curves leveling off, variance stabilization, etc.) and shall be all included in monitoring reports. Conversely, after 3 years of sampling, if sampling adequacy analysis indicates oversampling, the number of plots may be reduced.

The vegetation data collected shall include identification of all herbaceous species found in the sampling plot by scientific and common name with corresponding estimate of absolute percent cover (including bare ground and/or open water), indicator status, native status, or others, as required by the Performance Standards. For estimating herbaceous species cover, it is recommended that cover classes be used, taking the midpoints of the classes for data analysis. The following cover classes are recommended (midpoints in parentheses, rounded to nearest whole integer):

Class 1:	0-1% (1%)
Class 2:	1-5% (3%)
Class 3:	5-25% (15%)
Class 4:	25-50% (38%)
Class 5:	50-75% (63%)
Class 6:	75-95% (85%)
Class 7:	95-100% (98%)

b) Reporting

The monitoring report shall include raw and summary vegetation data. The raw data can be submitted as a supplementary Excel file and should include all vegetation data from all plots. The summary data shall present the vegetation data summarized (e.g. averages, variance, totals, etc.) for each strata (homogenous sample area described above) preferably in table form. These summary tables shall include comparisons of summarized data to all applicable Performance Standards. For Created, Restored or Enhanced wetland areas these summary tables may include the following data (depending on the approved SDP Performance Standards and INU Management

Plan); hydrophytic vegetation dominance test (as defined in the Corps' 1987 Wetland Delineation Manual and subsequent Regional Supplements), prevalence index (as defined in the Corps' 1987 Wetland Delineation Manual and subsequent Regional Supplements), stem density (stems/acre), canopy cover by all woody species (percentage), woody vegetation height (feet), change in tree height (percentage/year), SAG (ft^2/acre), herbaceous plant cover (absolute percentage), and location and cover of INU species.

5) PHOTOGRAPHS

Visual observations shall be documented and provided with each monitoring report with the following:

a) Monitoring

Either ground level photographs will be taken facing north, south, east, and west, from stations located adjacent to each vegetation plot or one color aerial photograph (8" x 10" or larger) depicting the entire site will be taken. An aerial photograph should be taken after site construction (including planting) and again in the 5th and 10th monitoring years. Existing aerial images (if current) may be substituted (i.e. Google Earth images or state aerial images). One aerial photograph may be used for the whole Mitigation Site or Phase, including any riparian, upland, or wetland mitigation areas.

b) Reporting

For the current monitoring year, either the ground level photographs or the color aerial photograph (if applicable) will be provided with the report.

STREAM MONITORING AND REPORTING

1) BANKFULL EVENT DOCUMENTATION

For stream Enhancement or Restoration activities, stream gauge data and documentation of any bankfull events on the Mitigation Site/Phase will be provided, as recorded by onsite stream gauge(s) and/or onsite or nearby precipitation data.

2) CROSS-SECTIONS

Where Performance Standards indicate that channel dimension will be measured and analyzed (Width/Depth Ratio, Bank Height Ratio, Entrenchment Ratio, Cross-Sectional Area, or others), the following shall occur:

a) Monitoring

Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. A minimum of one cross-section in appropriate stream preservation reaches (see Performance Standards), and one cross-section per 1000 linear feet in enhancement and restoration reaches will be required. In enhancement or restoration reaches, cross-sections should include at least 1 riffle and 1 pool cross-section on each reach, and a proportionate amount of riffle and pool cross-sections on each reach. 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. Cross-sectional measurements shall include

streambanks, streambed, water surface, bankfull, and adjacent floodplain. The bankfull elevation in the channel shall be measured at the as-built monitoring, and the as-built bankfull shall be used as the bankfull elevation in each subsequent monitoring event. When calculating the Entrenchment Ratio, the floodplain may be measured separate from the cross-section during field data collection. Ground level photographs will be taken annually during November or December of the current monitoring year at all cross-sections. These photographs will be taken facing upstream at the cross-section, downstream at the cross-section, and left bank and right bank, showing the riparian buffer

area and stream bank.

b) Reporting

Cross-section reporting shall include a graph of the current monitoring year's cross-section, with the cross sections for all previous monitoring years overlain. Callouts on the graph shall be appropriate for the Performance Standards, and may include bankfull elevation, bankfull width, bankfull depth, floodprone elevation, floodprone depth, top of bank location and elevation, or others, as appropriate. A table of the appropriate Performance Standard parameters will be provided, showing all individual cross-section calculations and a reach-averaged calculation, and comparing the as-built to the current year's monitoring data. Ground level photographs shall be provided with each monitoring report, according to the monitoring requirements.

3) LONGITUDINAL PROFILE

Where Performance Standards indicate that channel bed form or vertical stability parameters will be measured and analyzed (Pool-to-pool spacing, max pool depth, slope, riffle slope, or others), the following shall occur:

a) Monitoring

A surveyed longitudinal profile will be conducted of the reach in the thalweg of the channel, from 20 feet upstream of the start of the reach to 20 feet downstream of the end of the reach (unless property boundaries, stream confluences, or other constraints are present). Longitudinal profile measurements should include the locations, depths, and slopes of riffles, runs, pools, and glides, and representative water surface elevation and bankfull surface elevation lines.

b) Reporting

Longitudinal profile reporting shall include a graph of the current monitoring year's profile, with the profiles for all previous monitoring years overlain. Callouts on the graph shall be appropriate for the Performance Standards, and may include bankfull elevation, water surface elevation, locations of facets, or others, as appropriate. Pool-to-pool spacing is measured from the top of pool to top of pool. Max pool depth is the pool depth measured from the reach bankfull elevation to the thalweg in the deepest part of the pool. Channel bed slope shall be measured from the top of a riffle to the top of another riffle over a channel length of at least 10 bankfull widths. Riffle slope is measured from the top of riffle to the bottom of the same riffle (top of run). A table of the appropriate Performance Standard parameters will be provided in each monitoring report, showing all individual profile calculations and a reach-averaged calculation, and comparing the as-built to the current year's monitoring data for each parameter.

4) PATTERN

Where Performance Standards indicate that lateral stability or bank migration parameters will be measured and analyzed (Meander Width Ratio, Sinuosity, Radius of Curvature, Bank Erodibility Hazard Index (BEHI), or others), the following shall occur:

a) Monitoring

Permanent pattern monitoring stations shall be established to ensure that the same locations are used each monitoring year. A minimum of three pattern monitoring stations shall be established to measure Meander Width Ratio, Radius of Curvature, or BEHI. A minimum of one pattern monitoring station shall be established to measure sinuosity. Total number of monitoring stations required will vary depending on project length and complexity. Sinuosity shall be assessed along a stream reach that is a minimum of 10 bankfull widths in length. When BEHI is conducted, all individual BEHI metrics shall be measured at each permanent station in the field during each monitoring event.

b) Reporting

Pattern reporting shall include a table of the appropriate Performance Standard parameters, showing all individual pattern measurements and a reach-averaged calculation or ratio (if applicable), and comparing the as-built to the current year's monitoring data for each parameter. BEHI reporting shall include providing the current monitoring year's BEHI worksheet, and a table of the total BEHI score for each monitoring year from as-built to the current year.

5) STREAM BANK VEGETATION

Where Performance Standards indicate that stream bank vegetation will be measured and analyzed (Livestakes, Herbaceous Coverage, Bare Ground Coverage, or others), the following shall occur:

a) Monitoring

Stream bank vegetation plots (50 square feet in size or larger) shall be located on each bank representative permanent cross-section or pattern monitoring stations.

b) **Reporting**

Stream vegetation reporting may include a table of the results of the vegetation surveys, including per plot reporting of the species and number of livestakes or woody stems, extrapolated number livestakes per 50 square feet, estimated herbaceous coverage, and/or estimated bare ground coverage.

6) MATERIALS

Where Performance Standards indicate that stream bed materials will be measured and analyzed (D50 particle size, or others), the following shall occur:

a) Monitoring

Conduct the Wolman pebble count technique within a representative amount of constructed riffles within a reach. Pebble counts may be associated with representative permanent cross-section or pattern monitoring stations, or set up within the longitudinal profile at independent monitoring stations.

b) Reporting

Materials reporting shall include a table of the representative D50 of the constructed riffle pebble count for each reach during each monitoring year, and the size class represented by the as-built and current monitoring year D50.

7) STRUCTURES

Where Performance Standards indicate that structure stability will be evaluated and analyzed, the following shall occur:

a) Monitoring

Ground level photographs, documenting the structural integrity and function of each instream structure, will be taken looking upstream at the structure, showing at a minimum the instream structure at the thalweg (or location of buried sill), the upstream and downstream channel, and the immediately adjacent stream banks to bankfull elevation, where possible.

b) Reporting

Ground level photographs shall be provided with each monitoring report, documenting structure conditions during the current monitoring year. The report shall note any structural failures or issues, as listed in the Performance Standards.

8) AQUATIC HABITAT

Where Performance Standards indicate that aquatic habitat will be evaluated and analyzed, the following shall occur:

a) Monitoring

A habitat assessment shall be conducted at either each benthic macroinvertebrate monitoring station (as outlined below), or at a minimum one representative monitoring station per reach. Procedures and forms for habitat assessment can be located in DEQ's *Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers* (DEQ, 2008) Appendix B (iii) or EPA's *Rapid Bioassessment Protocol for Use in Streams and Wadeable Rivers* (Barbour et. al, 1999) Chapter 5.

b) Reporting

Habitat reporting shall include providing the current monitoring year's Habitat Assessment worksheet for each reach. A table shall be provided in the monitoring report that shows the habitat assessment total score for all monitoring years for each reach.

9) CHEMICAL AND BIOLOGICAL MONITORING

The objective of benthic macroinvertebrate sampling is to allow for comparison between sites involving stream channel restoration activities; to identify issues that may need to be addressed in restoration design; to determine realistic expectations for the post-restoration aquatic community; and to inform future stream restoration designs and efforts. The following monitoring and reporting shall occur during every monitoring year within stream restoration reaches onsite:

a) Monitoring

(1) Monitoring events 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. 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 site-specific basis, and shall remain consistent throughout the monitoring period. Surveys of other biota (e.g. fish, waterfowl, amphibians, etc.) may occur on a case-by-case basis, especially in the case of potential or confirmed presence of rare, threatened, or endangered species.

(2) 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 an aquatic biologist. As required by the collection permit, all sampling data shall be submitted to VDGIF using their annual reporting protocol, in addition to the reporting requirements within this SDP.

(3) 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* (DEQ, 2010).

(4) Biological **–** A quantitative survey for benthic macroinvertebrates shall be conducted at permanent monitoring locations. Benthic macroinvertebrates shall be identified at least 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* (DEQ, 2008). This document shall serve as the basis for the field monitoring and laboratory data collection methods. Two sampling procedures are presented:

(a) Single Habitat is used for streams in which riffles or riffle/pool complexes with appropriate substrate (cobble) are available for sampling and are large enough so that at least 1m² of the substrate can be sampled.

(b) Multiple Habitat is used in cases where no or few riffles are present, the riffles in the reach are too small and/or too few to sample 1m² of substrate. Multi-habitat sampling is most commonly performed in, but not limited to, low gradient or coastal plain streams.

b) Reporting

(1) Benthic Macroinvertebrate reporting shall include a table showing the VSCI or CPMI total score for all monitoring years for each reach.

(a) 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 (September 2003) is found at http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityMonitoring/BiologicalMonitoring/vsci.pdf. An Access database used to calculate VSCI and CPMI can be provided upon request.

(b) For coastal streams, use the resulting data to generate a Coastal Plain Macroinvertebrate Index (December 2013) found at http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityMonitoring/ProbabilisticMonitoring/vcpmi.pdf. An Access database used to calculate VSCI and CPMI can be provided upon request.

EXHIBIT K
SITE OPERATIONS MAINTENANCE PLAN

The Conservancy shall maintain the Site consistent with the SDP during operation of the Site, including this Maintenance Plan, in addition to construction, monitoring, and adaptive management. The Maintenance Plan is a description and schedule of maintenance requirements to ensure the continued viability of the mitigation resources from SDP approval to Site closure and Long-Term Management. The Conservancy shall continue with such maintenance activities until the Site is closed in accordance with the Site closure procedures and the Long-Term Steward assumes their responsibilities. Deviation from the maintenance provisions in the approved SDP requires review and written approval from the Chairs in consultation with the IRT.

Upon the conclusion of the ten year monitoring period, the Conservancy will revisit this Maintenance Plan, and submit an updated Maintenance Plan, for coordination with the IRT. The updated Maintenance Plan will cover any changes or revisions anticipated in maintenance activities from the time of the conclusion of monitoring until Site Closure. An updated Maintenance Plan may be uploaded to RIBITS and notification sent to the Chairs, either concurrent with Year 10 monitoring or by January 31st on the year after completion of monitoring.

The following regular maintenance and bookkeeping will be conducted for the Site, at a minimum:

- Maintain a Site activities ledger, which describes the date, purpose, description of activities performed, and outcome of each maintenance visit. This ledger is not required to be submitted on a regular basis, but may be requested by the IRT at any time;
- Conduct regular inspections of all mitigation areas, including preservation areas, particularly during non-reporting years of Site operation (annual inspections recommended, at a minimum);
- Maintain and repair all mitigation areas to meet or exceed the objectives and functions of the Site, including all mitigation-related berms and structures;
- Proactively manage INU species on the Site property;
- Ensure that no trespass, illegal dumping, or trash accumulation occurs on the Site property;
- Post and repair Site/property limit and conservation easement signs;
- Maintain, repair, and/or replace gates and fences, as necessary;
- Maintain and repair direct access roads, as necessary;
- Other maintenance responsibilities to Site operation and adaptive management.

Attachment C: Exhibit 6.

Anticipated Credit Release Schedule

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ATTATCHMENT C: Exhibit 6.

CREDIT RELEASE SCHEDULES

Credit releases are dependent upon construction and performance of the Mitigation Site. Upon submittal of all appropriate documentation by the Conservancy and subsequent approval by the IRT, the Chairs will provide in writing any release of Credits to the Conservancy in accordance with the following schedules.

INITIAL CREDIT RELEASE SCHEDULE

Preservation Credits (up to 50%) may be available for Debiting for each Phase of the Mitigation Site for which Initial Release is requested upon implementation of the following:

a. Approval of this SDP;

b. Approval of the CMWP for each Phase or Site of the Mitigation Site for which Initial Release is requested as described in Exhibit E;

c. Approval of Mitigation Site Final Budget and Maintenance and Monitoring funding;

d. Payment into VARTF Endowment for Long-Term Management;

e. Securing the Property interests necessary for the entire Mitigation Site limits (e.g. fee simple acquisition, acquisition of a mitigation easement, or otherwise securing appropriate property interest);

f. Submittal of a copy of the approved and recorded Site Protection Instrument that protects the Mitigation Site in perpetuity, including the plat graphic.

g. Approval of the LTMP;

h. All of the above documents and all associated exhibits submitted electronically to the Chairs and uploaded to RIBITS; and

i. Submittal of Shape files, KML/KMZ files of the Mitigation Site limits and the Geographic Service Area

Credits may be released by the Chairs, in consultation with the IRT, as noted in the schedules below on the following schedule. One Credit release may occur per monitoring and reporting season (Credit releases may not be combined).

The IRT may withhold Credits based on field conditions.

Wetland Credit Release Schedule

a. Construction Release (as-built):
25% upon completion and approval of all initial physical and biological improvements made pursuant to the FMWP and IRT approval of the as-built report.

b. Second Release:
60% (up to 85% cumulative) upon meeting all Performance Standards in Exhibit F applicable for the year in which monitoring is occurring.

c. Third Release:
15% (up to 100% cumulative) upon meeting all Year 5 Performance Standards in Exhibit F.

Wetland and Stream Preservation, Buffer Preservation, Watershed and T&E Preservation AF Credit Release Schedule

a. Initial Release:
50% upon completion of the initial release requirements listed above

b. Second Release:
50% (100% cumulative) upon meeting all Performance Standards in Exhibit F.

Livestock Exclusion AF Credit Release Schedule

a. Initial Release:
100% upon completion of the initial release requirements listed above and evidence has been provided that livestock have been excluded from the site (i.e. livestock removed and/or fences installed)

Threatened and Endangered Species Adjustment Factor Credit Release Schedule

a. Associated with Stream Preservation – See Stream Buffer Preservation Release Schedule above

b. Associated with Stream Restoration/Enhancement – See Stream Restoration/Enhancement Release Schedule below

Stream Buffer Enhancement/Restoration/Re-establishment Credit Release Schedule

a. Construction Release (as-built):
25% upon completion and approval of all initial physical and biological improvements made pursuant to the FMWP and IRT approval of the as-built report. IRT may withhold credit based on field conditions.

b. Second Release:

60% of total credits (up to 85% cumulative) upon meeting all Performance Standards applicable for the year in which monitoring is occurring in Exhibit F.

c. Third Release:
15% of total credits (up to 100% cumulative) upon meeting all Year 5 Performance Standards in Exhibit F.

Stream Restoration/Enhancement/T&E AF Associated with R/E Credit Release Schedule

a. Construction Release (as-built):
25% upon completion and approval of all initial physical and biological improvements made pursuant to the FMWP and IRT approval of the as-built report.

b. Second Release:
10-20% of total Credits (up to 45% cumulative) upon the occurrence of a bankfull event, and all Performance Standards in Exhibit F are met.

c. Third Release:
10-20% of total Credits (up to 65% cumulative) upon the occurrence of a bankfull event, and all Performance Standards in Exhibit F are met.

d. Fourth Release:
10-20% of total Credits (up to 85% cumulative) upon the occurrence of a bankfull event, and all Performance Standards in Exhibit F are met.

e. Fifth Release:
Up to 15% of total Credits (100% cumulative) upon the occurrence of a bankfull event, and all Performance Standards in Exhibit F are met.

f. No additional credits will be released after Year 4 until a bankfull event occurs. For each additional monitoring year, no more than 20% 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 Performance Standards in Exhibit F are met.

If at any time, the number of Credits Debited exceeds the number meeting all Performance Standards then the Conservancy shall voluntarily cease Credit sales and notify the IRT. This may occur at any time during the year.

CREDIT RELEASE SCHEDULES

Typical Wetland Credit Release Schedule

Release Activity	Percentage of Credits to be Released	Requirements
Construction	**25%**	• Approval of as-built by IRT •
2nd Release	**60%**	• Meeting Performance Standards for year monitored •
3rd Release	**15%**	• Meeting Year 5 Performance Standards •

Typical Wetland and Stream Preservation, Buffer Preservation, Watershed, and T&E Preservation AF Credit Release Schedule

Release Activity	Percentage of Credits to be Released	Requirements
Initial Release	**50%**	• Completion of initial release requirements
2nd Release	**50%**	• Meeting Performance Standards •

Typical Livestock Exclusion AF Credit Release Schedule

Release Activity	Percentage of Credits to be Released	Requirements
Initial Release	**100%**	• Completion of initial release requirements • Livestock excluded

Typical Stream Buffer Enhancement/Restoration/Re-establishment Credit Release Schedule

Release Activity	*Percentage of Potential Credits Released*	*Requirements*
Construction	***25%***	• Approval of as-built by IRT
2nd release	***60%***	• Meeting Performance Standards •
***3rd* Release**	***15%***	• Meeting Year 5 Performance Standards •

Typical Stream Credit Release Schedule
Stream Restoration/Enhancement and T&E AF Associated with R/E

Release Activity	*Percentage of Credits Meeting all PS Eligible for Release*	*Requirements*
Construction	***25%***	• Approval of as-built by IRT
2nd Release	***10-20%*****	• Meeting Performance Standards • Upon the occurrence of a bankfull event •
3rd Release	***10-20%*****	• Meeting Performance Standards • Upon the occurrence of a bankfull event
4th Release	***10-20%*****	• Meeting Performance Standards • Upon the occurrence of a bankfull event •
5th Release	***minimum 15%***	• Meeting Performance Standards • Upon the occurrence of a bankfull event •

****** 10% if no bankfull event, 20% if bankfull & channel is stable

ATTACHMENT D:
WATERSHED MAPS

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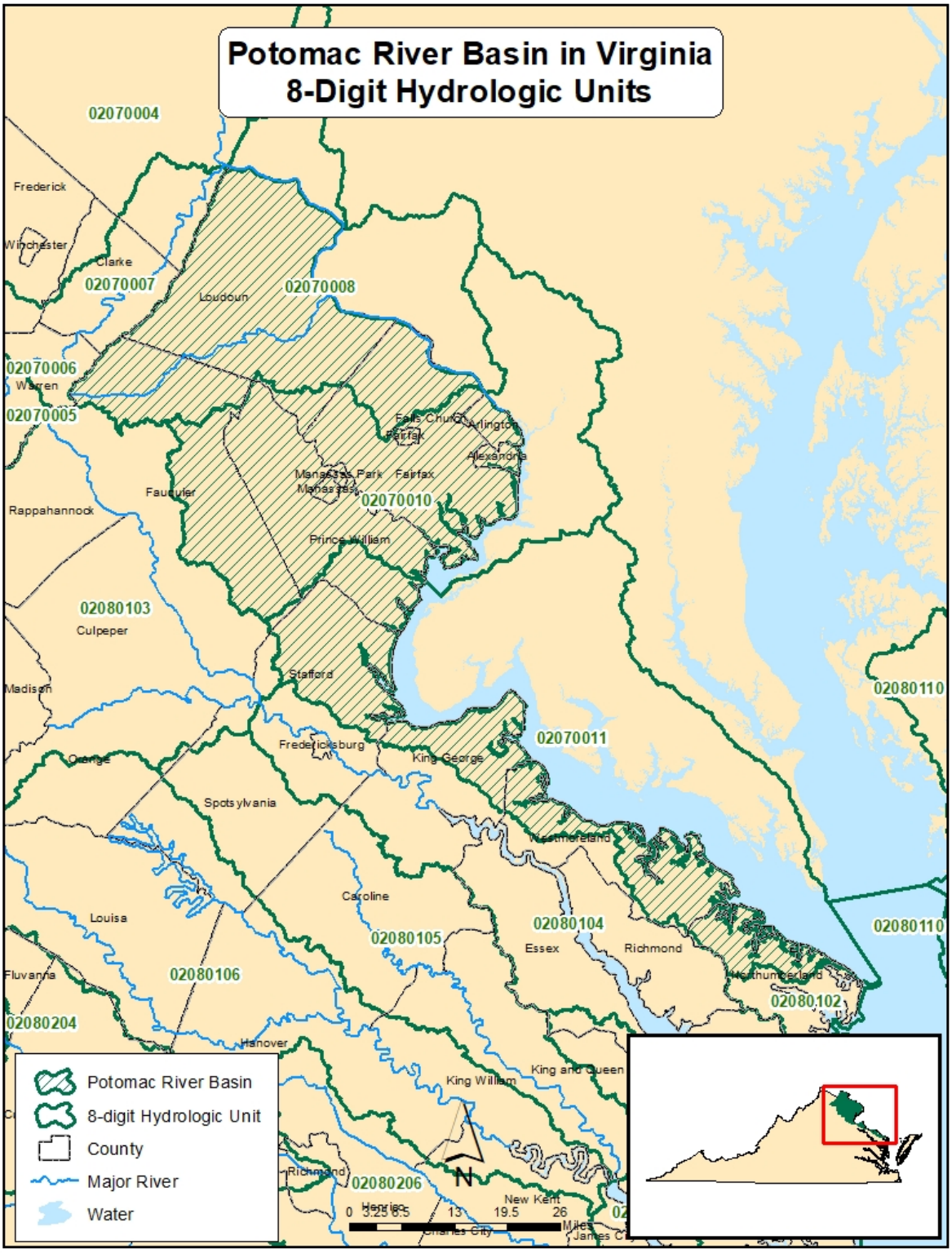
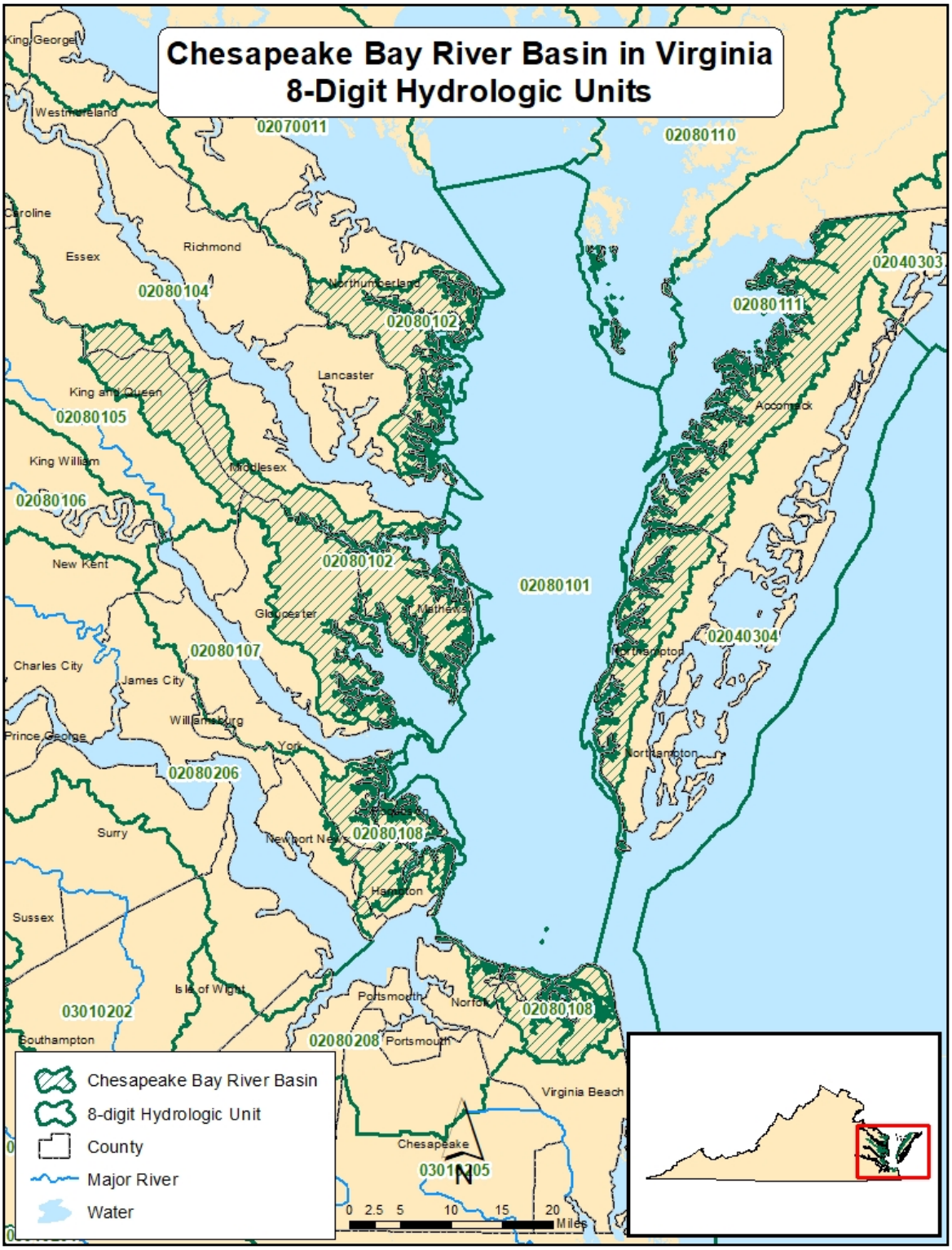

Potomac River Basin in Virginia
8-Digit Hydrologic Units
02070004
Frederick
Winchester
Clarke
02070007
Loudoun
02070008
02070006
Warren
02070005
Fauquier
Rappahannock
Prince William
02070010
Manassas Park
Manassas
Fairfax
Falls Church
Arlington
Alexandria
Perrfax
02080103
Culpeper
Madison
Stafford
Fredericksburg
King George
02070011
Orange
Spotsylvania
Westmoreland
02080110
Caroline
Louisa
02080105
02080104
Essex
Richmond
Northumberland
02080102
Fluvanna
02080106
02080204
Hanover
King and Queen
King William
Richmond
02080206
New Kent
Henrico
Charles City
James C
0 3.25 6.5 13 19.5 26
Miles
Potomac River Basin
8-digit Hydrologic Unit
County
Major River
Water
N


Chesapeake Bay River Basin in Virginia
8-Digit Hydrologic Units
King George
Westmoreland
02070011
02080110
Caroline
Essex
Richmond
02080104
Northumberland
02080102
02040303
02080111
Lancaster
King and Queen
02080105
Accomack
King William
Middlesex
02080106
New Kent
02080102
02080101
Gloucester
Mathews
02040304
02080107
Charles City
James City
Northampton
Williamsburg
Prince George
York
02080206
Surry
Newport News
02080108
Hampton
Sussex
Isle of Wight
Portsmouth
Norfolk
02080108
03010202
Southampton
02080208
Portsmouth
Virginia Beach
Chesapeake
03010205
N
0 2.5 5 10 15 20
Miles
Chesapeake Bay River Basin
8-digit Hydrologic Unit
County
Major River
Water

ATTACHMENT E:
CONTRACTOR QUESTIONNAIRE

Please answer each of the following questions in the space provided. If additional space is required, please continue on a separate sheet and attach it to this form.

General Information:

Company Name: _____

Company Address: _____
Contact Name: _____
Phone & Email: _____
Years in Business: _____

Contractor Information:

Please indicate if you have done business with TNC in the past and provide contact information below.

Statement of Qualifications:

Please provide a statement of qualifications below. This statement of qualifications must include information pertaining to the attached scope of work.

Employee Information

Number of Employees: _____

Service Information

Are there any geographical areas that your company is not able to serve?
_____ YES _____ NO

If yes, please list.

_____

_____

Minority and Women - Owned Business Enterprise

Please indicate below if your firm is at least 51% minority or women owned, controlled and operated. Identify the % of minority or women ownership.

Legal

If your firm is bonded, please indicate type:

Performance Bond _____ YES _____ NO
Labor & Material Payment Bond _____ YES _____ NO

Are there any judgments, suits or claims pending against your firm?
_____ YES _____ NO

If yes, please explain:

_____

_____

Has your firm operated under a different name? (Please provide)

ATTACHMENT F:
THE NATURE CONSERVANCY'S STANDARD CONTRACT FOR SERVICES

Contract Number:	
TNC Accounting Information	
Project Name:	
Project-Award-Activity #:	
Source of funds:	☐ Public Funds ☐ Private funds as MATCH ☐ Private funds (restricted) ☐ Private funds (unrestricted)

CONTRACT FOR SERVICES (U.S.)

This Contract for Services (the "Contract") is entered into by and between **The Nature Conservancy**, a District of Columbia non-profit corporation ("TNC"), through the following U.S. office:

TNC Business Unit:	
Contact:	
Address:	
Telephone:	
Email Address:	

and the following person or entity ("**Contractor**"):

Name of Contractor:	
Address:	
Telephone:	
Email Address:	
For Entities Only (individuals leave blank):	
Name of Representative:	
Type of Entity:	
State of Incorporation:	

1. **Services**. TNC engages Contractor to provide the services, goods and/or deliverables (collectively, the "Services") described in **Exhibit A** ("Description of Services") in accordance with the terms and conditions of this Contract. The parties acknowledge that none of the Services are to be performed or delivered outside of the United States or its territories.

2. **Payment**. TNC will compensate Contractor for the Services as follows:

   (a) Contract Fee. For all of the Services, TNC will pay Contractor a fee of $[INSERT DOLLAR AMOUNT] ([INSERT WRITTEN AMOUNT]) (the "Contract Fee"), which is inclusive of all taxes, in accordance with the

following schedule and conditions, but subject to reduction as provided below for failure to deliver the requisite quantity of mitigation credits:

Full Delivery Cost Per Credit

	Credits Delivered	Cost/Credit
Tidal Wetland Credits		$
USM Stream Credits		$

In consideration of the Contract Fee, Contractor shall deliver to TNC a total of [INSERT NUMBER OF CREDITS] ([INSERT WRITTEN NUMBER]) [INSERT CREDIT TYPE] mitigation credits generated by the Project as determined by the United States Army Corps of Engineers (Corps). A reduction in the total number of credits expected from this Contract may be warranted following completion of Task 7 based on the Site Development Plan (SDP) approved by the Interagency Review Team (IRT), however the cost per credit shall not be modified. A reduction of not more than five percent (5%) in anticipated credits following completion of Task 7 will not be considered a failure to perform by Contractor. If a reduction in the total number of credits expected from this Contract occurs as a result of the IRT's review and modification of the SDP, the Contract will be amended to reflect the new credit amount and reduced total Contract Fee (determined by reducing the Contract Fee by the product of the difference between total credits and the anticipated number of approved credits in the SDP, multiplied by cost/credit). An increase in the credits at Task 7 will not be considered a modification of the Contract and no change in the Contract Fee will be required.

Contractor shall release credits according to the credit release schedules in the SDP approved by the IRT. The anticipated credit release schedules, based on IRT-approved guidelines for VARTF projects, are provided below. Adjustments to the credit release schedules may be warranted following completion of Task 7 based on the SDP approved by the IRT, in which case the Contract will be amended to reflect the new credit release schedules. Payments for Tasks 10, 12, 17-20, and 23 shall be reduced at the above cost/credit for every credit or portion of a credit that is not delivered according to the credit release schedule below, as adjusted in the SDP approved by the IRT and included in an amendment to the Contract, or as otherwise approved by the TNC.

Payment Milestones

Task	Project Milestone	Delivery Date (# of days from Contract Execution)	Payment Amount
1	Pre-Application Process Completed[1]		
2	Prospectus Process Completed, and IEL Received by TNC[1]		
3	Historic Resources and/or T&E Species Surveys (if Required)[1]		
4	Surface Water Delineation		
5	Topographic/Geomorphic Survey		
6	Preliminary Mitigation Design		
7a	Site Development Plan Approved by TNC and Submitted to IRT		
7b	Site Development Plan Signed by IRT and TNC[1]		
8	Establish Stewardship Endowment[2]		
9	Recordation of Long-Term Site Protection		
10	Credit Delivery (Preservation, RTE or Watershed Adjustment Factor, Conservation Easement, as applicable)		
11	Final Mitigation Design Approved by TNC and IRT		
12a	Implementation of Livestock Exclusion (as applicable)		

12b	Credit Delivery (Livestock Exclusion Adjustment Factor, as applicable)		
13	Acquisition of Permits		
14	Establish Long-Term Management Endowment[2]		
15	Establish Maintenance and Monitoring Fund[1]		
16a	50% Implementation of Construction		
16b	100% Implementation of Construction		
16c	Completion of Planting		
17a	As-Built Survey and Report		
17b	Credit Delivery (Construction Release)		
18a	Success Monitoring and Maintenance Year 1		
18b	Credit Delivery (Monitoring Release Year 1)		
19a	Success Monitoring and Maintenance Year 2		
19b	Credit Delivery (Monitoring Release Year 2)		
20a	Success Monitoring and Maintenance Year 3		
20b	Credit Delivery (Monitoring Release Year 3)		
21	Success Monitoring and Maintenance Year 5		
22	Success Monitoring and Maintenance Year 7		
23a	Success Monitoring and Maintenance Year 10		
23b	Credit Delivery (Final Release)		
	Total Contract Fee		

[1] The Contractor shall not proceed with tasks beyond this task until TNC provides written notice to proceed, which is contingent on the Corps providing approval to move forward. signing the SDP in Task 7 and providing written approval to move forward with construction following Task 15.

[2] Adjustments to the payment amounts for these tasks may be warranted following completion of Task 7 based on the final site budget in the SDP approved by the IRT, in which case the Contract shall be amended to reflect the new payment amounts.

Anticipated Credit Release Schedule
[INSERT CREDIT RELEASE TABLE]

(b) Invoices and Payments. Requests for payment of the Contract Fee must be submitted to TNC in the form of an invoice itemizing the Services performed or delivered during the invoice period. Invoices will be subject to review and approval by TNC, and TNC may deny payment of requests received more than sixty (60) days after the final deadline for the completion of Services. TNC will make all payments either (i) by check, subject to TNC's receipt from Contractor of a properly completed IRS Form W-9, or (ii) via Vendor ACH, if requested by Contractor and subject to Contractor's completion of TNC's Vendor ACH Enrollment Form.

(c) No Expense Reimbursement. Contractor will not be reimbursed for any expenses Contractor incurs in performing the Services.

(d) Withholding by TNC. Contractor shall provide TNC with a list of all subcontractors and laborers working on the Project, as well as all suppliers of material or equipment for the Project (whether purchased or rented), and shall update such list promptly in the event of any changes, no later than one business day after the change. TNC, on the basis of reasonable and verifiable evidence, may withhold from any payment otherwise due to Contractor under this Contract such amounts as may be necessary for

protection against loss caused by defective work not remedied, reasonable evidence that the work cannot be completed for the then remaining unpaid portion of the Contract Fee, damages and/or delays caused by Contractor, and for any legitimate set-off TNC may have (including, but not limited to, any which may result from any notice of mechanic's lien that TNC or the current landowner may receive with respect to the Project). If any claim of lien or other demand for payment or security therefor is made or filed with TNC or as to the Project by any person claiming that Contractor or any subcontractor or supplier, or any other person claiming under any of them, has failed to perform its contractual obligations or to make payment for any labor, materials, equipment or other item furnished or obligation incurred in connection with the Project, or if at any time there shall be evidence of such nonperformance or nonpayment of any claim of lien or other demand for which, if established, TNC, the landowner and/or the property on which the Project is located might become liable, then TNC shall have the right to retain from any payment then due or thereafter to become due under this Contract or to be reimbursed to Contractor an amount sufficient to: (1) satisfy, discharge and defend against any such claim of lien or other demand, or any action or proceeding thereon which may be brought to judgment or award; (2) make good any such nonpayment, nonperformance, damage, failure or default; and/or (3) compensate TNC and/or the current landowner for and indemnify both of them against any and all loss, liability, damage, cost and expense (including attorneys' and consultant's fees and costs) which may be sustained or incurred in connection therewith. If appropriate, TNC may also elect to make any given payment due under this Contract jointly to Contractor and any person or entity which may make any such claim of lien or other demand.

(e) Release. Should any subcontractor, supplier or other person make, record or file, or maintain any action on or respecting a claim of mechanic's lien, equitable lien, payment of performance bond, or another lien, relating to the Project, Contractor shall immediately and at its own expense procure, furnish and record appropriate statutory release bonds which will extinguish or expunge such claim or lien.

(f) Effect of Payment. TNC's acceptance of and/or payment for the completed work performed by Contractor, and payment therefor by TNC, shall not relieve Contractor of its obligation to TNC, which obligation is hereby acknowledged, to complete the work in accordance with the highest standards of Contractor's profession or craft and to the satisfaction of TNC, and to discharge any and all liens for the benefit of subcontractors for the work covered by this Contract, which have attached or may subsequently attach to the property on which the work has been performed or to any interest of TNC therein.

3. **Term.** This Contract will become effective upon the last signature date below and will expire automatically once all the Services have been completed and final payment by TNC has been made (the "Contract Term"). Contractor must comply with all deadlines in Exhibit A and finalize all Services on or before [INSERT ANTICIPATED END DATE OF SERVICES]. Any deadlines set forth herein may be extended only with TNC's prior written consent, which may be provided by email. Time is of the essence in the performance of this Contract.

4. **Termination**.

(a) Without Cause. TNC may terminate this Contract without cause at any time upon two weeks' written notice to Contractor. TNC will pay Contractor for the Services that have been satisfactorily performed, as determined by TNC, as of the termination date. Contractor shall submit a final invoice within fourteen days following termination of services.

(b) For Cause. TNC may immediately terminate this Contract for cause by written notice to Contractor if Contractor fails to perform any duty, obligation, or covenant under this Contract, whether for circumstances within or beyond Contractor's control, or if TNC determines at any time that the Services cannot be performed in accordance with Applicable Laws (defined below) or TNC's policies or operating procedures. Should termination occur as a result of Contractor's default, TNC may, without limiting any

other remedies available to it under Applicable Laws, recover damages from Contractor resulting from Contractor's default and may offset any amounts payable to Contractor against such damages.

(c) Refund of Advanced Payments. Regardless of the reason for termination, to the extent the balance of any advance payments made by TNC exceeds the total payments due to Contractor for Services satisfactorily completed, Contractor must promptly return the excess advance payments.

5. **Conflict of Interest Determination**. Contractor represents and warrants that, to the best of Contractor's knowledge, the information Contractor has provided on TNC's Conflict of Interest Disclosure Form is true and correct. If any of the information Contractor has provided changes during the term of this Contract, Contractor agrees to promptly notify TNC in writing of such change. The parties acknowledge that publicly traded companies engaging in the normal course of business, government agencies, and universities are exempt from this requirement.

6. **Independent Contractor; Taxes**. The parties intend this Contract to create an independent contractor-client relationship and not an employee-employer relationship. Contractor is solely responsible for the conduct and control of the Services and fulfilling Contractor's duties and obligations under this Contract. Contractor is not an agent or employee of TNC, and no partnership, joint venture, or principal-agent relationship exists. Neither party will have any right, power, or authority by virtue of this Contract to create any obligation, express or implied, on behalf of the other party. Contractor is responsible for filing and paying its own taxes and for complying with the requirements of any applicable tax laws. TNC will not withhold or pay on behalf of Contractor or any of Contractor's employees any U.S. Federal, state, or local income tax, payroll tax, or any excise, sales, or use tax of any kind. TNC will report to the IRS on Form 1099 all fees paid to Contractor, as and to the extent required by Applicable Laws.

7. **Performance of Work**. Contractor represents and warrants that Contractor is qualified and will perform the Services in accordance with the highest standards of Contractor's profession or craft. Contractor is responsible for the complete performance of the Services notwithstanding the use of any subcontractors or work performed by anyone else under Contractor's direction or control. Contractor will not be paid for any Services found by TNC to be unsatisfactory. Contractor shall at all times provide protection from weather conditions so as to maintain all work, materials, apparatus and fixtures free from damage. At the end of a day's work, Contractor shall protect all work likely to be damaged and shall secure the premises. Any work damaged by failure to provide protection as required above shall be replaced with new work at Contractor's expense.

8. **Liability; Indemnification**. Contractor agrees that it is entering into this Contract and performing the Services entirely at Contractor's own risk. Contractor, on behalf of Contractor and Contractor's employees, subcontractors, and agents, agrees to indemnify, defend, and hold harmless TNC and its directors, officers, employees, agents, and assigns (collectively, the "Indemnified Parties") from and against any and all liabilities, demands, damages, claims, losses, costs, settlements, judgments, fines, penalties, or expenses, including reasonable attorneys' fees and costs, (collectively, "Claims") that directly or indirectly arise out of, relate to, or result in any way from the performance of this Contract, whether or not the Claims have merit, involve third parties, or are caused or alleged to be caused by Contractor or any of the Indemnified Parties; provided, however, that Contractor will not be responsible for Claims arising from the sole negligence, gross negligence, or willful misconduct of any of the Indemnified Parties.

9. **Insurance.** Prior to commencing the Services and during the Contract Term, Contractor must have and maintain the following insurance policies: (a) workers' compensation insurance coverage as required by Applicable Laws; (b) commercial general liability insurance (including contractual liability if the Contract Fee is $100,000 or more or if requested by TNC) of at least $1,000,000 per incident, written on an

occurrence basis, and covering the Services that are the subject of this Contract, including any related claims; (c) automobile liability insurance, covering all owned and non-owned vehicles used in performing the Services, with a liability limit of at least $1,000,000 per occurrence; (d) professional liability insurance in the amount of at least $1,000,000 if Contractor is providing professional services (such as consulting, engineering, design, appraisal, or surveying services); and (e) umbrella coverage of at least $4,000,000 if the Contract Fee is $100,000 or more, or if requested by TNC. Contractor's insurance policies must be primary to TNC's insurance policies. Before any of the Services commence, the foregoing requirements must be evidenced by one or more Certificates of Insurance, showing TNC as an additional named insured and requiring at least 30 days advance written notice to TNC of any cancellation, renewal, reduction in limits, or coverage or other material change of the policies. TNC reserves the right to request additional documentation, such as one or more policy endorsements, deemed reasonably necessary to ensure such requirements have been met.

10. **Compliance with Laws; Authorizations**. Contractor represents, warrants, and agrees that Contractor; (a) can lawfully work in the United States; (b) has or will obtain at Contractor's expense (except to the extent otherwise explicitly stated in this Contract) any permits, licenses, or authorizations, including without limitation, a property owner's prior permission before entering upon any private property, that are required to perform the Services, and; (c) will comply with all statutes, laws, ordinances, executive orders, rules, regulations, court orders, and other governmental requirements for the jurisdiction(s) in which the Services are performed, the state in which TNC's Business Unit set forth on the first page of this Contract is located, and any other jurisdiction(s) in which Contractor is organized or authorized to do business (collectively, "Applicable Laws"). Contractor must not take any actions that might cause TNC to be in violation of any Applicable Laws. This provision must be included in all permitted subcontracts.

11. **Counterterrorism, Anti-Money Laundering and Economic Sanctions Laws**. Contractor represents and warrants that, to the best of Contractor's knowledge, Contractor and Contractor's subsidiaries, principals, and beneficial owners, if any (collectively, the "Contractor Parties"):

    (a) are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any government agency;

    (b) (i) are not included on the Specially Designated Nationals and Blocked Persons lists maintained by the U.S. Treasury's Office of Foreign Assets Control, the United Nations Security Council Consolidated List, or similar lists of proscribed entities identified as associated with terrorism; and (ii) will not engage in transactions with, or provide resources or support to, any such individuals or organizations or anyone else associated with terrorism;

    (c) are not a person or entity with whom transacting is prohibited by any trade embargo, economic sanction, or other prohibition of law or regulation; and

    (d) have not conducted, and will not conduct, their operations in violation of applicable money laundering laws, including but not limited to, the U.S. Bank Secrecy Act and the money laundering statutes of any and all jurisdictions to which the Contractor Parties, or any one of them, is subject, and no action or inquiry concerning money laundering by or before any authority involving any of the Contractor Parties is pending.

    Should Contractor become aware that Contractor or any other of the Contractor Parties is subject to any of the above conditions of this Section during the term of this Contract, Contractor must immediately notify TNC in writing. If TNC determines that Contractor or any of the Contractor Parties is subject to any of the above conditions of this Section, TNC may terminate this Contract effective immediately upon written notice to Contractor, with no further obligation by TNC under this Contract, including payment, and TNC

may pursue all available remedies under Applicable Laws. The terms of this Section must be included in all permitted subcontracts.

12. **Use of TNC Name and Logo**. Unless expressly authorized in writing in this Contract or in a separate written agreement, Contractor may not use TNC's name, logo, or other intellectual property in any manner, whether in conjunction with the Services or otherwise, except (a) to deliver invoices or other notices to TNC and (b) within acknowledgements of TNC funding, as authorized in writing by TNC.

13. **Confidential Information**. In performing the Services, Contractor might have access to information, whether verbal, in writing, in electronic format, or in any other tangible form, disclosed by TNC, directly or indirectly, to Contractor that is (a) identified as confidential, or (b) disclosed in a manner in which TNC reasonably communicates, or that Contractor should reasonably have understood, should be treated as confidential, whether or not designated as "confidential" (collectively, "Confidential Information"). Confidential Information includes, without limitation, data sets, donor data, marketing plans, research, products, technologies, software source code, software object code, data collection functionalities, trade secrets, pre-publication patent applications, research and development, know-how, and other information relating to TNC and its operations, programs, or systems. Contractor may not, without TNC's prior written consent, use, publish, or divulge any Confidential Information, and agrees to use Confidential Information solely in furtherance of the Services and for no other reason. Contractor must use appropriate security procedures to safeguard Confidential Information. Contractor acknowledges and agrees that in the event Contractor receives any personal identifying information (i.e., information that identifies or can be used to identify an individual or that relates to an identified individual), Contractor (i) will be subject to a TNC IT Security review prior to such transfer or exchange and (ii) Contractor will comply with all Applicable Laws relating to the protection of personal identifying information. In addition, Contractor must comply with any additional requirements relating to protection of data as set forth in this Contract and/or as specified in the Additional Service Terms and Conditions – Data and Information Security, if attached to this Contract.

14. **Work Product; Intellectual Property**. Contractor retains all right, title, and interest in works, inventions, and other intellectual property original to or owned by Contractor prior to the execution of this Contract or created outside the scope of this Contract. If the Services involve the creation of intellectual property including, but not limited to, inventions, concepts, processes, reports, derivative works, studies, photographs, software (including in both object code and source code form), drawings, designs, writings, related drafts, supporting materials, or data (collectively, the "Works"), TNC will own all right, title, and interest, including copyrights, and, if applicable, patent rights, in and to the Works. Contractor agrees that all copyrightable Works are "works made for hire" as defined under the copyright laws of the United States. To the extent that any of the Works are not works made for hire, Contractor unconditionally assigns to TNC and TNC's successors and assigns all right, title, and interest, including copyright, and other intellectual property rights, in and to the Works in all media (whether now known or later developed) worldwide and in perpetuity. Contractor grants to TNC a worldwide, non-exclusive, royalty-free, perpetual license to use, reproduce, distribute, modify, exercise, practice, perform, and exploit any assets subject to Contractor's patents, copyrights, or other intellectual property rights, to the extent that such license is necessary for TNC to enjoy all rights associated with ownership of the Works. Upon request of TNC, Contractor will deliver to TNC all tangible copies (including digital copies) of the Works and will execute and complete all documentation necessary to establish TNC's ownership of the Works. Contractor warrants and covenants that the Works will not infringe on the patent rights, copyrights, or other intellectual property rights of Contractor or third parties.

15. **Miscellaneous Terms and Conditions**.

(a) **Notices**. Any notice, request, or demand made by either party to this Contract must be in writing and must be delivered: (i) in person; (ii) by mail, postage prepaid, certified (return receipt requested); (iii) by a nationally recognized, next-day delivery service with tracking information and requesting next-business day delivery; or (iv) email. Notices must be addressed to the other party at that party's address first stated above and will be deemed delivered: (i) immediately if delivered in person; (ii) three business days after deposit in the mail if sent as described above; (iii) the next business day if sent by an overnight service and sent as required above; or (iv) on the first business day after sending by email.

(b) **Governing Law; Forum.** This Contract and claims relating to this Contract will be interpreted, construed and governed by the laws of the state in which the TNC Business Unit set forth on the first page this Contract is located (excluding such state's choice of law principles, if any). In the event of any litigation over the interpretation or application of any of the terms of this Contract, litigation will be conducted in the state in which the TNC Business Unit set forth on the first page of this Contract is located.

(c) **Assignment; Subcontracting.** Contractor may not assign this Contract or subcontract any portion of the Services without TNC's prior written consent, which may be granted via email. TNC's consent may be granted or withheld in TNC's sole discretion.

(d) **Code of Conduct; Helpline.** TNC expects itself and everyone with whom it does business to conduct themselves in ways that are consistent with its TNC's Code of Conduct found at www.nature.org/codeofconduct. Anyone (whether an employee of TNC or not) may contact the TNC Helpline (anonymously, if desired) with questions, concerns, or suspected violations at www.nature.org/tnchelpline.

(e) **Entire Agreement; Amendments; Order of Precedence.** This Contract will become binding when signed by both parties and, together with its exhibits, which are incorporated into this Contract by this reference and made a part of this Contract, constitutes the entire agreement between the parties and supersedes all prior or contemporaneous communications, both oral and written, between the parties relating to the Services described in this Contract. Unless explicitly stated otherwise in this Contract, no amendment to this Contract, including a change in the Description of Services or any change order, will be effective unless in a writing signed by both parties. Unless otherwise agreed in writing by the parties, when provisions in the main body of this Contract are inconsistent or in conflict with any exhibit or attachment to this Contract, first priority will be given to the provisions in the main body of this Contract; second priority will be given to the provisions of any exhibit pursuant to Section 16 below, if applicable; third priority will be given to the Description of Services set forth in Exhibit A; and fourth priority will be given to any additional exhibits or attachments to this Contract.

(f) **Severability; No Waiver.** If any provision of this Contract is found to be invalid by a court of competent jurisdiction, the other provisions will not be affected by that finding. No delay in exercising any right or remedy under this Contract by either party will constitute a waiver of that right or remedy or of any other right or remedy under this Contract or under Applicable Laws.

(g) **Joint and Several Liability.** If two or more persons or entities are identified as Contractor in this Contract, their obligations under this Contract are and will be joint and several.

(h) **Counterparts.** This Contract may be executed in one or more counterparts, each of which will be deemed an original and all of which will constitute the complete Contract.

(i) **Consent to electronic signatures.** Facsimile or scanned signatures on this Contract and any related documents, and digital or electronic signatures where authorized under Applicable Laws, will be fully binding for all purposes under this Contract.

(j) **Authorization to Sign.** Contractor represents and warrants that the person signing this Contract on behalf of Contractor is duly authorized to sign this Contract on Contractor's behalf.

(k) **Survival.** The "Liability; Indemnification," "Confidential Information," and "Intellectual Property" Sections of this Contract will survive the expiration or earlier termination of the Contract.

16. **Additional Terms and Conditions**. This Contract is further subject to the additional terms and conditions set forth in the following Exhibit C (and subsequent exhibits, in the event more than one option is selected):

    ☐ Additional Service Terms and Conditions Attachment
    ☐ U.S. Government Laws and Regulations Attachment
    ☐ State/Local Government Terms and Conditions Attachment
    ☐ Private Funder Terms and Conditions
    ☒ None

In consideration of the above, TNC and Contractor execute this Contract effective as of the later date of signature below.

The Nature Conservancy		[Contractor's Name]	
By:	_____ (signature)	By:	_____ (signature)
Print Name:	_____	Print Name:	_____
Title:	_____	Title (if applicable):	_____
Date:	_____	Date:	_____

Exhibits:

Exhibit A: Description of Services

EXHIBIT A
Description of Services

SEE SCOPE OF WORK FOR THIS RFP

[This space intentionally left blank]

ATTACHMENT G:

THE NATURE CONSERVANCY
CONFLICT OF INTEREST DISCLOSURE FORM

[This space intentionally left blank]

The Nature Conservancy

CONFLICT OF INTEREST DISCLOSURE FORM

It is the policy of The Nature Conservancy ("TNC") to identify actual, potential or perceived conflicts of interest in any situation in which TNC has a significant business interest. To assist TNC in complying with this policy, we request that all individuals and/or organizations that will be involved in a proposed transaction with TNC complete this form.

TRANSACTION *(TNC staff complete transaction section)*

For **Real Estate transactions**, describe the property, its size and the type of deal (e.g., purchase or sale, gift, fee, easement, or other).

For **all other transactions**, describe the type of agreement (e.g., service contract, grant from TNC to grantee, etc.).

_____

_____

Total dollar value of transaction: $_____

[For cashless barter transactions, provide the value of the benefits being provided each party.]

STEP 1: ORGANIZATION TYPE

Please check the box to indicate the type of party for which this form is being completed, list all individuals and/or organizations that will be involved in this transaction. An "organization" includes a for profit corporation, partnership, trust, estate, joint venture, limited liability corporation, professional corporation or unincorporated entity of any kind, a foundation, public board, commission, and a 501(c)(3) or other charitable organization.

☐ **Individuals (list all, then complete Section 1): _____**

☐ **For Profit Organizations (list all, then complete Section 2):_____**

☐ **Not for Profit Organizations (list all, then complete Section 3):_____**

STEP 2: QUESTIONS

Complete the applicable section of questions below. Individuals complete Section 1. For Profit Organizations complete Section 2. Not for Profit Organizations complete Section 3. **Note:** Please refer to the attached list of TNC key employees and current and prior members of TNC's Board of Directors when completing the rest of this form.

Section 1. INDIVIDUALS: Please check all that apply and attach an explanation for any "Yes" answers.

	Yes	No
a. Are you now, or have you been at any time since July 1, 2013, a **TNC "key employee"** or a **member of the TNC Board of Directors** as identified on the attached list?		
b. Are you now or have you been in the last 12 months a **TNC employee** (other than a key employee), a **Chapter Trustee** or member of a **Country Program Advisory Council**?		
c. Have you **contributed to TNC** U.S. $5 million or more during the current fiscal year (July 1 – June 30), or U.S. $25 million or more, cumulatively, in the current fiscal year and the prior four fiscal years?		
d. To your knowledge, are you a **Family Member** of any individual identified in paragraph a, b or c above? (For these purposes, the term "Family Member" includes the individual's spouse, ancestors, brothers and sisters (whether whole or half-blood), children (whether natural or adopted), grandchildren, great-grandchildren, and spouses of brothers, sisters, children, grandchildren, and great-grandchildren; and any person with whom the covered person shares living quarters under circumstances that closely resemble a marital relationship or who is financially dependent upon the covered person.)		

Section 2. FOR PROFIT ORGANIZATIONS:
Please check all that apply and attach an explanation for any "Yes" answers.

		Yes	No
a.	Has the organization made total aggregate contributions to TNC (i) U.S. 5 million or more during the current fiscal year (July 1 – June 30), or (ii) U.S. $25 million or more, cumulatively, during the current fiscal year and the prior four fiscal years?		
b.	Now or at the time of the proposed transaction, does or will any **Substantial Contributor** (as defined in 1.c.); **TNC employee (includes former TNC employee who left within the last 12 months); member of TNC's Board of Directors or key employees (see list attached); or TNC Chapter Trustee, Related Entity Board of Director or Advisory Council member (includes former ones who served within the last 12 months)**, individually or collectively with other such persons (including **Family Members** of such persons; see Section 1(d) above for definition of Family Members), **own more than 35% of the stock or value of the organization** (directly or indirectly)**,** or have the legal or *de facto* **power to exercise a controlling influence over the organization's management or policies**, e.g., as an officer, key management employee, board member or partner?		
c.	Now, or at the time of the proposed transaction, have or will any members of **TNC's current Executive Team or Board of Directors** (see attached list) serve as: • an officer, director, trustee, key employee, or partner; or • if the entity is a limited liability corporation, a member; or • if the entity is a professional corporation, a shareholder?		

Section 3. NOT FOR PROFIT ORGANIZATIONS
Please check all that apply and attach an explanation for any "Yes" Answers.

		Yes	No
a.	Now or at the time of the proposed transaction, have or will any **Substantial Contributor** (as defined in 1.c.); **TNC employee (includes former TNC employee who left within the last 12 months); member of TNC's Board of Directors or key employees (see list attached); Chapter Trustee or Advisory Council member (includes former ones who served within the last 12 months)**, or **Family Members** of any of these, individually or collectively, **have the ability to control management of the entity**? See Section 1(d) above for definition of Family Members.		

STEP 3: COMMENTS

Please explain any "Yes" answers checked above.

Individuals who in the current fiscal year (FY20) are or during the preceding five fiscal years have been a Conservancy "key employee" or a member of the Board of Directors:

Key Employees
Keith Arnold
David Banks
Charles Bedford
Michelle Beistle
Giulio Boccaletti
Matt Brown
Michael Doane
Jan Glendening
Santiago Gowland
Wisla Heneghan
Jack Hurd
Sally Jewel
Charlotte Kaiser
Marianne Kleiberg
Joyce Ma
Jennifer Morris
Tom Neises
Bola Olusanya
Seema Paul
Rosita Scarborough
Lynn Scarlett
Theresa Shaw
LaTresse Snead
Michael Sweeney
Jennifer Tabola
Michael Tetreault
Bill Ulfelder
Joni Ward
Leonard Williams

Other/Former Key Employees
Justin Adams
Kacky Andrews
James Asp
Karen Berky
Larry Bond
Mark Burget
Mario D'Amico
Maria Damanaki
Addison Dana
Andrea Erickson-Quiroz
William Ginn
Lynne Hale
Sherri Hammons
Steve Howell
Peter Kareiva
Joe Keenan
Michelle Lakly
Richard Loomis
Robert McKim
Brian McPeek
Pascal Mittermaier
Hugh Possingham
Glenn Prickett
Lois Quam
Aurelio Ramos
Angela Sosdian
Heather Tallis
Mark Tercek
Marc Touitou
Peter Wheeler
Janine Wilkin
Heather Wishik
Heather Zichal

Current Board of Directors (FY '21)
Amy Batchelor
Shona L. Brown
William Frist
Joseph H. Gleberman
Harry Hagey
Margaret Hamburg
Shirley Ann Jackson
Sally Jewell
Nancy Knowlton
Claudia Madrazo
Craig McCaw
Jennifer Morris
Ana M. Parma
Douglas Petno
Vincent Ryan
Brenda Shapiro
Kent J. Thiry
Frances A. Ulmer
Kevin Weil
Ying Wu

Prior Board Members (FYs '15-'20)
Teresa Beck
David Blood
Gretchen C. Daily
Steven A. Denning
Laurence Fink
Jeremy Grantham
Andrew Liveris
Frank E. Loy
Jane Lubchenco
Jack Ma
Thomas J. Meredith
Thomas Middleton
Stephen Polasky
Roberto Hernández Ramirez
Muneer A. Satter
Rajiv Shah
Mark Tercek
Thomas J. Tierney
Moses Tsang
P. Roy Vagelos
Margaret C. Whitman

STEP 4: SIGNATURES

The undersigned certifies that the information in the disclosure form is true and correct to the best of his/her knowledge.

Signatures for For Profit or Not for Profit Organizations:

Name of Organization: _____

Organization Address: _____

_____

Signature: _____

Printed name of person: _____

Title: _____

Date: _____

Signatures for Individuals:

Signature: _____

Individuals Address: _____

_____

Printed name: _____

Date: _____

Signature: _____

Individuals Address: _____

_____

Printed name: _____