211 ROCKETTS WAY | SUITE 200 | RICHMOND, VA 23231 | 804.788.8811 | THEJAMESRIVER.ORG

REQUEST FOR PROPOSAL:
DESIGN SERVICES
FOR SHORELINE STABILIZATION/LIVING SHORELINE PROJECTS
IN CHARLES CITY COUNTY, VIRGINIA

ORGANIZATIONAL INFORMATION:

Name: James River Association (JRA)
Address: 211 Rocketts Way, Suite 200, Richmond, VA 23231
Contact Person(s): Amber Ellis, Senior Watershed Restoration Manager / Emily Hinson, Lower James Regional Outreach Manager
Phone: (804) 788-8811 x205 / (757) 856-1252
Email: aellis@thejamesriver.org / ehinson@thejamesriver.org

ISSUE DATE: 08/09/2021

INTRODUCTION: The James River Association (JRA), a 501(c)(3) nonprofit organization, received a federal grant, administered by the National Fish and Wildlife Foundation (NFWF), to design and construct living shorelines on agricultural lands located in Charles City County, Virginia in partnership with Colonial Soil and Water Conservation District (SWCD) and Virginia Department of Conservation and Recreation - Shoreline Erosion Advisory Service (DCR-SEAS). JRA is requesting proposals from qualified firms for living shoreline design and construction observation services to be provided for the project.

BACKGROUND: JRA serves as the convener for the James River Living Shoreline Collaborative (LSC), a partnership which started in early 2019. The vision of the LSC is to advance implementation of resilient practices along shorelines in the tidal James River watershed. Through the NFWF grant, JRA is also working with Colonial SWCD and DCR-SEAS to take on living shoreline projects on agricultural lands through the Virginia Agricultural BMP Cost-Share (VACS) Program. VACS is a cost-share program of DCR, administered locally by SWCDs, that helps fund a suite of best management practices (BMPs) on agricultural lands, including shoreline stabilization and living shorelines.

Shoreline stabilization (VACS practice code SE-2) was recently approved as an eligible cost-shareable practice. Thus far, VACS has not funded installation of an SE-2 practice in Virginia. The first of these projects are two sites on the James River in Charles City County. The landowners have applied to Colonial SWCD for cost-share assistance to install shoreline stabilization practices through VACS (SE-2).

PROJECT DESCRIPTION: JRA is seeking proposals from qualified firms for living shoreline design and construction observation services on agricultural properties. JRA will be covering the full cost for

design and construction observation services through NFWF grant funds. Construction costs will be split among JRA, VACS, and the landowners. DCR-SEAS and Colonial SWCD will lead the landowner engagement and coordinate the design component, while JRA and Colonial SWCD will coordinate the construction component of the projects. Given the size and complexity of the projects and VACS programmatic specifications, professional services are required for design. Both sites are on the James River in Charles City County. Both sites are exposed to medium-to-high wave energy environments. Structural components may be required, as determined via site assessment and surveys. The duration of the contract awarded through this RFP will extend until project completion (see note under *Project Schedule* section for details), estimated to be December 2023.

Site 1: Berkeley Plantation

The proposed living shoreline at Berkeley Plantation may be up to approximately 1,000 linear feet of shoreline. The *Charles City County Shoreline Management Plan (2015)* already contains a concept plan for 400 linear feet of the Berkeley shoreline known as Harrison's Landing, an eroding point which protects an agricultural area (see *Site Concept Plans* section for details).

Site 2: Riverside Farms *Please note: award of this project site is contingent upon available grant funding.*

The Riverside Farms shoreline is also included in the *Charles City County Shoreline Management Plan*. The conceptual design from that plan is included in this RFP, and highlights approximately 6,400 linear feet that could benefit from shoreline stabilization (see *Site Concept Plans* section for details).

SERVICES TO BE PROVIDED: The selected designer will be responsible for meeting the following deliverables:

- **Site Assessment**
    - Visiting the two project sites and meeting with the property owners, DCR-SEAS, Colonial SWCD, and JRA staff (one day for both sites).
    - Site assessment will include physical, hydrodynamic, and biologic settings that will affect the shoreline. A general biologic assessment will determine the proximity of marine resources, such as submerged aquatic vegetation (SAV), within the project boundaries.
    - Many parameters affect the estuarine shorelines of Virginia, and the importance of any given parameter is site-specific. Site assessment will examine parameters including, but not limited to, fetch, depth offshore, shoreline geometry, shoreline orientation, nearshore morphology/stability, SAV, tide range, storm surge frequency, historic erosion rate, design wave determination, fastland bank condition, bank height, bank composition, Chesapeake Bay Preservation Act (CBPA) Resource Protection Area buffer, upland land use/proximity to infrastructure/cover, width and elevation of sand beach or low marsh, width and elevation of backshore region, boat wakes, and existing shoreline defense structures.
    - The bank, beach, and nearshore will be surveyed by a licensed surveyor along the identified sections of the shoreline. The physical elevation surveys will be conducted by a

licensed surveyor and tied into horizontal and vertical survey control systems (NAD 83 horizontal datum / NAVD 88 vertical datum) and adjusted to mean low water (MLW).
    - Vertical control elevations for the project site shall be established from reliable monuments (e.g., benchmarks from the National Ocean Service or USGS). The Professional Engineer (PE) shall establish a benchmark at the project site for the purpose of controlling the survey of the project site and setting proposed elevations during construction.
    - The shore zone will be assessed to determine the nature of the underlying strata to ascertain its suitability for living shorelines.
    - Sediment nutrient analysis of eroding banks will be conducted in accordance with *Recommendations of the Expert Panel to Define Removal Rates for Shoreline Management Projects* (USEPA Chesapeake Bay Program 2019) (see References).
- **Design Services**
    - The design must meet DCR VACS guidelines as outlined in the SE-2 Shoreline Stabilization practice specifications included in Appendix A.
    - As required by the DCR VACS SE-2 practice specification, the design is subject to the requirements of applicable USDA Natural Resources Conservation Service (NRCS) conservation practice standards and specifications. The design must include a note on the cover sheet, signed by the PE that states: "To the best of my professional knowledge, judgement, and belief, the design and construction drawings meet applicable NRCS standards and specifications."
        - The primary practice is Streambank and Shoreline Protection, NRCS Conservation Practice Code 580 included in Appendix C.
        - Additional NRCS Conservation Practice Specifications that apply to the SE-2 practice may be found at the NRCS electronic Field Office Technical Guide in the Virginia section: https://efotg.sc.egov.usda.gov/#/details
    - Designs shall be consistent with VIMS *Living Shoreline Design Guidelines for Shore Protection in Virginia's Estuarine Environments* (Sept 2017) (see References).
    - Designs shall be consistent with VMRC *Tidal Wetlands Guidelines* (May 2021). Per the *Guidelines*, all shoreline alterations should be functionally resilient and structurally designed to endure the impacts of sea level rise (see References).
    - Site designs will include, at a minimum, an existing conditions sheet(s), proposed plan sheet(s) all with appropriately spaced cross-sections with typical cross-sections for construction detail, and a marsh planting plan.
    - Per VACS requirements, Colonial SWCD will initiate state resource reviews (e.g., survey for cultural resources; survey for threatened, endangered, or rare species; analysis for floodplain review). The PE shall address any concerns resulting from the state resource reviews and modify the design plan accordingly.
    - The design must be reviewed by DCR-SEAS and meet the intent of DCR-SEAS advisories and guidelines. The PE shall address any concerns resulting from the DCR-SEAS review and modify the design plan accordingly.
    - The design shall be signed and sealed by a PE licensed in the Commonwealth of Virginia.
    - The design plan will be submitted to DCR Division of Soil and Water Conservation (DSWC) District Engineering Services (DES) for a VACS programmatic/functional

review before being approved for project continuation and before submittal of joint permit application (JPA). The PE shall address any concerns resulting from the DCR-DES review and modify the design plan accordingly.

- **Bid Services**
  - PE will prepare construction bid packages for the projects based on the design, including plans, specifications, and cost estimates. Landowners will be responsible for securing a qualified contractor utilizing the prepared bid packages.
  - Once the design is found to be satisfactory, and DCR DES issues approval, the landowner will follow the VACS bid process to solicit bids for construction. The PE shall assist landowners in this process by answering questions from prospective bidders regarding the technical details of the approved design and construction plans, including but not limited to attending a pre-bid meeting with potential contractors at the project site(s).
- **Permitting Services**
  - PE shall serve as the landowner agent for the permitting process and develop and submit the necessary tidewater joint permit applications (JPA) to Virginia Marine Resources Commission (VMRC) and other regulatory entities.
  - PE shall complete Water Quality Impact Assessment and Chesapeake Bay Preservation Act (CBPA) permit on behalf of the landowner, attend and participate in local wetlands board meetings, and represent the landowner at VMRC hearings as necessary (including explaining components of the project and answering questions).
- **Construction Support Services**
  - In accordance with VACS guidelines, the landowner will engage a contractor to build the project in accordance with the approved design. Once the landowner engages a contractor, the PE shall work with the selected contractor to satisfy other services detailed herein.
  - The PE or their representative is responsible for all required construction inspections to ensure the project is in compliance with the design plans and specifications. At a minimum, these milestones represent when site inspections should occur:
    - Structural component construction begins
    - Structural component placement complete
    - Sand nourishment complete and after minimum 2-week settling period
    - Marsh plantings complete
  - Once construction is complete, and prior to VACS payment to the landowner, the PE must develop an "as-built" drawing that adheres to the SE-2 Shoreline Stabilization Practice letter released by DCR on May 5, 2021 (see Appendix B). The "as-built" shall be signed and sealed by a PE licensed in the Commonwealth of Virginia.
  - The "as-built" surveys will include a delineation of the area where the marsh grass is planted. The "as-built" surveys will be tied into horizontal and vertical survey control systems (NAD 83 horizontal datum / NAVD 88 vertical datum) and adjusted to mean low water (MLW).
  - The PE shall develop a monitoring protocol and maintenance plan for use by property owners to maintain the practice for a minimum of 15 years. The protocol should allow the property owners to determine basic characteristics of the structural effectiveness,

functional success, and overall stability of the living shoreline project over the useful life of the project; it should also provide an assessment of deficiencies that require remedial attention such as excessive sand loss or plant mortality.

- **Project Management**
    - The designer will consult closely with the landowners so that their goals and needs can be addressed in the designed shoreline management solution.
    - All documents including but not limited to, design plans, specifications, permit applications, and cost estimates will be submitted to JRA for approval.
    - Expect weekly check-in phone calls and/or emails, monthly project coordination conference calls, presentation of each deliverable, as well as revision of deliverables to address the SEAS review of the design, the DES review of the design, JRA comments, and any revisions requested by the permitting agencies.

PROJECT SCHEDULE: The schedule requires:

- Design services by the selected entity begin no later than November 8, 2021.
- JPA shall be submitted to VMRC no later than May 16, 2022.
- Bid package for construction services for landowner use should be complete for release no later than June 30, 2022.

Payment for services rendered will be provided as each phase is completed and approved:

- Approval of design from DCR-DES
- Approval of JPA by all regulatory entities
- Structural component construction begins
- Structural component placement complete
- Sand nourishment complete and after minimum 2-week settling period
- Marsh plantings complete
- As-built design submitted to DCR-DES

PROPOSAL REQUIREMENTS: At a minimum, applicants must be able to provide the following:

- ***Cover Letter*** **-** Official representative and point of contact for the Contractor relative to this RFP. Identify such representative's title, address, phone numbers, and email address. Letters should be signed by an authorized representative of the designer's organization.
- ***Summary of Qualifications*** **-** Present a list of key staff who will work on this project, indicating years of experience and any relevant certifications held by key team members. Describe any potential conflicts of interest in conducting this project. Identify whether your firm is a licensed Small, Woman-owned business enterprise or Minority business enterprise. Provide Virginia Department of Professional and Occupational Regulations (DPOR) license details (business name, address, registration type, registration number, and expiration date) for any individual offering to practice professional services as part of the proposed work. Such information shall include the name, address, registration type, registration number, and expiration date. Please indicate if the company is or is not on the Federal Debarment List or listed in the Excluded Parties List System (EPLS).

- ***Prior Experience -*** Describe the firm's experience with design of living shorelines. Provide examples for up to three active or past projects (within the previous five years) that are similar to the living shoreline projects being proposed. For each project, please prepare a succinct project summary including the following information: project name, JPA number, location, description, illustrations, cost and reference contact information.
- ***Insurance Requirements -*** Must show proof of the following insurance requirements:
    - General Liability Insurance, with a combined single limit of $1,000,000 for each occurrence and $1,000,000 in the aggregate
    - Automobile Liability Insurance, with a combined single limit of $1,000,000 for each person and $1,000,000 for each accident
    - Worker's Compensation Insurance in accordance with statutory requirements and Employer's Liability Insurance, with a limit of $500,000 for each occurrence
    - Professional Liability Insurance, with a limit of $1,000,000 annual aggregate
- ***Project Schedule and Costs -*** Project schedule and design and construction observation services costs
- ***References -*** Contact information of a minimum of three client references
- ***Completed RFP Response Form*** (attached)

PROPOSAL EVALUATION: Proposals should respond to the requirements of this RFP in a straightforward and concise manner. Proposals will be evaluated based on staff qualifications, experience, project cost, and approach to bringing the project to a successful completion. JRA will employ good faith efforts to engage disadvantaged/minority/women business enterprises by reaching out to DBE/MBE/WBE firms to submit proposals. This RFP is not a contract or commitment and JRA is not responsible for any expenses that may be incurred during the preparation of a proposal responding to it. Submitted proposals become the property of JRA.

Proposal Evaluation Committee will consist of the landowners and representatives from JRA, Colonial SWCD, and DCR-SEAS.

DESIGNER SELECTION SCHEDULE: Proposals should be emailed to Amber Ellis of the James River Association aellis@thejamesriver.org by no later than 5:00pm on September 13, 2021. JRA intends to complete its evaluation and decision process within three (3) weeks after submission of offers. The selected contractor will be notified via email and letter via a "Notice of Intent to Award." It is the intent of JRA to make a selection no later than October 5, 2021. The following outlines the procurement and project schedule:

- August 9, 2021: RFP is sent to prospective designers and posted to project webpage
- August 27, 2021: **mandatory**, in-person pre-bid meeting at project locations. RSVPs are required. To RSVP, fill out this form: https://docs.google.com/forms/d/e/1FAIpQLSfHhJ8d6nCESsvmJ_9A3ogDHpleqgA0RXOUnL_YS_HG4xBSbg/viewform
- September 13, 2021: Proposals received by JRA
- September 14 - October 1, 2021: Committee reviews proposals and schedules virtual interviews
- October 5, 2021: Determination of contract award and Notice of Intent to Award sent

Contingency - JRA intends to award a contract for professional design and construction observation services for living shorelines at Site 1 (Berkeley). Depending on availability of grant funding, JRA may also award a contract for professional design and possibly construction observation services for one additional living shoreline project at Site 2 (Riverside).

FOR FURTHER INFORMATION OR QUESTIONS: Please direct questions about this RFP to Amber Ellis, the James River Association's Senior Watershed Restoration Manager, at aellis@thejamesriver.org or 804-788-8811 x205 or Emily Hinson, the James River Association's Lower James Regional Outreach Manager at ehinson@thejamesriver.org or 757-856-1252.

The James River Association's programs, activities, and employment opportunities are available to all people regardless of race, color, religion, sex, age, disability, national origin or political affiliation. An equal opportunity/affirmative action employer.

REFERENCES

- Hardaway, C.S., Milligan, D.A., Duhring, K., & Wilcox, C.A. 2017. Living Shoreline Design Guidelines for Shore Protection in Virginia's Estuarine Environment. Virginia Institute of Marine Science, William & Mary. https://doi.org/10.21220/V5CF1N
- Hardaway, C.S., Milligan, D.A., Wilcox, C.A., Berman, M., Rudnicky, T., Nunez, K., & Killeen, S.A. 2015. Charles City County Shoreline Management Plan. Virginia Institute of Marine Science, William & Mary. https://doi.org/10.21220/V5FP4T
- U.S. Department of Agriculture, Natural Resources Conservation Service. Field Office Technical Guide (FOTG), Virginia. https://efotg.sc.egov.usda.gov/#/state/VA
- Virginia Department of Conservation and Recreation. Virginia Agricultural BMP Cost-Share (VACS) Program Manual, Program Year 2022. http://consapps.dcr.virginia.gov/htdocs/agbmpman/agbmptoc.htm
- Virginia Marine Resources Commission. 2021. Tidal Wetlands Guidelines. https://www.mrc.virginia.gov/Regulations/Final-Wetlands-Guidelines-Update_05-26-2021.pdf
- Recommendations of the Expert Panel to Define Removal Rates for Shoreline Management Projects. USEPA Chesapeake Bay Program. 2019. https://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2018/05/SHORT_Final_Shoreline-Management-Protocol_11-24-19_FINAL.pdf

SITE CONCEPT PLANS

*Note: These concept plans do not necessarily meet DCR and NRCS practice specifications.

Site 1 Berkeley

The Berkeley Plantation shoreline, as included in the *Charles City County Shoreline Management Plan* (VIMS 2015), is described as (Section 5.2.1):

> The point of land at Berkeley Plantation where the shoreline direction of face changes from westerly to south, just upriver of Harrison's Landing, has an historic erosion rate of 1 to 2 ft/yr with fetch exposures to the west, southwest, and south of 5.0 miles, 1.4 miles, and 2.1 miles, respectively. The southerly fetches are relatively shallow. The Shoreline Management Model recommends a sill along this stretch of shore. In order to hold the point of land and stop erosion of the low, eroding agricultural land, about 400 feet of shoreline that has an existing intermittent tidal freshwater marsh fringe can be protected (Figure 1). The proposed sill will maintain and enhance the existing wetland fringe (Figure 2). The site has easy access by an existing road. The cross-section for a typical sill for this site is shown in Figure 3.

Figure 1. Existing conditions at the Berkeley Plantation area of interest.

Figure 2. Proposed configuration of the sill shoreline BMP for Berkeley Plantation.

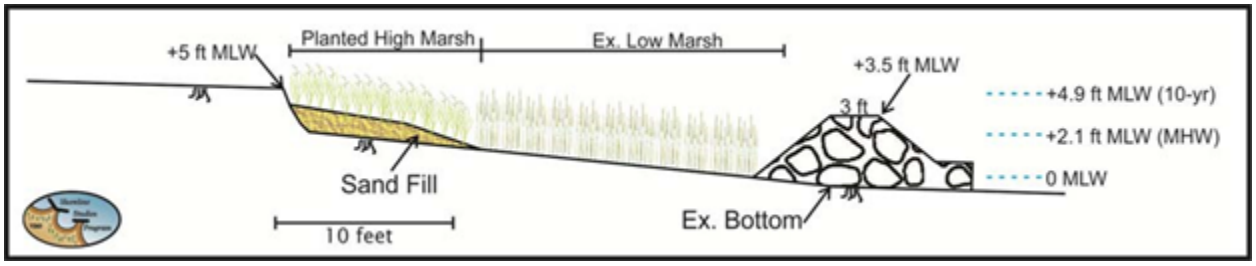


Figure 3. Typical cross-section for a low sill that is appropriate for low to medium energy shorelines of Charles City County. The project utilizes clean sand on a 10:1 (H:V) slope, and the bank can be graded to a (minimum) 2:1 slope, if appropriate.

A more recent design proposal (VIMS 2018) included some upgrades to the above concept design:

> After visiting the site, it was determined that the conceptual plan would be modified. Though the bank is eroding, significant vegetated wetlands presently exist at the site. This will have to be accounted for in the design, otherwise permitting may be an issue. The original conceptual design included four rock sills with sand fill along the shoreline. Because of the existing marsh, sills 2 and 3 will be moved riverward to provide protection for the existing marsh. Sand fill will only be placed close to the bank and planted with high marsh grasses. The level of shore protection will remain as proposed.

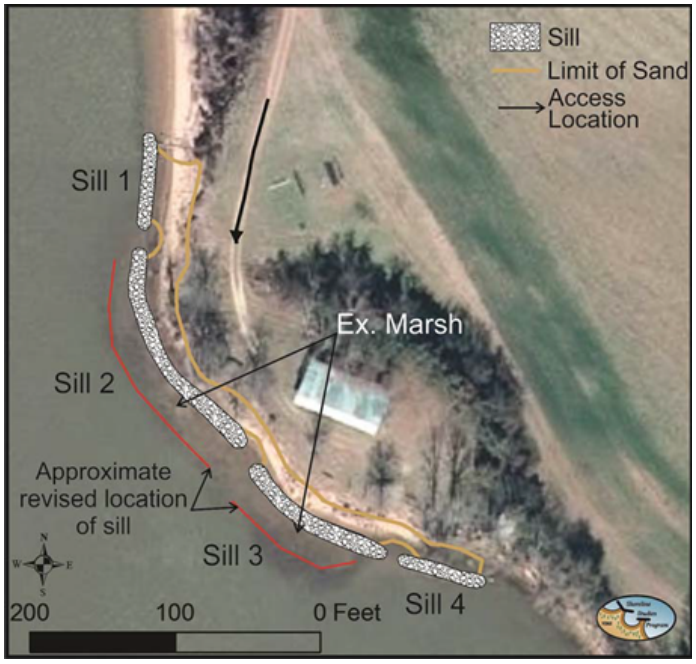


Figure 4.

Site 2 Riverside

The Riverside Farms shoreline, as included in the *Charles City County Shoreline Management Plan* (VIMS 2015), is described as (Section 5.2.3):

> The shoreline from Sandy Point to Dancing Point in Reach 4 occurs as a long curvilinear embayment and is mostly low eroding farmland with bank heights from 5 to 10 feet. Fetch exposures are to the southwest, south, and southeast at 1.2 miles, 1.4 miles and 3.5 miles respectively, placing the site in the medium energy category. Long-term erosion is low between 0.3 and 0.5 ft/yr. Sandy Point and Dancing Point are major headland features. The top of the bank is wooded with a narrow beach at low tide and scattered cypress trees along the coast (Figure 5). These cypress trees act as small headland features.
>
> This section of coast could be protected with Headland Control since the Shoreline Management Model recommends breakwaters and beach fill. However, because it is such a long stretch of shoreline, closely-spaced shore-attached breakwaters may be cost prohibitive. By strategically placing breakwaters in front of existing headland features (cypress trees), the shoreline will begin the process of long-term shoreline stabilization (Figure 6). The adjacent shoreline will continue to recede toward static equilibrium. Seven headland breakwaters are proposed for this site ranging from 60 ft to 80 ft. Construction access will be along the adjacent farm field and then laterally through the existing woods to each structure. Sand fill will be required to build the access path in order to build the structures. The cross-section for a typical sill for this site is shown in Figure 7.

Figure 5. Existing conditions at the site of the Sandy Point to Dancing Point area of interest. Note the cypress tree in the nearshore that acts as a headland that would be enhanced with a breakwater.

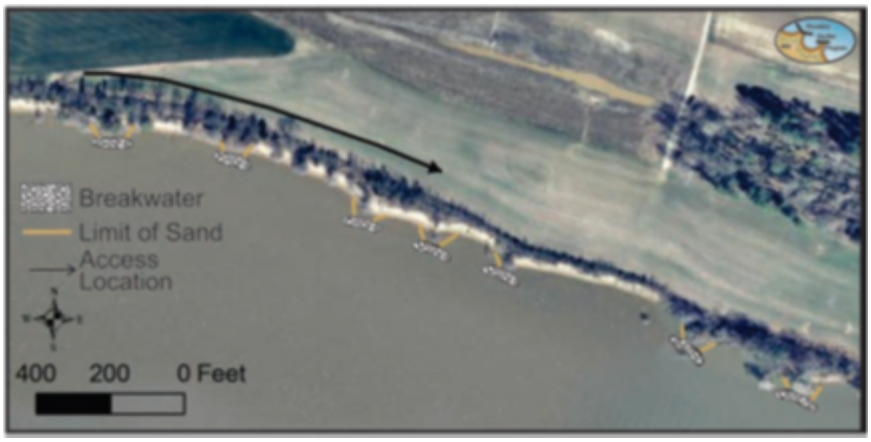


Figure 6. Proposed configuration of Shoreline BMP for Sandy Point to Dancing Point. Erosion will continue between the widely-spaced breakwaters until the shore reaches dynamic equilibrium.

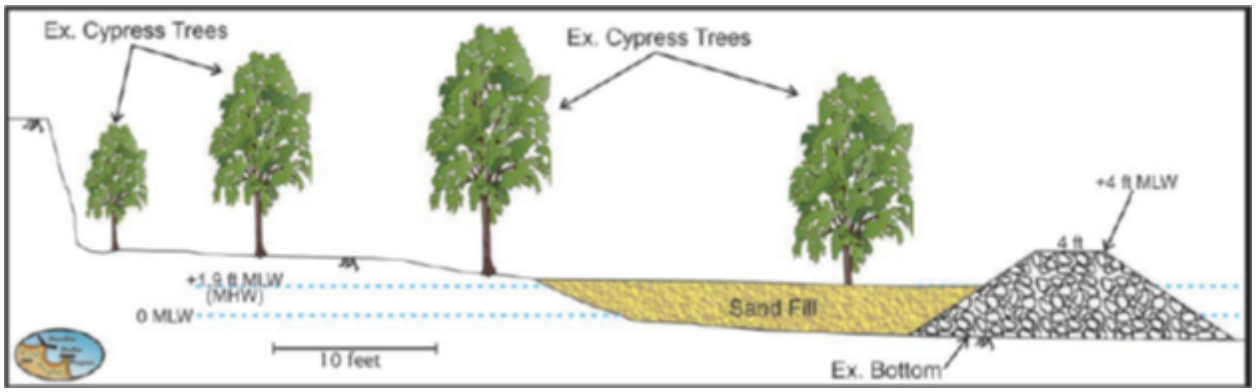


Figure 7. Typical cross-section for a breakwater that is appropriate for headland control along the medium energy shorelines of Charles City County. The project utilizes clean sand, and the bank can be graded to a (minimum) 2:1 slope, if appropriate.

RFP RESPONSE FORM

Please complete the following information for your response:

1. The name and full contact information of your company and, if applicable, any other entity comprising your team: [Attach resumes of individuals involved; see #6 below.]

2. List and describe three projects completed within the previous five years that are relevant to this project. If the relevance is not immediately obvious, please describe briefly the relationship as you see it: [Attach additional information as appropriate.]

3. List three client references and their contact information for whom you or your team members have completed work similar to that described in this RFP:

4. Include basic information and history about the business entity, financial information, technical capability, and any other information you feel is important for us to know.

5. Fee Proposal, detailed to the greatest extent possible – cost for service: hourly rates (if applicable), typical direct out-of-pocket costs such as travel reimbursement, copies, mailings etc., and any other anticipated expenses that you foresee. Please itemize your fee proposal by the categories listed under "Services to be Provided" section (e.g. site assessment, design services, bid services, permitting services, construction support services, and project management). Please provide fee proposals for both circumstances as outlined in the "Contingency" section (Berkeley project only and both projects).

6. Additional information, such as you/your team member's particular experiences, training, and/or academic background(s) that may make you uniquely qualified for this position (such as experience with...): [Attach additional materials as appropriate.]

Proposals that answer the following questions in the affirmative will be viewed more favorably:

- Does the firm have any recent experience in tidal shoreline erosion/stabilization designs in Virginia? If so, provide 3-5 submitted and approved JPA references.
- Does the firm have any recent experience working on designs for private property owners in Virginia (as opposed to federal/state/locality owned properties), specifically tidal shoreline/erosion stabilization? If so, provide contact information for 2-3 property owner references.
- Does the firm have any experience working on agricultural or silvicultural lands in Virginia, specifically tidal shoreline/erosion stabilization? If so, provide contact information for 2-3 property owner references.
- Does the firm have any experience working with SWCDs and DCR on VACS? Or with SWCDs on the Virginia Conservation Assistance Program (VCAP)? If so, provide examples.
- Does the firm have any experience with satisfying design requirements of USDA-NRCS conservation practice standard 580, specifically on tidal shorelines (anywhere in the United States)? If so, provide 2-3 examples with supporting documentation.
- Does the firm hold a contractors license from DPOR with Marine Facility (MCC) specialty? If only a design firm, has the firm worked with a construction contractor with that license and specialty?
- Has the firm participated in a living shoreline design workshop hosted by VIMS Shoreline Studies Program? If so, list staff names and dates of attendance.

A successful applicant must provide proof of insurance based on the services or product provided.

The undersigned certifies that the information submitted above is true and accurate.

The undersigned certifies that the person, firm, association, co-partnership or corporation herein named, has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in the preparation and submission of a proposal to the James River Association for consideration in the award of a contract.

The undersigned further certifies that the firm, association, or corporation or any person in a controlling capacity associated therewith or any position involving the administration of federal funds; is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against said person, firm, association, or corporation by a court of competent jurisdiction on any manner involving fraud or official misconduct within the last three years.

I further acknowledge that by signing this page of the proposal, I am deemed to have agreed to the provisions of the affidavit.

_____

(Name of Firm)

_____

(Authorized Signature) (Title)

_____

(Please print Name)

_____

(Date)

APPENDIX

Appendix A: DCR Specification for No. SE-2

Appendix B: SE-2 Shoreline Stabilization Practice letter released by DCR on May 5, 2021

Appendix C: NRCS Conservation Practice Standard, Streambank and Shoreline Protection, Code 580

Appendix D: NRCS Statement of Work, Streambank and Shoreline Protection (580), Virginia

Project designs must meet the entire specification. Please make special note of highlighted items.

Name of Practice: SHORELINE STABILIZATION
DCR Specification for No. SE-2

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's agricultural Shoreline Stabilization practice which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

Structures and/or vegetative measures will be designed and implemented to stabilize shoreline areas of tidally-influenced streams and rivers, estuaries, bays, and the ocean.

The purpose of this practice is to improve water quality by stabilizing shoreline areas that are being eroded because of waves, boat wake, or overland flow.

B. Policies and Specifications

1. Cost-share and tax credit are authorized:
   i. For land shaping to achieve a stable slope.
   ii. For the construction of riprap revetments, sills (riprap or oyster shell bags), groins, break-waters, and gabion systems.
   iii. For the establishment of vegetation.
   iv. For engineering and design assistance.
   v. For shorelines bordering only agricultural and forestal lands. Other lands such as recreational, urban and built-up or residential lots are not eligible.
   vi. For tidally-influenced waters only.

2. To qualify for cost-share and/or tax credit, all designs must be reviewed by DCR's Shoreline Erosion Advisory Service (SEAS) and meet the intent of SEAS program guidelines.

3. All appropriate local, state, and federal permits must be obtained before cost-share or tax credit is authorized.

4. This is a one-time incentive payment and not eligible for reapplication on the same site. Lifespan requirements can be waived if damaged by acts of nature.

5. Livestock must be excluded from the project area.

6. This practice is subject to the requirements of applicable NRCS Standards including 342 Critical Area Planting, 580 Streambank and Shoreline Protection, 382 Fence, and 612 Tree/Shrub Establishment.

7. All practice components implemented must be maintained for a minimum of 15 years following the calendar year of certification of completion. The lifespan begins on Jan. 1 of the calendar year following the year of implementation. By accepting either a cost-share payment or a state tax credit for this practice, the participant agrees to maintain all practice components for the specified lifespan. This practice is subject to spot check by the District or SEAS throughout the lifespan of the practice and failure to maintain the practice may result in reimbursement of cost-share and/or tax credits.

C. Rate(s)

1. The state cost-share rate, alone or if combined with any other cost-share program, will not exceed 75% of the total eligible cost including all necessary components needed to implement shoreline stabilization.

2. As set forth by Virginia Code, the Commonwealth currently provides a tax credit for implementation of certain agricultural best management practices as discussed in the Tax Credit Guidelines.

3. If a participant receives cost-share, only the participant's eligible out-of-pocket share of the project cost is used to determine the tax credit.

D. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2021

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

Russell W. Baxter
Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Nathan Burrell
Deputy Director of Government and Community Relations

Thomas L. Smith
Deputy Director of Operations

May 5, 2021

To: Colonial SWCD
Eastern Shore SWCD
Hanover Caroline SWCD
Northern Neck SWCD
Peanut SWCD-E. Keith
Three Rivers SWCD
Tidewater SWCD
Tri-County/City SWCD
Virginia Dare SWCD

RE: SE-2 Shoreline Stabilization Practice

Charles Hill Carter, III-Colonial SWCD,

DCR wanted to take the time to remind Soil and Water Conservation Districts (SWCDs) that are located within tidally influenced areas of a relatively new VACS practice for Shoreline Stabilization. For your reference, the program eligibility requirements for such practices, as well as the process for practice approval are listed below. This practice, consistent with NRCS standard #580, requires design and construction services from a Professional Engineer (PE).

The SE-2, Shoreline Stabilization, practice became an eligible practice in PY20. This practice is specifically for tidally influenced streams and rivers, estuaries, bays, and the ocean. The purpose of this practice is to improve water quality by stabilizing shoreline areas that are being eroded because of waves, boat wake, or overland flow.

Please keep in mind the following when determining program eligibility:

- This is an agricultural practice and participants must demonstrate the same program eligibility requirements as with any other VACS practice. The erosion must be occurring on agricultural land, which must be a minimum of five consecutive agricultural acres, and the participant must demonstrate a minimum of $1,000 of income from agricultural products produced on the associated land for a period of at least three consecutive years.
- An individual from DCR's assigned staff should visit the site to determine eligibility prior to board approval. This individual should either be from DCR's Division of Soil and Water Conservation District Engineering Services (DES) or the Shoreline Erosion Advisory Service (SEAS).

Once it has been determined that the practice is eligible, the following process is required for design and construction:

- The participant must engage a professional engineer to determine the appropriate design for stabilization and develop a design plan, signed and sealed by the Professional Engineer of Record (PEOR).
- This design shall include a note on the cover sheet, signed by the PEOR that states, "To the best of my professional knowledge, judgement, and belief, the design and construction drawings meet applicable NRCS standards and specifications."
- The design plan must be submitted to DCR District Engineering Services for a functional review. Upon completion of this review, if the plans are found to be satisfactory, an approval letter will be issued by DCR District Engineering Services.
- Once the design is found to be satisfactory, and approval is issued, the District and the participant should follow the Cost Share Program Bid Process to solicit bids for any NRCS components estimated to be $30,000 or greater (see VACS Guidelines, Page II-35).
- The PEOR will need to perform construction inspections to ensure the project is constructed in accordance with the design plans and specifications.
- Once construction is completed, and prior to payment to the participant, the PEOR must develop an "as-built" drawing that shall contain the following statement on the cover sheet, "to the best of my professional knowledge, judgment, and belief, these practices are installed in accordance with the construction drawings (as shown in these "As Built" plans dated XXXX) and meets applicable NRCS standards and specifications."
- Upon completion of the as-built review, which must include a post construction inspection by a member of the DCR District Engineering Services staff, if the project is found to be satisfactorily completed, an approval letter will be issued. Once the approval letter is received, the District may make payment to the participant for the project.

If the participant should need assistance in selecting a PEOR for the project, the local Wetlands Board may be able to assist with the selection process. Additionally, a list of engineering firms that DCR is aware of having previously performed this type of work is attached. Please note that inclusion on this list is not a DCR recommendation; other firms not on this list could also be qualified.

If you should have any questions, please feel free to contact Amanda S. Pennington, PE at 804-786-0113.

Sincerely,

Daryl M. Glover

Darryl M. Glover
Director
Division of Soil and Water Conservation

Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

STREAMBANK AND SHORELINE PROTECTION

CODE 580

(ft)

DEFINITION

Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- To prevent the loss of land or damage to land uses, or facilities adjacent to the banks of streams or constructed channels, shoreline of lakes, reservoirs, or estuaries including the protection of known historical, archeological, and traditional cultural properties
- To maintain the flow capacity of streams or channels
- Reduce the offsite or downstream effects of sediment resulting from bank erosion
- To improve or enhance the stream corridor for fish and wildlife habitat, aesthetics, recreation

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to streambanks of natural or constructed channels and shorelines of lakes, reservoirs, or estuaries where they are susceptible to erosion. It does not apply to erosion problems on main ocean fronts, beaches or similar areas of complexity.

Sites with drainage areas that are 25 square miles or greater require approval from the State Conservation Engineer.

CRITERIA

General Criteria Applicable to All Purposes

Treatments shall be in accordance with all applicable local, state and federal laws and regulations.

Livestock exclusion is required for sites with vegetative measures. The Virginia Conservation Practice Standard *Fence (Code 382)* shall be used for all fences. Wildlife may need to be controlled during establishment of vegetative measures. Temporary and local population control methods should be used with caution and within state and local regulations. Vehicles and/or people shall be excluded during vegetative establishment, as appropriate.

Treatments applied shall seek to avoid adverse effects to endangered, threatened, and candidate species and their habitats, whenever possible.

Treatments applied shall seek to avoid adverse effects to archaeological, historic, structural, and traditional cultural properties, whenever possible.

An assessment of unstable streambank or shoreline sites shall be conducted in sufficient detail to identify the causes contributing to the instability (e.g. livestock access, watershed alterations resulting in significant modifications of discharge or sediment production, in-channel modifications such as gravel mining, head cutting, water level fluctuations, boat-generated waves, etc.).

Proposed protective treatments to be applied shall be compatible with improvements being planned or installed by others.

Protective treatments shall be compatible with the bank or shoreline materials, water chemistry, channel or lake hydraulics, and slope characteristics above and below the water line.

End sections of treatment areas shall be adequately anchored to existing treatments, terminate in stable areas, or be otherwise stabilized to prevent flanking of the treatment.

Protective treatments shall be installed that result in stable slopes. Design limitations of the bank or shoreline materials and type of measure installed shall determine steepest permissible slopes.

Designs will provide for protection of installed treatments from overbank flows resulting from upslope runoff and flood return flows.

Internal drainage for bank seepage shall be provided when needed. Geotextiles or properly designed filter bedding shall be incorporated with structural measures where there is the potential for migration of material from behind the measure.

Treatments shall be designed to account for any anticipated ice action, wave action, and fluctuating water levels.

All disturbed areas around protective treatments shall be protected from erosion. Disturbed areas that are not to be cultivated shall be protected as soon as practical after construction. The Virginia Conservation Practice Standard *Critical Area Planting (Code 342)* shall be used.

Additional Criteria for Streambanks

Stream segments to be protected shall be classified according to a system deemed appropriate by the state. Segments that are incised or that contain the 5-year, 24-hour return period (20 percent probability) or greater flows shall be evaluated for further degradation or aggradation.

A site assessment shall be performed to determine if the causes of instability are local (e.g. poor soils, high water table in banks, alignment, obstructions deflecting flows into bank, etc.) or systemic in nature (e.g. aggradation due to increased sediment from the watershed, increased runoff due to urban development in the watershed, degradation due to channel modifications, etc.). The assessment need only be of the extent and detail necessary to provide a basis for design of the bank treatments and reasonable confidence that the treatments will perform adequately for the design life of the measure.

Changes in channel alignment shall not be made without an assessment of both upstream and downstream fluvial geomorphology that evaluates the affects of the proposed alignment.

The current and future discharge-sediment regime shall be based on an assessment of the watershed above the proposed channel alignment.

Bank protection treatment shall not be installed in channel systems undergoing rapid and extensive changes in bottom grade and/or alignment unless the treatments are designed to control or accommodate the changes.

Bank treatment shall be constructed to a depth at or below the anticipated lowest depth of streambed scour.

If the failure mechanism is a result of the degradation or removal of riparian vegetation, stream corridor restoration shall be implemented, where feasible, (see Additional Criteria for Stream Corridor Improvement) as well as treating the banks.

Toe erosion shall be stabilized by treatments that redirect the stream flow away from the toe or by structural treatments that armor the toe. Additional design guidance is found in National Engineering Handbook, Part 650, Chapter 16, Streambank and Shoreline Protection and National Engineering Handbook, Part 654, Stream Restoration Design.

Where toe protection alone is inadequate to stabilize the bank, the upper bank shall be shaped to a stable slope and vegetated, or shall be stabilized with structural or soil-bioengineering treatments.

Where rock riprap is used for bank or toe protection, undercutting by scour shall be prevented by one of the following methods of riprap placement:

- Key riprap into the bottom of the channel to a depth equal to the design riprap thickness or 2 feet (0.6m), whichever is greater, below the anticipated lowest scour line, or
- Place riprap as an apron with the design riprap thickness extending beyond the toe of the bank for a distance equal to at least five times the D_{50} size.

Riprap bank protection shall be keyed into the bank at both the upstream and downstream ends. The end keyway trenches shall extend form the toe keyway or end of the apron to the top of the protection. The end keyway trenches shall extend below the bottom of the riprap protection to a depth equal to the design riprap thickness or 2 feet (0.6m), whichever is greater.

When bank sloping is used, the banks must be stable against sliding after construction and flat enough to maintain vegetation. Side slopes shall be 2:1 or flatter unless a slope stability analysis is conducted to support using a steeper slope.

Channel clearing to remove stumps, fallen trees, debris, and sediment bars shall only be performed when they are causing or could cause unacceptable bank erosion, flow restriction, or damage to structures. Habitat forming elements that provide cover, food, pools, and water turbulence shall be retained or replaced to the extent possible. Virginia Conservation Practice Standard *Clearing and Snagging (Code 326)* shall be used.

Treatments shall be functional and stable for the design flow and sustainable for higher flow conditions.

Treatments shall not induce an increase in natural erosion.

Treatments shall not limit stream flow access to the floodplain.

Where flooding is a concern, the effects of protective treatments shall not increase flow levels above those that existed prior to installation.

Additional Criteria for Shorelines

All revetments, bulkheads or groins are to be no higher than 3 feet (1 meter) above mean high tide, or mean high water in non-tidal areas

Structural shoreline protective treatments shall be keyed to a depth to prevent scour during low water.

For the design of structural treatments, the site characteristics below the waterline shall be evaluated for a minimum of 50 feet (15 meters) horizontal distance from the shoreline measured at the design water surface.

The height of the shoreline protection shall be designed according to TR-69: Riprap for Slope Protection Against Wave Action, TR-56: A Guide for Design and Layout of Vegetative Wave Protection for Earth Dam Embankments, or other acceptable engineering practices. As a minimum, the height of the protection

shall be based on the design water surface plus the computed wave height and freeboard. The design water surface in tidal areas shall be mean high tide.

When vegetation is selected as the protective treatment, a temporary breakwater shall be used during establishment when wave run up would damage the vegetation.

Existing trees may need to be cut in order to reduce the threat of soil mass movement should the tree become uprooted. Trees should be selected for cutting based on need and in accordance with local regulations.

Additional design guidance for shoreline protection can be found in the National Engineering Handbook Part 650, Chapter 16, Streambank and Shoreline Protection.

Additional Criteria for Stream Corridor Improvement

Stream corridor vegetative components shall be established as necessary for ecosystem functioning and stability. The appropriate composition of vegetative components is a key element in preventing excess long-term channel migration in re-established stream corridors. The establishment of vegetation on channel banks and associated areas shall also be in accordance with Virginia Conservation Practice Standard *Critical Area Planting (Code 342)*.

Treatments shall be designed to achieve habitat and population objectives for fish and wildlife species or communities of concern as determined by a site-specific assessment or management plan. Objectives shall be based on the survival and reproductive needs of populations and communities, which include habitat diversity, habitat linkages, daily and seasonal habitat ranges, limiting factors and native plant communities. The type, amount, and distribution of vegetation shall be based on the requirements of the fish and wildlife species or communities of concern to the extent possible.

Treatments shall be designed to meet aesthetic objectives as determined by a site-specific assessment or management plan. Aesthetic objectives shall be based on human needs, including visual quality, noise control, and microclimate control. Construction materials, grading practices, and other site development elements shall be selected and designed to be compatible with adjacent land uses.

Treatments shall be designed to achieve recreation objectives as determined by a site-specific assessment or management plan. Safety requirements shall be based on type of human use and recreation objectives.

CONSIDERATIONS

When designing protective treatments, consider should be given to the changes that may occur in the watershed hydrology and sedimentation over the design life of the treatments.

Consider utilizing debris removed from the channel or streambank into the treatment design to improve benefits for fish, wildlife and aquatic systems when it is compatible with the intended purpose.

Use construction materials, grading practices, vegetation, and other site development elements that minimize visual impacts and maintain or complement existing landscape uses such as pedestrian paths, climate controls, buffers, etc. Avoid excessive disturbance and compaction of the site during installation.

Consideration should be given to selecting vegetative species with the growth potential to quickly stabilize the site. The mature size of the vegetation and its potential for future problems should also be assessed.

Shrubs are encouraged over tree species. A zone of shrubs close to the bank with larger trees farther back from the bank is the preferred planting design.

Utilize vegetative species that are native and/or compatible with local ecosystems. Avoid introduced, invasive, noxious or exotic species that could become nuisances. Consider species that have multiple values such as those suited for biomass, nuts, fruit, browse, nesting, aesthetics and tolerance to locally

used herbicides. Avoid species that may be alternate hosts to disease or undesirable pests. Species diversity should be considered to avoid loss of function due to species-specific pests. Species on noxious plant lists should not be used.

Select plant materials that provide habitat requirements for desirable wildlife and pollinators. The addition of native forbs and legumes to grass mixes will increase the value of plantings for both wildlife and pollinators.

Treatments that promote beneficial sediment deposition and the filtering of sediment, sediment-attached, and dissolved substances should be considered.

Consider maintaining or improving the habitat value for fish and wildlife by including treatments that provide aquatic habitat in the treatment design and that may lower or moderate water temperature and improve water quality.

Consider the need to stabilize side channel inlets and outlets and outlets of tributary streams from erosion.

Consider aquatic habitat when selecting the type of toe stabilization.

Consider maximizing adjacent wetland functions and values with the project design and minimize adverse effects to existing wetland functions and values.

When appropriate, establish a buffer strip and/or diversion at the top of the bank or shoreline protection zone to help maintain and protect installed treatments, improve their function, filter out sediments, nutrients, and pollutants from runoff, and provide additional wildlife habitat.

Consider conservation and stabilization of archeological, historic, structural and traditional cultural properties when applicable.

Consider safety hazards to boaters, swimmers, or people using the shoreline or streambank when designing treatments.

Protective treatments should be self-sustaining or require minimum maintenance.

When protecting shorelines from erosion, consider “Living Shoreline” techniques. The technique consists of placing plants, stone, sand fill land plants and grasses, shrubs, and trees at various points along the water line.

PLANS AND SPECIFICATIONS

Plans and specifications for streambank and shoreline protection shall be prepared for specific field sites and based on this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

Plans shall include treatments to minimize erosion and sediment production during construction and provisions necessary to comply with conditions of any environmental agreements, biological opinions or other terms of applicable permits.

Record all required information in an engineer field book, on a plan sheet or design computation sheet, or in another appropriate location.

DESIGN DATA

- Completed Environmental Evaluation and subsequent requirements.
- Site investigation report with supporting data including flow information, channel materials, source of streambank or shoreline instability (if known), land use upstream and downstream, activities in the watershed impacting the stream, etc. Include photographs.

- Soils investigation.
- Survey and plot data: profile, cross-sections, topography, as needed.
- Design computations, including purpose of practice and references used.
- Plan view of site with existing features; location of treatment(s), including planting areas; location of borrow area(s) if on site; location of disposal area (s) if on site; and apparent property lines and owners.
- Planned cross sections.
- For streambanks, include velocities, water surface profiles, and other geomorphic parameters as required for permit(s).
- For shoreline, include fetch and wave height.
- Standard Cover Sheet (VA-SO-100A).
- Materials and quantities needed. Identify borrow material and/or spoil area, as needed.
- Vegetation and/or ground cover requirements.
- Identification of needed Erosion & Sediment Control measures.
- Supplemental practices required.
- Virginia Conservation Practice Specifications (700 Series).
- Operation and Maintenance Plan.

CHECK DATA

- As-built survey.
- As-built plans including dimensions, types and quantities of materials installed, and variations from design. Include justification for variations.
- Locations of appurtenant practices.
- Adequacy of vegetation and/or ground cover.
- Complete as-built section of Cover Sheet.

OPERATION AND MAINTENANCE

An operation and maintenance plan shall be prepared for use by the owner or others responsible for operating and maintaining the system. The plan shall provide specific instructions for operating and maintaining the system to ensure that it functions properly. It shall also provide for periodic inspections and prompt repair or replacement of damaged components or erosion.

REFERENCES

NEH Part 650, Chapter 16, Streambank and Shoreline Protection.

USDA-Natural Resources Conservation Service. National Engineering Handbook, Part 653. Stream Corridor Restoration: Principles, Processes, and Practices. October 1998.

USDA-Natural Resources Conservation Service. Electronic Field Office Technical Guide (eFOTG), Section IV [Online]. Available at http://www.nrcs.usda.gov/technical/eFOTG.

USDA-Natural Resources Conservation Service. National Engineering Handbook, Part 650. Chapter 16, Streambank and Shoreline Protection, December 1996.

USDA-Natural Resources Conservation Service. *Plant Establishment Guide for Virginia*. October 2001.

USDA-Natural Resources Conservation Service. Technical Release 69: *Riprap for Slope Protection Against Wave Action*. May 1983.

USDA-Natural Resources Conservation Service. Technical Release 56: *A Guide for Design and Layout of Vegetative Wave Protection for Earth Dam Embankments*. December 1974.

USDA-Natural Resources Conservation Service. Virginia 700 Series Construction Specifications. [On-line]. Available at http://www.nrcs.usda.gov/technical/eFOTG.

USDA-Natural Resources Conservation Service. National Engineering Manual, Part 501, Subpart E, Assistance on Shoreline Erosion Control, Section 501.51 Scope.

Virginia Department of Environmental Quality Office of Wetlands and Water Protection. Joint Permit Application. [Online]. Available at http://www.deq.state.va.us/wetlands/

College of William and Mary, Virginia Institute of Marine Science, Center for Coastal Resources Management, Living Shorelines [Online]. Available at http://ccrm.vims.edu/livingshorelines/index.html

STATEMENT OF WORK
Streambank and Shoreline Protection (580)
Virginia

These deliverables apply to this individual practice. For deliverables for other planned practices, refer to those specific Statements of Work.

DESIGN

Deliverables

1. Design documentation that will demonstrate that the criteria in the NRCS practice standard have been met and are compatible with other planned and applied practices:
   a. Identify, discuss and document client needs, and recommend method of resolution.
   b. Practice purpose(s) as identified in the conservation plan.
   c. List of required permits to be obtained by the client.
   d. Compliance with NRCS national and state utility safety policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06). This includes contacting MISS UTILITY (811 or 1-800-552-7001) a minimum of 3 days before beginning construction.
   e. List of associated practices (conservation practice name and number).
   f. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
      i. Geology/Soil Mechanics.
      ii. Hydrology/Hydraulics.
      iii. Structural.
      iv. Vegetation/Soil Bioengineering.
2. Provide written plans and specifications, including sketches and drawings, to the client that adequately describe the requirements to install the practice and obtain necessary permits. Develop plans and specifications in accordance with the requirements in the Virginia NRCS Conservation Practice Standard Streambank and *Shoreline Protection (Code 580)*.
3. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32).
4. Operation and Maintenance Plan.
5. Certification that the design meets NRCS standards and specifications and is in compliance with permits (NEM VA505.03, Amendment VA-22).

INSTALLATION

Deliverables

1. Pre-installation conference with client and contractor.
2. Verification that client has obtained required permits.
3. Staking and layout according to plans and specifications, including applicable layout notes.
4. Installation inspection (according to inspection plan, as appropriate).
   a. Actual materials used.
   b. Inspection records.
5. Facilitate and implement required design modifications with client and original designer.
6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation.

CHECK OUT

Deliverables

1. As-Built documentation.
   a. “Red-line” drawings including but not limited to documentation of final construction, changes to initial design, and changes in materials used.
   b. Topographic survey of finalized project area as applicable.
   c. Extent of practice units applied.
   d. Final quantities.
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits (NEM VA505.03, Amendment VA-22).
3. Progress reporting.

REFERENCES

- VA NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - *Streambank and Shoreline Protection (Code 580)*.
- VA NRCS Field Office Technical Guide (eFOTG), Section IV, Operation and Maintenance Plan - *Streambank and Shoreline Protection (Code 580)*.
- NRCS National Engineering Manual (NEM).
- NRCS National Environmental Compliance Handbook.
- NRCS Cultural Resources Procedures Handbook.

RFP ADDENDUM #1

Date of Addendum: 9/2/2021

The "Request for Proposal: Design Services for Shoreline Stabilization/Living Shoreline Projects in Charles City County, Virginia" (RFP) is modified as set forth in this Addendum. The original RFP documents remain in full force and effect except as modified by this Addendum. No further addenda are expected prior to the submission deadline.

Page	Section	Description of Change
4	Permitting Services	Add the following language as an additional bullet point: ● PE shall coordinate and conduct a pre-application meeting with the relevant permitting agencies prior to submission of the joint permit application (JPA).
5	Project Schedule	Replace the first bullet point with the following language: ● Design services by the selected entity begin no later than November 15, 2021. Replace the third bullet point with the following language: ● Bid package for construction services for landowner use should be complete for release no later than August 31, 2022.
5	Project Schedule	Add the following language at the end of this section: The payment terms are negotiable upon award of the contract. JRA will consider a regular invoice schedule.
6	Designer Selection Schedule	Replace the first sentence with the following language: Proposals should be emailed to Amber Ellis of the James River Association aellis@thejamesriver.org by no later than 5:00pm on September 17, 2021. Replace the fourth sentence with the following language: It is the intent of JRA to make a selection no later than October 11, 2021. Replace the third, fourth, and fifth bullet points with the following

		language: ● September 17, 2021: Proposals received by JRA ● September 18 - October 8, 2021: Committee reviews proposals and schedules virtual interviews ● October 11, 2021: Determination of contract award and Notice of Intent to Award sent
12	Bid Form	Replace the last sentence of question 5 with the following language: Please provide fee proposals for both projects individually as outlined in the “Contingency” section (Berkeley project only and Riverside project only).

QUESTIONS AND ANSWERS

This document reflects the questions and answers that were asked about the RFP between its release on 8/9/2021 and 8/31/2021. Questions were submitted both via email and verbally during the mandatory in-person pre-bid meeting held on 8/27/2021. No further Q&A is expected to be published prior to the submission deadline.

1. Would the JRA be able to share what the total construction budget for the sites is expected to be, based on the available grant funding and cost share?

   RESPONSE - While there are NFWF grant funds through JRA for construction, and cost-share through VACS for construction, the primary driver will be landowner willingness and ability to finance construction; this is difficult to ascertain until the landowner sees the design and gets construction bids. Further, the design should be driven by the best shoreline management solution given the site-specific geomorphic and hydrologic parameters and not a hypothetical construction budget. The most appropriate design is not back-built based on the anticipated construction budget.

   With that in mind, there is $220,000 budgeted towards these projects in JRA's NFWF-INSR grant and VACS can contribute an annual maximum of $150,000 per applicant (programmatic annual applicant cost-share cap). These funds are for both the design and construction of these projects.

2. Would the JRA be able to share what the budget for this scope of work is expected to be, based on the available grant funding and cost share?

   RESPONSE - As this is the first case for utilizing VACS SE-2, it is unknown what the design and construction inspection costs will generally run. That is the whole point of this RFP – to get some preliminary cost data for these professional services. Further, establishing such a budget will likely ensure that all bids come in at that cost, regardless of actual.

3. When would the decision on advancing/including Site 2 (Riverside) be determined?

   RESPONSE - Prior to Notice to Award and contracting.

4. Would the JRA be interested in having the selected consultant provide support for grant applications for Site 2 to help secure enough funding?

   RESPONSE - We do not expect to need this service, but are open to working with a consultant in the future to develop proposals if needed. However, time for the consultant spent on this would not be part of this award amount.

5. Is there a weighted selection criteria that you can share, to clarify how much each of the desired qualities (experience, cost, etc.) will weigh into the decision process?

   RESPONSE - Required qualifications must be met. Please refer to page 13 of the RFP for a list of items that will strengthen a proposal.

6. Does JRA anticipate any project value engineering tasks to occur during the design, based on an engineering construction cost estimate with respect to available budget?

   RESPONSE - Value engineering is always a possibility. If design changes go beyond award amount, JRA would work with the consultant on a change order.

7. Does JRA have a sediment or nutrient reduction target in mind for the project?

   RESPONSE - While the NFWF grant which is funding design and a portion of construction does have a metric/commitment for sediment and nutrient reductions, the design should not be dictated by that goal. Rather, the pollutant reductions reported will be those achieved through the best shoreline management solution given the site-specific geomorphic and hydrologic parameters as ultimately financed by the landowner.

8. Would the JRA have any interest in a design-bid proposal to include all the requested services and construction in one contract in an effort to help streamline the schedule, or will it need to stay as a conventional design-bid-build as currently communicated?

   RESPONSE - No, primarily due to the fact that construction will be funded with a mix of sources, including VACS cost-share which has unique programmatic requirements. For VACS, the construction contract will be between the landowner and the builder.

9. Does submitting a bid to this RFP preclude a firm from submitting a bid for the construction component of the project(s)?

   RESPONSE - No. Services awarded through this RFP are to be solely funded by JRA through NFWF-INSR funds. As construction will be funded through VACS (primarily), unique programmatic requirements necessitate the construction contract (and bidding process) to originate with the landowner and be entirely independent of this JRA RFP process.

10. Will JRA amend the RFP to request two separate cost estimates, one for Berkeley Plantation and one for Riverside Farms?

    RESPONSE - Yes, see RFP Addendum #1.

11. Is the payment schedule negotiable or will payment for services be provided only after completion of the phases described on page 5 of the RFP?

RESPONSE - Yes, see RFP Addendum #1.

12. Will JRA amend the RFP to reflect a later due date for the bid package for construction services as outlined on page 5 of the RFP under "Project Schedule" to account for time to incorporate regulator feedback on JPA prior to delivering the bid package to the landowner?

    RESPONSE - Yes, see RFP Addendum #1.

13. Will JRA amend the RFP to require a pre-application meeting with the relevant permitting agencies prior to submitting the joint permit application (JPA)?

    RESPONSE - Yes, see RFP Addendum #1.

14. Are there archaeological resources near the Berkeley Plantation site, either on land or underwater?

    RESPONSE - The landowner has indicated that archaeological resources have been discovered elsewhere on the property but not in the area adjacent to the site. To our knowledge there has been no investigation of potential underwater archaeological resources along the shoreline.

15. Is the pre-bid meeting sign in sheet available?

    RESPONSE - Yes, it will be distributed to attendees of the pre-bid meeting and is attached.

16. How is the land adjacent to the project area used (Berkeley Plantation site)?

    RESPONSE - The landowner indicated that it is used for gatherings and recreational activities such as staff picnics and waterfowl hunting. The land is not leased.

17. Question requesting more information about sediment and nutrient analysis described in the last bullet of Site Assessment section on page 3 of the RFP.

    RESPONSE - After these projects are constructed, they will be submitted to USEPA for pollutant reduction credits under the Chesapeake Bay TMDL Watershed Implementation Plan (WIP). The protocols for calculating those pollutant reduction credits allow for site-specific data, including actual nutrient content in sediment of eroding banks, to be used in the calculations. Through the Site Assessment services to be awarded under this RFP, sediment grain size distribution and nutrient content of that sediment shall be conducted on the eroding banks of the shoreline to be protected by the design.

18. Are the property boundaries and extent of project area available for both properties?

RESPONSE - Yes, it will be distributed to attendees of the pre-bid meeting and is attached. Additionally, the latitude/longitude of the most downstream and upstream extent of the approximate project area shorelines are provided below:

Berkeley Plantation (~1,058 ft of shoreline)

- downstream extent of project area shoreline: 37.314337, -77.185378
- upstream extent of project area shoreline: 37.316356, -77.186325

Riverside Farm (~4,680 ft of shoreline)

- downstream extent of project area shoreline: 37.236354, -76.923388
- upstream extent of project area shoreline: 37.238133, -76.938472

19. How can I receive information about other upcoming VACS SE-2 projects in Virginia?

    RESPONSE - Please contact either
    Jim Wallace
    Colonial Soil and Water Conservation District
    jim.wallace@colonialswcd.net
    757-645-4895
    or
    Aaron Wendt
    Virginia Dept. of Conservation and Recreation - Shoreline Erosion Advisory Service
    aaron.wendt@dcr.virginia.gov
    804-296-1701

20. Can JRA provide a map of where on the Riverside project area the bank height exceeds 10 feet?

    RESPONSE - Yes, a map will be distributed to attendees of the pre-bid meeting and is attached.

21. Is there a page limit, font or font size specification for any of this?

    RESPONSE - There is no page limit or font size specification.

22. There seems to be cross over between the bulleted list of proposal requirements on page 5 vs the RFP response form on page 12, for example:

    Prior experience: page 6– "provide examples for up to three active or past projects"
    vs.
    RFP response from page 12, #2: "List and describe three projects completed within the previous five years that are relevant to this project."

Do we repeat the same information in this instance, or respond on the form that it can be found on "proposal page # and section" elsewhere in our response?

RESPONSE - Please provide examples for 3 projects. You can do this in the form or elsewhere in the proposal. If only in one place, referencing it is fine.

23. Is there a specific projected sea-level rise elevation or storm wave that should be accounted for in the design(s)?

    RESPONSE - Fourth bullet under Design Services on page 3 of the RFP states "Designs shall be consistent with VMRC *Tidal Wetlands Guidelines* (May 2021)." Those *Guidelines* state all shoreline alterations should "be designed and constructed to mitigate coastal hazards including storm-level hydrological energy that may reasonably be expected over the useful life of the project" and project review shall include "the 10-year storm event water levels as calculated by NOAA and FEMA." Those *Guidelines* further state all shoreline alterations should "be functionally resilient and structurally designed to endure the impacts of sea level rise using the 2017 NOAA Intermediate-High scenario projection curve."

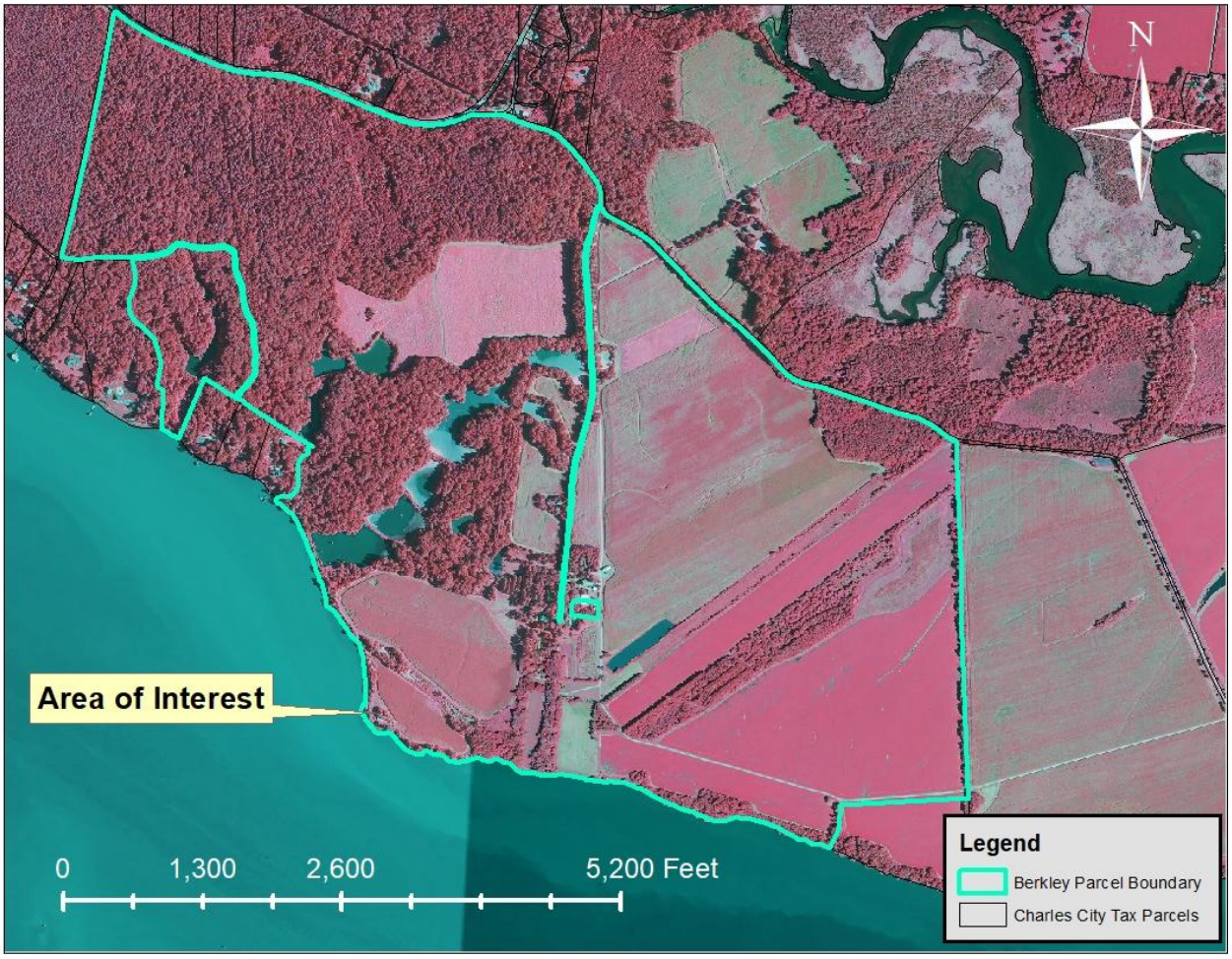
24. Is there a specific engineering specification to meet for the design(s)?

    RESPONSE - Second bullet under Design Services on page 3 of the RFP states that, as required by VACS, the design is subject to requirements of applicable USDA-NRCS conservation practice standards and specifications. The primary USDA-NRCS conservation practice standard (CPS) is *Streambank and Shoreline Protection* (code 580). The 580 CPS and associated statement of work (SOW) are both included as attachments to the RFP. The 580 CPS and SOW detail the minimum engineering criteria, considerations, specifications, and deliverables required to be met for the design(s).

25. Would you consider moving the response date back a few days to allow firms more time to review the addendum and Q&A?

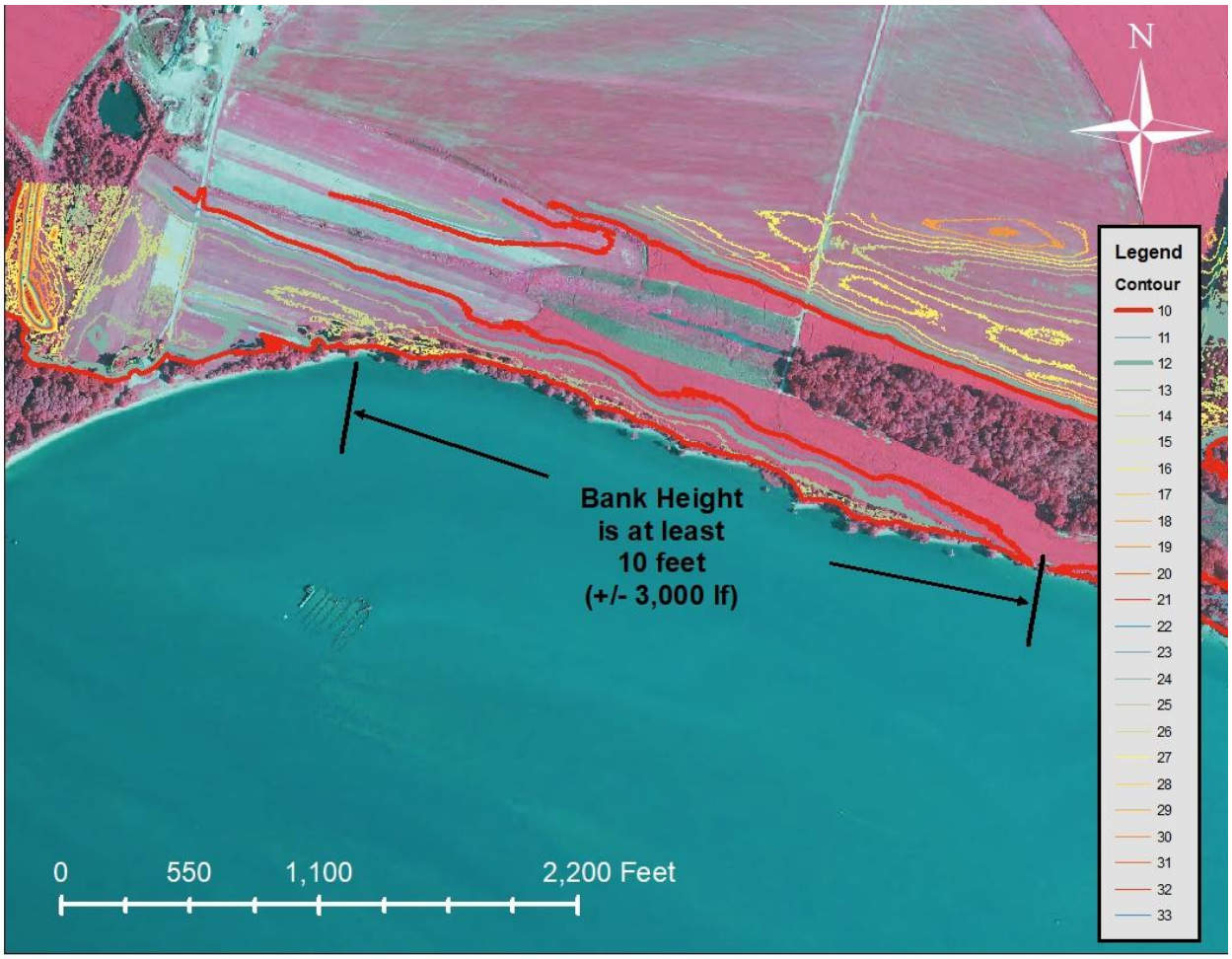
    RESPONSE - Yes, see RFP Addendum #1.

Berkeley Map



Riverside Map

Riverside Bank Height Map



Pre-bid Meeting Attendence Sheet	
Name	Firm
Carlin Tacey	Waterstreet Studio
chris frye	VHB, Inc.
Daniel Proctor	Stantec
Devin Smith	Bay Design Group
Jeff Corbin	Restoration Systems, LLC
John Farrell	A. Morton Thomas and Associates, Inc.
Kathy Hoverman	KCI Technologies
Kenneth E Bannister	Koontz Bryant Johnson Williams
Louise Slate	Tetra Tech, Inc.
Rick Atkinson	RES
Robin Bedenbaugh	RES, LLC
Wayne Savage	Bay Design Group
Whitney Thomas	Timmons Group
Jim Wallace	Colonial Soil and Water Conservation District
Tabea Zimmermann	Colonial Soil and Water Conservation District
Aaron Wendt	Shoreline Erosion Advisory Service
Emily Hinson	James River Association