1408 Roseneath Road, Suite B
Richmond, VA 23230

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401
Main: 713.520.5400

Joint Permit Application and Permit Support Document (PSD)

For

MUMMICHOG NUTRIENT BANK
GLOUCESTER, VIRGINIA

Applicable Permits
23-SPGP-PASDO

Applicant
David and Vickie Lee Nance
5754 York Haven Lane
Gloucester, VA 23061

Authorized Agent
HGS, LLC
1408 Roseneath Road, Suite B
Richmond, VA 23230

May 2025

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PART 1

JOINT PERMIT APPLICATION (JPA)

- ❖ DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions to the address listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- ❖ VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- ❖ LWB: Permit fees vary by locality. Contact the LWB for your project area or their website for fee information and submittal requirements. Contact information for LWBs may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

FOR AGENCY USE ONLY	
	Notes:
	JPA #

APPLICANTS
Part 1 – General Information

PLEASE PRINT OR TYPE ALL ANSWERS: If a question does not apply to your project, please print N/A (not applicable) in the space provided. If additional space is needed, attach 8-1/2 x 11 inch sheets of paper.

Check all that apply		
Pre-Construction Notification (PCN) ☐ NWP # _____ (*For Nationwide Permits ONLY - No DEQ-VWP permit writer will be assigned*)	PASDO – PGP Self Verification [x] *(Replaces Regional Permit 17 (RP-17) checklist)*	23-SPGP-PASDO

County or City in which the project is located: Gloucester, VA

Waterway at project site: York River

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial
VMRC	Sub-aqueous bed permit	VMRC-2022-2307	01/04/23	N/A
USACE	Regional Permit 19	NAO-2022-02320	2/15/23	N/A

Part 1 - General Information (continued)

1. Applicant's legal name* and complete mailing address: Contact Information:

   David and Vickie Lee Nance
   5754 York Haven Lane, Gloucester, VA 23061
   Parcel Tax Map ID: 36-1A

   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   e-mail _____

   State Corporation Commission Name and ID Number (if applicable) _____

2. Property owner(s) legal name* and complete address, if different from applicant: Contact Information:

   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   e-mail _____

   State Corporation Commission Name and ID Number (if applicable) _____

3. Authorized agent name* and complete mailing address (if applicable): Contact Information:

   HGS, LLC (ATTN: Michael Foltz)
   1408 Roseneath Rd, Suite B
   Richmond, VA, 23230

   Home (____)_____
   Work (703)393-4844
   Fax (____)_____
   Cell (____)_____
   e-mail mfoltz@res.us

   State Corporation Commission Name and ID Number (if applicable) T0669087

*** If multiple applicants, property owners, and/or agents, each must be listed and each must sign the applicant signature page.**

4. Provide a detailed description of the project in the space below, including the type of project, its dimensions, materials, and method of construction. Be sure to include how the construction site will be accessed and whether tree clearing and/or grading will be required, including the total acreage. If the project requires pilings, please be sure to include the total number, type (e.g. wood, steel, etc), diameter, and method of installation (e.g. hammer, vibratory, jetted, etc). If additional space is needed, provide a separate sheet of paper with the project description.

   See Section I.C. of the attached PSD for a detailed description of the project.

Part 1 - General Information (continued)

5. Have you obtained a contractor for the project? ___ Yes* _x_ No. *If your answer is "Yes" complete the remainder of this question and submit the Applicant's and Contractor's Acknowledgment Form (enclosed)
   Contractor's name* and complete mailing address:

   Contact Information:
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   email _____

   State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple contractors, each must be listed and each must sign the applicant signature page.**

6. List the name, address and telephone number of the newspaper having general circulation in the area of the project. Failure to complete this question may delay local and State processing.

   Name and complete mailing address:
   Gloucester-Mathews Gazette-Journal
   P.O. Box 2060
   Gloucester, Va. 23061

   Telephone number
   (804) 693-3101

7. Give the following project location information:
   Street Address (911 address if available) 5754 York Haven Lane
   Lot/Block/Parcel# 36-1A
   Subdivision N/A
   City / County Gloucester ZIP Code 23061, 23128
   Latitude and Longitude at Center Point of Project Site (Decimal Degrees):
   37.3733 / -76.6291 (Example: 36.41600/-76.30733)

   If the project is located in a rural area, please provide driving directions giving distances from the best and nearest visible landmarks or major intersections. *Note: if the project is in an undeveloped subdivision or property, clearly stake and identify property lines and location of the proposed project. A supplemental map showing how the property is to be subdivided should also be provided.*

   From the intersection Cappahosic Road (Rt. 618) and York Haven Lane, continue southeast on York Haven Lane for approximately 0.46 miles and the driveway for the Project Area will be on the right side of the road. The Project Area is located approximately 500 feet southwest off of York Haven Road along the shoreline.

8. What are the *primary and secondary purposes of and the need for* the project? For example, the primary purpose may be "to protect property from erosion due to boat wakes" and the secondary purpose may be "to provide safer access to a pier."

   See Section I.B of the attached PSD for a description of the need for and purpose of the project.

Part 1 - General Information (continued)

9. Proposed use (check one):
   ___ Single user (private, non-commercial, residential)
   _x_ Multi-user (community, commercial, industrial, government)

10. Describe alternatives considered and the measures that will be taken to avoid and minimize impacts, to the maximum extent practicable, to wetlands, surface waters, submerged lands, and buffer areas associated with any disturbance (clearing, grading, excavating) during and after project construction. *Please be advised that unavoidable losses of tidal wetlands and/or aquatic resources may require compensatory mitigation.*

    See Section III of the attached PSD for alternatives to the project.

11. Is this application being submitted for after-the-fact authorization for work which has already begun or been completed? ___Yes _x_No. If yes, be sure to clearly depict the portions of the project which are already complete in the project drawings.

12. Approximate cost of the entire project (materials, labor, etc.): $ >$500,000
    Approximate cost of that portion of the project that is channelward of mean low water:
    $ <$500,000

13. Completion date of the proposed work: Upon permit issuance - ~ 12/31/2025

14. Adjacent Property Owner Information: List the name and complete **mailing address**, including zip code, of each adjacent property owner to the project. (NOTE: If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.) Failure to provide this information may result in a delay in the processing of your application by VMRC.

    The project is adjacent to the following property owners:

    Johnny R & Joyce B Light
    5764 York Haven Lane
    Gloucester, VA 23061
    Parcel Tax Map ID: 36-1B

    Robert Toy Fowler Jr. & Sharon Kelly Fowler
    3209 Aquia Drive
    Stafford, VA 22554
    Parcel Tax Map ID: 36-3

Part 2 - Signatures

1. **Applicants and property owners (if different from applicant).**
   NOTE: REQUIRED FOR ALL PROJECTS

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.

CERTIFICATION: I am hereby applying for all permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit.
In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

David Nance
Applicant's Legal Name (printed/typed)

Vickie Lee Nance
(Use if more than one applicant)

David Nance
Applicant's Signature

Vickie Lee Nance
(Use if more than one applicant)

5-12-2025
Date

DAVID B. NANCE
Property Owner's Legal Name (printed/typed)
(If different from Applicant)

Vickie Lee Nance
(Use if more than one owner)

David B. Nance
Property Owner's Signature

Vickie Lee Nance
(Use if more than one owner)

5-12-2025
Date

Part 2 – Signatures (continued)

2. Applicants having agents (if applicable)

CERTIFICATION OF AUTHORIZATION

I (we), David and Vickie Lee Nance (Applicant's legal name(s)), hereby certify that I (we) have authorized HGS, LLC (Attn: Michael Foltz) (Agent's name(s)) to act on my behalf and take all actions necessary to the processing, issuance and acceptance of this permit and any and all standard and special conditions attached.

We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

(Agent's Signature)

(Use if more than one agent)

5/13/25
(Date)

(Applicant's Signature)

Vickie Lee Nance
(Use if more than one applicant)

5-12-2025
(Date)

3. Applicant's having contractors (if applicable)

CONTRACTOR ACKNOWLEDGEMENT

I (we), DAVID & VICKIE NANCE (Applicant's legal name(s)), have contracted N/A (Contractor's name(s)) to perform the work described in this Joint Permit Application, signed and dated 5-12-2025.

We will read and abide by all conditions set forth in all Federal, State and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, state and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes. In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all terms and conditions.

Contractor's name or name of firm

Contractor's or firms address

Contractor's signature and title

Contractor's License Number

Applicant's signature

(use if more than one applicant)

Date

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), Robert Tay Fowlon Jr. Sharon K. Fowlon, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of _____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT ✓ ABOUT THE PROJECT.

I DO NOT OBJECT ✓ TO THE PROJECT.

I OBJECT _____ TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form be sure you have checked the appropriate option above).

Robert Tay Fowlon Jr. Sharon K. Fowlon
Adjacent/nearby property owner's signature(s)

3/21/25
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

Kelsey Bennett

From: Henry Clark
Sent: Tuesday, May 13, 2025 3:00 PM
To: Johnny Light
Cc: Kelsey Bennett
Subject: RE: Resource Environmental Solutions | 5764 York Haven Ln
Attachments: Light_ JPA Signature Pages.pdf

Good afternoon Johnny,

I hope this email finds you well and you have had an enjoyable spring!

As previously discussed in January of this year, HGS, LLC (RES) is the agent working on a shoreline stabilization project at Parcel #36-2 and #36-1A York Haven Lane on the York River. As a requirement of the Joint Permit Application process, this email serves as notification of the proposed project. If possible please complete sign and date the Adjacent Property Owner's Acknowledgement Form and return it via email to be included in our application documents.

Thanks,

Henry Clark
Water Quality Land Representative
RES | res.us
Mobile: 847.751.0969

From: Johnny Light <[redacted]>
Sent: Saturday, January 11, 2025 9:38 AM
To: Henry Clark <hclark@res.us>
Subject: RE: Resource Environmental Solutions | 5764 York Haven Ln

Henry,

Thanks for sending.

Regards,

Johnny Light

From: Henry Clark <hclark@res.us>
Sent: Friday, January 10, 2025 1:37 PM
To: Johnny Light <[redacted]>
Subject: RE: Resource Environmental Solutions | 5764 York Haven Ln

Johnny,

It was great speaking with you earlier. Please see the attached soil sample results. Hope you have a great weekend.

Thanks,

Part 3 – Appendices (continued)

Appendix B: Projects for Shoreline Stabilization in tidal wetlands, tidal waters and dunes/beaches including riprap revetments and associated backfill, marsh toe stabilization, bulkheads and associated backfill, breakwaters, beach nourishment, groins, jetties, and living shoreline projects. Answer all questions that apply. Please provide any reports provided from the Shoreline Erosion Advisory Service or VIMS**.**

NOTE: It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1). **Information on non-structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.**

1. Describe each **revetment, bulkhead, marsh toe, breakwater, groin, jetty, other structure, or living shoreline project** separately in the space below. Include the overall length in linear feet, the amount of impacts in acres, and volume of associated backfill below mean high water and/or ordinary high water in cubic yards, as applicable:

   The breakwater structures and associated fill is discussed in detail in the attached plan set.

   The overall length of the shoreline where these structures will be constructed is approximately 475 linear feet with individual breakwater structure ranging from approximately 60 to 100 linear feet. Impacts are discussed in detail within Section II.D of the attached PSD.

2. What is the maximum encroachment channelward of mean high water? 87.5 feet.
   Channelward of mean low water? 49.4 feet.
   Channelward of the back edge of the dune or beach? 96.6 feet.

3. Please calculate the square footage of encroachment over:
   - Vegetated wetlands 0 square feet
   - Non-vegetated wetlands 20,468 square feet
   - Subaqueous bottom 8,192 square feet
   - Dune and/or beach 0 square feet

4. For bulkheads, is any part of the project maintenance or replacement of a previously authorized, currently serviceable, existing structure? ____ Yes____ No. N/A

   If yes, will the construction of the new bulkhead be no further than two (2) feet channelward of the existing bulkhead? _____Yes ____No. N/A

   If no, please provide an explanation for the purpose and need for the additional encroachment.

   N/A

Part 3 – Appendices (continued)

5. Describe the type of construction and **all** materials to be used, including source of backfill material, if applicable (e.g., vinyl sheet-pile bulkhead, timber stringers and butt piles, 100% sand backfill from upland source; broken concrete core material with Class II quarry stone armor over filter cloth).
NOTE: **Drawings must include construction details, including dimensions, design and all materials, including fittings if used**.

   Construction of the breakwaters will occur using core bedding stone (VA #1) and Class III armor stone over a filter cloth. The existing bank will be graded in order to shape a gradual slope along the shoreline. All excess dirt will be disposed of off site. Sand will be imported for beach nourishment. Native grasses will be planted on the sand.

6. If using stone, broken concrete, etc. for your structure(s), what is the average weight of the:
   Core (inner layer) material 50-150 pounds per stone Class size I
   Armor (outer layer) material 500-1500 pounds per stone Class size III

7. For **beach nourishment**, including that associated with breakwaters, groins or other structures, provide the following:

   - Volume of material
     477.48 cubic yards channelward of mean low water
     1.08 (cut); 1082.10 (fill); 1081.02 (net fill) cubic yards landward of mean low water
     1548.06 cubic yards channelward of mean high water
     0.73 (cut); 10.09 (fill); 9.36 (net fill) cubic yards landward of mean high water

   - Area to be covered
     6,068 square feet channelward of mean low water
     16,920 square feet landward of mean low water
     22,494 square feet channelward of mean high water
     414 square feet landward of mean high water

   - Source of material, composition (e.g. 90% sand, 10% clay): existing bank material where possible, supplemented by imported clean sand such as Vulcan Tri-City blend or similar product. Imported sand will be the same or larger than the grain size of the existing beach.
   - Method of transportation and placement:

     graded from existing bank where possible. Supplemental material transported via dumptruck and placed/spread using equipment along the shoreline.

   - Describe any proposed vegetative stabilization measures to be used, including planting schedule, spacing, monitoring, etc. Additional guidance is available at http://www.vims.edu/about/search/index.php?q=planting+guidelines:

     Planting will occur after construction has been completed and will consist of a low marsh, high marsh, salt scrub, and upland zone configuration. The low and high marsh will be planted with Spartina alterniflora and Spartina patens plugs at elevations appropriate for each species. The tidal scrub zone will be situated landward of the high marsh and will be planted with Baccharis halimifolia, Iva frutescens, Spartina patens, and Panicum virgatum.

     The upper portion of the slope will be planted with plugs of native grasses, sedges, and forbs. The entire backslope will be seeded with an additional native herbaceous seed mix including grasses, sedges, and legume species. No fertilizer will be used in any planting areas. Planting zones and tables can be found with the Living Shoreline Design Plan Set in Appendix B.

Part 4 - Project Drawings

Plan view and cross-sectional view drawings are required for all projects. Application drawings do not need to be prepared by a professional draftsman, but they must be clear, accurate, and should be to an appropriate scale. If a scale is not used, all dimensions must be clearly depicted in the drawings. If available, a plat of the property should be included, with the existing and proposed structures clearly indicated. Distances from the proposed structure(s) to fixed points of reference (benchmarks) and to the adjacent property lines must be shown. A vicinity map (County road map, USGS Topographic map, etc.) must also be provided to show the location of the property. **NOTE:** The sample drawings have been included at the end of this section to provide guidance on the information required for different types of projects. Clear and accurate drawings are essential for project review and compliance determination. Incomplete or unclear drawings may cause delays in the processing of your application.

The following items must be included on <u>ALL</u> project drawings: (plan and cross-sectional, as appropriate)

- **name of project**
- **north arrow**
- **scale**
- **waterway name**
- **existing and proposed structures, labeled as such**
- **dimensions of proposed structures**
- **mean high water and mean low water lines**
- **all delineated wetlands and all surface waters on the site, including the Cowardin classification (i.e., emergent, scrub-shrub, or forested) for those surface waters (if applicable)**
- **limits of proposed impacts to surface waters, such as fill areas, riprap scour protection placement, and dredged areas, and the amount of such impacts in square feet and acres**
- **ebb/flood direction**
- **adjacent property lines and owner's name**
- **distances from proposed structures to fixed points of reference (benchmarks) and adjacent property lines**

Part 5 - Chesapeake Bay Preservation Act Information

All proposed development, redevelopment, land disturbance, clearing or grading related to this Tidewater JPA must comply with the Chesapeake Bay Preservation Area Designation and Management Regulations, which are enforced through locally adopted Chesapeake Bay Preservation Area (CBPA) ordinances. Compliance with state and local CBPA requirements mandates the submission of a ***Water Quality Impact Assessment (WQIA)*** for the review and approval of the local government. Contact the appropriate local government office to determine if a WQIA is required for the proposed activity(ies).

Because the 84 local governments within Tidewater Virginia are responsible for enforcing the CBPA Regulations, the completion of the JPA process does not constitute compliance with the Bay Act Regulations nor does it guarantee that the local government will approve encroachments into the RPA that may result from this project. Applicants should contact their local government as early in the design process as possible to ensure that the final design and construction of the proposed project meets all applicable CBPA requirements. Early cooperation with local government staff can help applicants avoid unnecessary and costly delays to construction. Applicants should provide local government staff with information regarding existing vegetation within the Resource Protection Area (RPA) as well as a description and site drawings of any proposed land disturbance, construction, or vegetation clearing. As part of their review and approval processes, local government staff will evaluate the proposed project and determine whether or not approval can be granted. Once the locality has made a decision on the project, they will advise the Local Wetlands Boards and other appropriate parties of applicable CBPA concerns or issues.

Resource Protection Areas (RPAs) are composed of the following features:

1. **Tidal wetlands;**
2. **Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow;**
3. **Tidal shores;**
4. **Other lands considered by the local government to meet the provisions of subsection A of 9VAC25-830-80 and to be necessary to protect the quality of state waters; and**
5. **A buffer area not less than 100 feet in width located adjacent to and landward of the components listed in subdivisions 1 through 4 above, and along both sides of any water body with perennial flow.**

<u>Notes for all projects in RPAs</u>

Development, redevelopment, construction, land disturbance, or placement of fill within the RPA features listed above requires the approval of the locality and may require an exception or variance from the local Bay Act ordinance. Please contact the appropriate local government to determine the types of development or land uses that are permitted within RPAs.

Pursuant to 9VAC25-830-110, on-site delineation of the RPA is required for all projects in CBPAs. Because USGS maps are not always indicative of actual “in-field” conditions, they may not be used to determine the site-specific boundaries of the RPA.

<u>Notes for shoreline erosion control projects in RPAs</u>

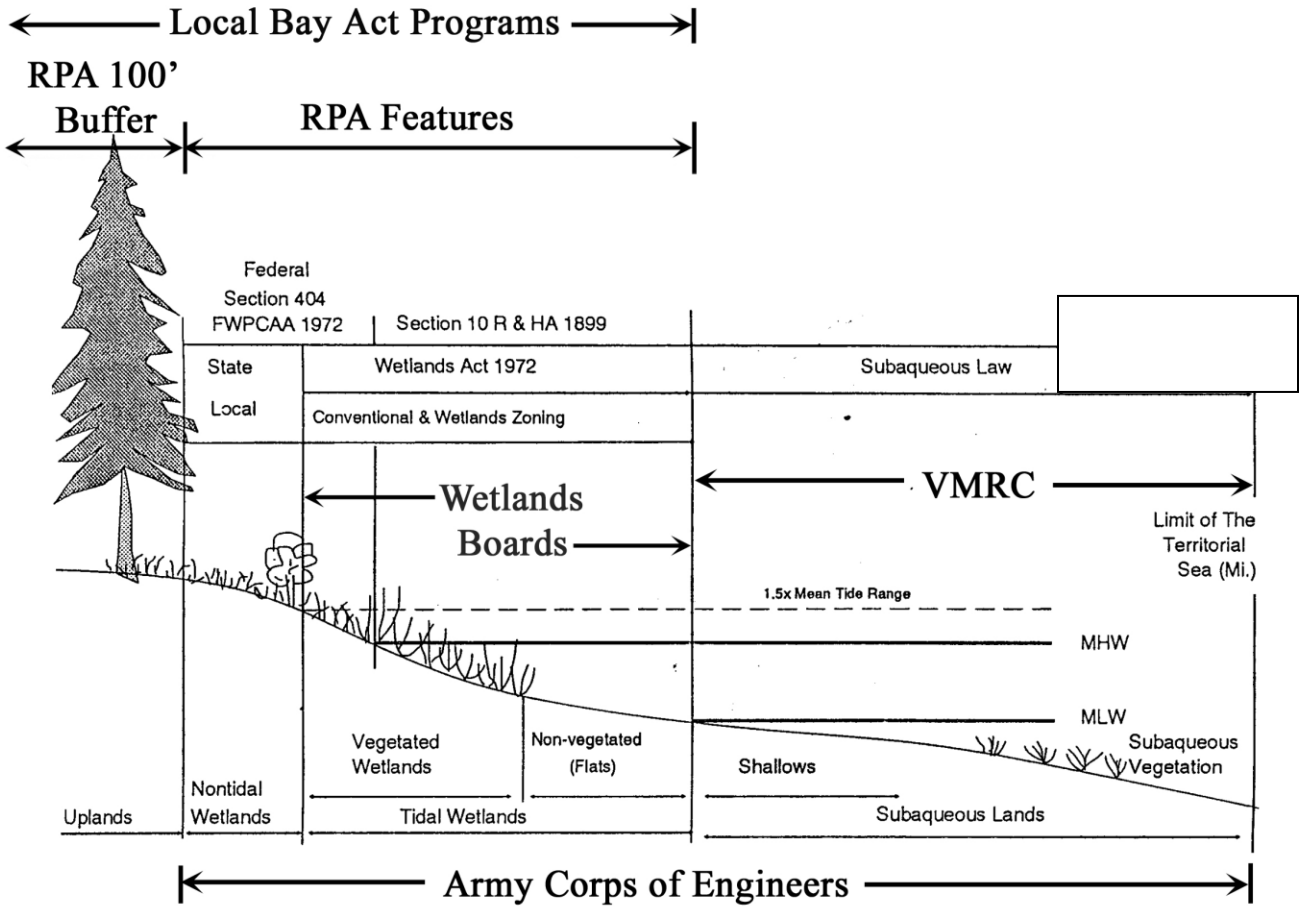
Re-establishment of woody vegetation in the buffer will be required by the locality to mitigate for the removal or disturbance of buffer vegetation associated with your proposed project. Please contact the local government to determine the mitigation requirements for impacts to the 100-foot RPA buffer.

Part 5 - Chesapeake Bay Preservation Act Information (continued)

Pursuant to 9VAC25-830-140 5 a (4) of the Virginia Administrative Code, shoreline erosion projects are a permitted modification to RPAs provided that the project is based on the “best technical advice” and complies with applicable permit conditions. In accordance with 9VAC25-830-140 1 of the Virginia Administrative Code, the locality will use the information provided in this Part V, in the project drawings, in this permit application, and as required by the locality, to make a determination that:

1. Any proposed shoreline erosion control measure is necessary and consistent with the nature of the erosion occurring on the site, and the measures have employed the “best available technical advice”
2. Indigenous vegetation will be preserved to the maximum extent practicable
3. Proposed land disturbance has been minimized
4. Appropriate mitigation plantings will provide the required water quality functions of the buffer (9VAC25-830-140 3)
5. The project is consistent with the locality’s comprehensive plan
6. Access to the project will be provided with the minimum disturbance necessary.

Jurisdictional Boundaries



and DEQ (including isolated wetlands)

PART 2

PERMIT SUPPORT DOCUMENTATION (PSD)

1408 Roseneath Road, Suite B
Richmond, VA 23230

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401
Main: 713.520.5400

Permit Support Document (PSD)

For

MUMMICHOG NUTRIENT BANK
GLOUCESTER, VIRGINIA

Applicable Permits
23-SPGP-PASDO

Applicant
David and Vickie Lee Nance
5754 York Haven Lane
Gloucester, VA 23061

Authorized Agent
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1408 Roseneath Road, Suite B
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May 2025

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I. GENERAL PROJECT INFORMATION

A. Summary of Proposed Work

This report provides documentation for the Mummichog Nutrient Bank (the Project) under the Clean Water Act (CWA) Section 401 and 404 permitting requirements. HGS, LLC (the Applicant), a wholly-owned subsidiary of RES, LLC, requests authorization from the U.S. Army Corps of Engineers (Corps) and the Virginia Department of Environmental Quality (DEQ) under the 2023 State Programmatic General Permit for Piers, Aquaculture, Shoreline, Dredging, Other (23-SPGP-PASDO) for proposed impacts to surface waters for the construction of a living shoreline and associated site access.

A Virginia Marine Resources Commission (VMRC) Subaqueous Bed Permit will also be required, as the proposed Project includes the construction of breakwater structures below mean low water (MLW) in the York River. The remainder of this document presents the rationale and justification for this permitting scenario.

B. Project Location

The Project is located in Gloucester County and encompasses 1.40 acres within two parcels of land (the Project Area) at 5754 York Haven Lane (Tax Map Number 36-1A) and 5728 York Haven Lane (Tax Map Number 36-2) Gloucester, VA 23061. Access to the Project Area is proposed from York Haven Lane adjacent to the existing landowner's driveway. The Project Area is located within the Jones Creek-York River sub watershed (12-Digit Hydrologic Unit Code (HUC) -020801070201) within the York River watershed (8-Digit HUC-02080107).

Project Location, Vicinity, Topographic Imagery, and Adjacent Property Owner Maps are provided in Appendix A.

C. Waterway

The Project Area drains southwest into the York River and is located within the York River watershed (YO66) of HUC 02080107.

D. Project Description

The Applicant proposes to perform shoreline stabilization using a living shoreline design. The design will incorporate stone breakwater/groin structures as well as beach nourishment and the establishment of a vegetated intertidal habitat. This approach, as opposed to a traditional hardscaped revetment, will preserve the natural shoreline, maintain coastal processes, and provide aquatic habitat. This design was created by the Applicant and adheres to current best practices in living shoreline design.

For the Project, class III armor stone will be utilized to create four breakwater structures. These structures will be placed offshore in positions that will leave approximately 20-foot-wide gaps to allow for adequate tidal flushing and natural sand accumulation within the intertidal zone. Behind the groin/breakwater structures, clean beach sand will be placed at a slope of 20:1 (horizontal: vertical) up to the toe of the backslope.

The backslope starting at the downstream end of the Project Area and continuing 272-linear feet upstream will be graded at a 4:1 slope. The remaining portion of the backslope will be graded to a variable slope to achieve slope stabilization while also tying in the offsite existing grade to the graded portion of the Project Area. All trees within the limits of disturbance (LOD) will be removed in order to grade the vertical bluffs to a stable slope

and will be replanted with native vegetation. See Appendix B. *Living Shoreline Design Plan Set* for further information on proposed project design.

Planting will occur after construction has been completed and will consist of a low marsh, high marsh, salt scrub, and upland zone configuration. The low and high marsh will be planted with *Spartina alterniflora* and *Spartina patens* plugs at elevations appropriate for each species. The tidal scrub zone will be situated landward of the high marsh and will be planted with *Baccharis halimifolia*, *Iva frutescens, Spartina patens, and Panicum virgatum.*

The upper portion of the slope will be planted with plugs of native grasses, sedges, and forbs. The entire backslope will be seeded with an additional native herbaceous seed mix including grasses, sedges, and legume species. No fertilizer will be used in any planting areas. Planting zones and tables can be found with the Living Shoreline Design Plan Set in Appendix B.

Unavoidable impacts to jurisdictional waters of the U.S. (WOUS) are associated with grading and fill of the eroded shoreline as well as construction of the breakwaters. The jurisdictional impacts associated with the Project have been limited to only those necessary based on site constraints and are further described in Table 1 below.

E. Project Purpose and Need

The Project Area is located on two residential lots that are situated on the bank of the York River directly adjacent to an eroding shoreline. Due to the position of the Project Area, the shoreline has a medium to high fetch that ranges between 2 and 10 miles and experiences high wind, wave, and storm surge energy that has been intensified by recent sea level rise. The shoreline erosion is causing bank failure and rapid land loss. The banks onsite range from 11 to 22 feet in height with an eroding face made primarily up of compacted, sandy loam soil. Since at least 2002, imagery indicates that this area of shoreline has experienced erosion across the Project Area. A comparison of VIMS shoreline data to recent survey data suggests that this area of shoreline has experienced landward erosion rates of approximately 2.8 feet per year.

Historically, the shoreline has maintained a forested riparian buffer. However, since at least the early 2000s shoreline erosion has escalated. The large trees along the banks have become undermined and fallen into the river, bringing down their roots and any surrounding soil. This further destabilizes the steep, sandy loam banks and increases the severity of exposure to erosional forces, which in turn bolsters the acceleration of land loss. Without intervention, this pattern of high erosion and land loss is expected to continue as a result of the current slope severity, sea level rise, and increasing storm intensity.

II. ENVIRONMENTAL EFFECTS OF THE PROJECT

A. General Site Conditions

The 1.40-acre Project Area, where shoreline restoration activities will take place, is adjacent to York Haven Lane, approximately 0.9-miles northwest of the town of Concord, Virginia. The Project Area is bound by York Haven Lane to the northeast, by a residential parcel to the northwest, by the York River to the southwest and by another residential parcel to the southeast. There are no existing structures within the Project Area. The Project Area can be accessed via York Haven Lane.

Surface water features on and surrounding the Project Area include estuarine intertidal unconsolidated shore (E2US) wetlands and estuarine subtidal unconsolidated bottom (E1UB) wetlands associated with the tidally influenced shoreline of the York River, forming the southwestern edge of the Project Area. The forested portion of the shoreline banks consists primarily of young to mature loblolly pine and mixed-hardwood species with an understory of annual forbs and turf grasses. The soil series mapped onsite consists of the non-hydric Suffolk fine sandy loam (29B) throughout the entire Project Area.

Topography onsite consists of moderately flat terrain sloping southwest towards the York River.

Resource Protection Area (RPA)
Due to the nature of the Project, being adjacent to the York River, the Project Area is within the RPA in Gloucester, Virginia. All regulations within the locality will be adhered to regarding the RPA. Please see Appendix C: *Impacts Map* for the RPA limits.

Conservation Easements
A conservation easement will be recorded to protect the site in perpetuity.

B. Threatened and Endangered Species

The Applicant reviewed information from the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation (IPaC) database, the Virginia Department of Wildlife Resources (VDWR) Virginia Fish and Wildlife Information System (VaFWIS), the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Database Explorer (NHDE), and the Center for Conservation Biology (CCB) VAEagles Nest Locator Tool as part of the Official Online Review to identify any concerns about potential state or federally-listed threatened or endangered species that may exist within the limits of the Project Area.

USFWS IPaC

A review of the USFWS IPaC database identified the federally endangered northern long-eared bat (*Myotis septentrionalis),* the proposed federally endangered tricolored Bat (*Perimyotis subflavus*), and the proposed federally threatened monarch butterfly (*Danaus plexippus*) as potentially present within the Project Area.

Northern Long-eared Bat

A review of the USFWS IPaC identified NLEB as potentially occurring within the vicinity of the Project Area. Summer habitat for the northern long-eared bat (NLEB) consists of both live trees and snags, where they roost singly or in colonies underneath bark, or in cavities and crevices. Males and non-reproductive females may also roost in cooler places, such as caves or mines. The NLEB spends the winter hibernating in caves and mines, called hibernacula. Portions of the Project Area are wooded, and consequently contain potential summer habitat for the NLEB. Land disturbance and minimal tree clearing are proposed as part of the Project. A further review of the Virginia Department of Wildlife Resources (DWR) “NLEB Regulatory Buffer Interactive Tool” did not identify any NLEB data within the Project Area. The nearest NLEB data was identified approximately 4 miles south of the Project Area. Results from the “Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key” (D-key) resulted in a determination of “may affect” for the NLEB. Further justification elaborating on the results of the D-key is offered below.

There are approximately 80 trees documented within the Project Area, located along the eroding shoreline. In a review of historical aerial imagery and as documented during site visits, the trees have been falling at an increasing rate due to the unstable and worsening condition of shoreline. The eroding shoreline on which the trees are located is a threat to property and human safety as approximately 2.8 feet of shoreline are being lost annually by erosional forces. As more trees along the shoreline fall, the bank becomes further destabilized increasing the potential hazards from the standing trees. While recently dead trees typically serve as suitable habitat for the NLEB, the dead trees along the existing shoreline do not provide suitable long-term habitat due to their precarious location. Given the existing conditions within the Project Area, the trees along the shoreline do not provide suitable long-term habitat for the tricolored bat and the existence of the trees along the eroding shoreline present an immediate threat to human safety. The proposed Project seeks to stabilize and enhance the existing conditions on the bank to provide long-term, suitable habitat for many species, including the NLEB. Therefore, further consultation with the USFWS regarding the NLEB is anticipated to be required.

Tricolored Bat

A review of the USFWS IPaC indicated that tricolored bats are potentially present within the vicinity of the Project Area. The tricolored bat is currently listed as proposed threatened; therefore, until the rule to list is finalized, take prohibitions of section 9 do not apply. Still, according to section 7(a)(4) of the ESA, federal agencies must confer with the USFWS if actions jeopardize the continued existence of a proposed species. As outlined below, the Sponsor demonstrates that it is not anticipated that the Project will jeopardize the continued existence of the tricolored bat and the existing environment along the shoreline represents low quality habitat for tricolored bats as well as significant threats to human safety and property.

During the spring, summer, and fall, the tricolored bat is found in forested habitats where they primarily roost in either live, or recently dead, deciduous hardwood trees. The tricolored bat may also be found in Spanish moss, pine trees, and occasionally, human structures. During the winter, tricolored bats are often found in caves and abandoned mines, called hibernaculum. As of September 2022, the tricolored bat was proposed to be listed as federally endangered, and it is currently listed as endangered by the state. A further review of the Virginia Department of Wildlife Resources (DWR) “Little Brown Bat and Tri-colored Bat Winter Habitat Roosts” online mapper, no hibernaculum was present in the vicinity of the Project Area. The nearest hibernaculum identified by the DWR was located approximately 130 miles northwest of the Project Area. Based on a review of the Virginia Department of Conservation and Recreation (DCR) database, tricolored bats have not been documented as occurring within the Project’s sub-watershed. Results from the “Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key” resulted in a determination of “may affect” for the tricolored bat. Trees within the Project Area are located on an unstable and eroding shoreline that has seen worsening erosion in recent years. The trees proposed for clearing, as previously described, represent unsuitable long-term habitat for the tricolored bats and represent an increasing risk to property and human safety. Therefore, further consultation with the USFWS regarding the tricolored bat is anticipated to be required to discuss the proposed immediate tree clearing.

Monarch butterfly

The monarch butterfly was also identified during the IPaC review as proposed threatened. The monarch butterfly is a large and conspicuous insect with bright orange wings surrounded by a black border and covered with black veins. The monarch is reliant on its

obligate milkweed host plant to lay their eggs and to support larvae development. Monarch butterflies do not overwinter in Virginia; however, the Project Area may overlap with the eastern monarch flyway where monarchs migrate from their overwintering sites in central Mexico to their breeding grounds in the U.S. and Canada. The monarch butterfly was proposed to be listed on December 12, 2024 with the 90-day public comment period occurring between January 2025 and March 2025 for the species. The Project Area will be replanted using native pollinator friendly seed mixes and will be protected in perpetuity under a conservation easement. Based on the scope of Project activities, there are no anticipated negative impacts to the monarch butterfly resulting from the proposed Project.

VaFWIS

Review of VDWR's Virginia Fish and Wildlife Information System (VaFWIS) identified potential and confirmed observations for the federal and state endangered Atlantic sturgeon (*Acipenser oxyrinchus*), the federally threatened and state endangered eastern black rail (*Laterallus jamaicensis jamaicensis),* the state threatened Henslow's sparrow (*Centronyx henslowii*), the state threatened Mabee's salamander (*Ambystoma mabeei*), and the collection concern northern diamond-backed terrapin (*Malaclemys terrapin terrapin*) within two miles of the Project Area.

Atlantic sturgeon

Atlantic sturgeons live in rivers and coastal waters from Canada to Florida. Hatched in the freshwater of rivers, Atlantic sturgeon head out to sea as sub-adults, and return to their birthplace to spawn, or lay eggs, when they reach adulthood. Due to the limited size of the Project Area and overall improvements to water quality resulting from decreased sediment erosion, the Atlantic sturgeon is not anticipated to be negatively impacted by the Project.

Eastern black rail

Eastern black rails live in a variety of salt, brackish, and freshwater marsh habitats that can be tidally or non-tidally influenced. Eastern black rails require dense vegetative cover that allows for movement underneath the canopy. The existing Project Area does not contain existing marshes due to loss of coastline resulting from erosion of the banks of the York River. As such, suitable habitat is not present within the Project Area and the eastern black rail is not anticipated to be negatively impacted due to Project activities.

Henslow's sparrow

Henslow' sparrow breeds in weedy grasslands and scrubs and the sparrow winters in a variety of shrubland. Henslow's sparrows have a distinctive color combination of olive-green nape, rufous wings, and crisp black streaks below. Henslow's sparrow populations have been declining sharply, possibly due to pesticide use and destruction of native grasslands. The existing Project Area contains maintained residential lawn with mature trees and minimal shrubs. No grasslands or extensive scrub or shrublands are present within the Project Area. As such, suitable habitat is not present within the Project Area for the Henslow's sparrow and the sparrow is not anticipated to be negatively impacted by Project activities.

Mabee's salamander

According to Virginia DWR species range maps, the Mabee salamander is located in the southeast corner of Virginia in coastal plain habitat. Adult Mabee's salamander live in terrestrial habitat including open fields, pine forests, and hardwood forests and utilize ephemeral wetlands for breeding. Threats to the Mabee's salamander include habitat fragmentation, and aquatic and terrestrial habitat loss. The Project Area takes place on

the existing degraded banks of the York River and most of the project work will occur along the banks of the York River in areas not containing suitable Mabee's salamander habitat. Therefore, no impacts to the Mabee's salamander are anticipated as a result of the Project.

Northern diamond-backed terrapin

According the Virgina DWR, the northern diamond-backed terrapin is located in estuarine habitats along the Chesapeake Bay and its tidal tributaries as well as the ocean side of the eastern shore and southeast Virginia. The diamond-backed terrapin is the only exclusively estuarine turtle species in North America and inhabits brackish water, saltwater estuaries, tidal marshes, and occasionally, the Atlantic Ocean. The existing shoreline within the Project Area is severely degraded and actively eroding making for unsuitable shoreline habitat for the northern diamond-backed terrapin. The purpose of the Project is to reduce erosion and improve ecological conditions within the Project Area and watershed, thereby providing improved habitat for aquatic species in its vicinity. As such, there are no negative impacts anticipated to the northern diamond backed terrapin resulting from Project activities.

DCR

A search of DCR's NHDE identified no federal, or state listed species as potentially occurring within the project's sub watershed.

Center for Conservation Biology (CCB)

The Applicant reviewed information from The Center for Conservation Biology VaEagles Nest Locator online mapping tool to identify any nearby resources being utilized by bald eagles (*Haliaeetus leucocephalus).* The Applicant considered concerns regarding bald eagle nests within the Project Area to determine if an Eagle Act permit would be required for the proposed Project. No bald eagle nests were identified within the Project Area, and no portion of the Project Area lies within the 660-foot buffer area surrounding an eagle nest. Consequently, the Project is not anticipated to adversely affect bald eagles.

Based on the database reviews and the aim of the Project to restore natural resources and ecological functions, the Project is not anticipated to adversely affect any state or federally threatened or endangered species. The findings of this inventory are included in Appendix D.

C. Cultural and Historic Resources

Based on a review of the VCRIS cultural and historic resource database, the Project Area does not contain any sensitive historic or cultural resources. The closest cultural or historic resource identified is the Tippecanoe single dwelling (DHR ID: 44GL0465) located approximately 0.22 miles north of the Project Area. The Tippecanoe site contains both archeological and architectural resources remaining from the single dwelling. Three additional historic and cultural resources are located within 0.5 miles of the Project Area: the Cappahosic House located approximately 0.42 miles northwest of the Project Area; the Cappahosic Store and Post Office located approximately 0.49 miles northwest of the Project Area; and an unnamed archaeological resource located approximately 0.42 miles southeast of the Project Area. See Tables 1 and 2 for more information regarding cultural and historic resources in the vicinity of the Project Area.

Given the separating distance between the resources and the Project Area, there are no anticipated impacts to any cultural or historic resources or their viewsheds resulting from

the Project. Please see Appendix E for further details on the cultural and historic resources occurring within 0.5 miles of the Project Area.

D. Proposed Impacts to Wetlands and Waters

The proposed Project impacts to jurisdictional wetlands result from grading, sand fill, installation of breakwater structures, and associated construction disturbance.

Permanent impacts to Estuarine Unconsolidated Shore Wetlands (E2US) have been minimized to the maximum extent practicable to 0.43 acres (18,948 square feet) to accommodate grading, sand fill, and construction of breakwaters associated with the Project. These impacts occur between Mean Low Water and 1.5 Mean Tide Range.

Temporary impacts to the E2US wetlands include construction disturbance required for access and breakwater stone placement. Temporary E2US impacts cover 0.03 acres (1,455 square feet) of disturbed area. These impacts occur between Mean Low Water and 1.5 Mean Tide Range.

Permanent impact to Estuarine Unconsolidated Bottom (E1UB) wetlands have been minimized to the maximum extent practicable to 0.14 acres (6,054 square feet) to accommodate construction of breakwater structures and sand fill within the Project Area. These impacts occur below Mean Low Water.

Lastly, temporary impacts to E1UB wetlands include construction disturbance required for breakwater stone placement. Temporary E1UB wetland impacts cover 0.05 acres (2,273 square feet) of disturbed area. These impacts occur below Mean Low Water.

Please see Appendix C for further details on impacts resulting from the Project including an *Impacts Map* identifying the location of specific impacts and a table quantifying individual impacts.

III.PERMIT CONDITIONS

A. General Conditions

The following conditions apply to all activities authorized under this SPGP. Work that does not meet one or more of the terms or general conditions of this SPGP, including work that has been determined to be more than minimal in nature (at any impact level), will require consideration under a different type of Corps permit.

1. Other permits: Authorization does not obviate the need to obtain other federal, state, or local authorizations required by law or to comply with all federal, state, or local laws.

The Project will comply with this condition.

2. Minimal effects: Projects authorized shall have no more than minimal individual or cumulative adverse environmental impacts.

The Project will comply with this condition.

3. Discretionary authority: The Corps District Commander retains discretionary authority to require processing of an individual permit based on concerns for the aquatic

environment or for any other factor of the public interest (33 C.F.R. § 320.4(a)). This authority is exercised on a case-by-case basis.

The Project will comply with this condition.

4. All activities located within Virginia's designated coastal management area (Tidewater) requiring a listed federal permit, license, or approval must be consistent with Virginia's Coastal Zone Management Program. All projects authorized under Category A and B are consistent with Virginia's Coastal Zone Management Program. To ensure that the proposed 23-SPGP-PASDO is fully consistent with the enforceable policies of the management program, applicants who receive authorization under Category C of 23-SPGP-PASDO will be required to certify that federally licensed or permitted activities affecting Virginia's coastal uses or resources will be conducted in a manner consistent with Virginia's CZM Program, and obtain concurrence from the DEQ, Office of Environmental Impact Review (OEIR). It is the Applicant's responsibility to submit a consistency certification to the OEIR for concurrence or objection, and proof of concurrence must be submitted to the Corps prior to final permit authorization.

The Project will comply with this condition.

5. Single and complete non-linear projects: The activity must be a single and complete project. For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits of a 23-SPGP-PASDO authorization.

The Project will comply with this condition.

6. Single and complete linear projects: The activity must be a single and complete project. A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of 23-SPGP-PASDO authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Not applicable to this project.

7. Independent utility: A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

The Project will comply with this condition.

8. Multiple general permit authorizations: The 23-SPGP-PASDO may be combined with other Corps general permits (including Nationwide, Regional, or other programmatic general permits) if the impacts are considered cumulatively and do not exceed the acreage limit or linear footage limits of the 23-SPGP-PASDO.

The Project will comply with this condition.

9. Permit on-site: The permittee shall ensure that a copy of 23-SPGP-PASDO and the accompanying authorization letter are always at the work site. These copies must be made available to any regulatory representative upon request. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be expected to comply with all conditions of any 23-SPGP-PASDO verification.

The Project will comply with this condition.

10. Historic properties:

a. No activity is authorized under the 23-SPGP-PASDO which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

b. Federal permittees: should follow their own procedures for complying with the requirements of section 106 of the NHPA (see 33 CFR 330.4(g)(1)). The federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

c. Non-federal permittees: must state which historic properties might have the potential to be affected by the proposed 23-SPGP-PASDO activity, or include a vicinity map indicating the location of the historic properties, or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or designated tribal representative, as appropriate, and the NHPA (see 33 CFR 330.4(g)). When reviewing permit applications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the NHPA. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the permit application and these identification efforts, the district engineer shall determine whether the proposed SPGP-PASDO activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to

cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

d. Where the non-federal applicant has identified historic properties on which the proposed 23-SPGP-PASDO activity might have the potential to cause effects and has so notified the Corps, the non-federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. If NHPA section 106 consultation is required, the district engineer will notify the non- federal applicant that he or she cannot begin the activity until section 106 consultation is completed.

e. Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

f. Discovery of previously unknown remains and artifacts. Permittees who discover any previously unknown historic, cultural, or archeological remains and artifacts while accomplishing the activity authorized by 23-SPGP-PASDO,must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery.

Non-federal permittees shall not begin work on the activity until Section 106 review and/or consultation has been completed AND they have received their 23-SPGP-PASDO verification.

The Project will comply with this condition. Please see Appendix E for Cultural and Historic Resources Research Information.

11. Tribal rights: No activity or its operation may impair reserved Tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

The Project will comply with this condition.

12. Federal lands: Authorized activities shall not impinge upon the value of any National Wildlife Refuge, National Forest, National Park, or any other area administered by the United States Fish and Wildlife Service (USFWS), U.S. Forest Service, or National Park

Service unless approval from the applicable land management agency is provided with the permit application.

The Project will comply with this condition.

13. Endangered species: No activity is authorized under any 23-SPGP-PASDO which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA) or Virginia's Endangered Species Act, or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any 23-SPGP-PASDO which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the 23-SPGP-PASDO activity, or whether additional ESA consultation is necessary. Incidents where any individuals of sea turtles, Atlantic sturgeon, or any species listed by National Oceanic and Atmospheric Administration (NOAA) Fisheries under the ESA appear to be injured or killed as a result of discharges of dredged or fill material into WOTUS or structures or work in navigable WOTUS authorized by this SPGP shall be reported to NOAA Fisheries, Office of Protected Resources at (301) 713-1401, the Regulatory Office of the Norfolk District of the U.S. Army Corps of Engineers at (757) 201-7652 and the Virginia Aquarium Marine Science Center's Stranding Response Program (VAQSRP) at (757)385-7575. The finder should leave the animal alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by discharge exposure or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, or VAQSRP, to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved. Authorization of an activity by a 23-SPGP-PASDO does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit or a Biological Opinion with "incidental take" provisions) from the USFWS or the National Marine Fisheries Service (NMFS). The ESA prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their World Wide Web pages at https://ipac.ecosphere.fws.gov/location/index and http://www.noaa.gov/fisheries.html respectively. Non-federal permittees shall not begin work on the activity until Section 7 review and/or consultation has been completed AND they have received their 23-SPGP-PASDO verification.

The Project will comply with this condition. Please see Appendix D for Threatened and Endangered Species Research Information.

14. Migratory birds and bald and golden eagles: 23-SPGP-PASDO complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the USFWS to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

The Project will comply with this condition.

15. Wild and scenic rivers: Currently, there are no designated Wild and Scenic Rivers in Virginia. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status, unless the appropriate federal agency with direct management responsibility for such river has determined, in writing, that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate federal land management agency in the area (e.g., National Park Service (NPS), U.S. Forest Service (USFS), Bureau of Land Management (BLM), and USFWS). Impacts that occur in these resource areas will require coordination with the appropriate Federal agency.

Not applicable to the Project. There are no designated Wild and Scenic Rivers in Virginia.

16. Navigation:

a. No activity may cause more than a minimal adverse effect on navigation.

b. Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee’s expense on authorized facilities in navigable WOTUS.

c. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

The Project will comply with this condition.

17. Floodplains: The activity must comply with applicable Federal Emergency Management Agency (FEMA) -approved state or local floodplain management requirements.

This project will comply with this condition. Please see Appendix F for the FEMA FIRMette.

18. 408 certifications: Pursuant to Section 14 of the Rivers and Harbors Act of 1899, 33 U.S.C. 408 (Section 408), no activity may temporarily or permanently alter or make use of a U.S. Army Corps of Engineers (Corps) Civil Works project unless reviewed and granted

permission by the Secretary of the Army, as delegated. The Corps may grant this permission if the work does not impair the usefulness of the project and is not injurious to the public interest. No activity located within or adjacent to a Corps Civil Works project is authorized under a 23-SPGP-PASDO until written Section 408 permission has been granted or a written waiver has been provided by the applicable District's Section 408 Coordinator within the Norfolk District Regulatory Area of Responsibility (AOR) including: Norfolk District, Baltimore District, Huntington District, Nashville District, and/or Wilmington District.

Not applicable to the Project.

19. Environmental justice: Activities authorized under 23-SPGP-PASDO must comply with Executive Orders 12898, 14008, and 14096.

The Project will comply with this condition. Please see Appendix G for results from a database search of VA EJScreen+. No low-income communities or communities of color were identified in the immediate vicinity of the Project Area.

20. Federal liability: In issuing 23-SPGP-PASDO, the Federal government does not assume any liability for the following:
a. damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
b. damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
c. damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by 23-SPGP-PASDO.
d. design or construction deficiencies associated with the permitted work.
e. damage claims associated with any future modification, suspension, or revocation of this permit.

The Project will comply with this condition.

21. Avoidance and minimization: Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. (40 CFR 230.l0(a)-(d) Section 404 (b)(l) Guidelines).

The Project will comply with this condition.

22. Compensatory mitigation: Mitigation will generally be required for all projects where permanent loss exceeds 0.10 acre of wetlands, and/or 0.03 acre of streambed, or 300 linear feet of stream bed. Stream channel loss must be reported in acres and linear feet.

a. WETLANDS and OPEN WATERS:

i. All wetland mitigation will comply with the Mitigation Rule [Corps-EPA Compensatory Mitigation for Losses of Aquatic Resources, dated April 10, 2008, 33 CFR 325 and 332/40 CFR 230].

ii. Wetland mitigation: will generally be required for all projects where the total permanent impacts exceed 1/10 acre.

iii. Generally, the minimum required wetland mitigation ratios will be as follows:

- 2.1 for forested wetlands
- 1.5:1 for scrub/shrub wetlands
- 1:1 for emergent wetlands
- 0.5:1 for permanent loss of palustrine open waters
- 1:1 for conversion of forested wetlands or scrub-shrub wetlands to emergent wetlands when certain functions and services of WOTUS are permanently adversely affected by a regulated activity. (e.g., when a discharge of dredge or fill material into WOTUS will convert a forested or scrub-shrub wetland to an herbaceous wetland in a permanently maintained utility line right-of-way)

iv. On a case-by-case basis, additional compensatory mitigation may be required to ensure impacts are minimal:

- For permanent or temporary conversion of one wetland type to another
- For wetland impacts totaling less than 1/10 acre
- At mitigation ratios beyond the generally recommended ratios

b. STREAMS: mitigation will generally be required for all projects where the permanent loss exceeds 0.03 acre or 300 linear feet of stream bed. Stream channel loss must be reported in acres and linear feet.

i. All stream mitigation will comply with the Mitigation Rule [Corps-EPA Compensatory Mitigation for Losses of Aquatic Resources, dated April 10, 2008, 33 CFR 325 and 332/40 CFR 230].

ii. Minimum stream mitigation requirements will be determined using the current Corps and VDEQ endorsed assessment methodology.

iii. On a case-by-case basis, additional compensatory mitigation may be required to ensure impacts are minimal:

- For stream mitigation requirements that exceed the assessment methodology recommendation.
- For mitigation for impacts totaling less than 0.03 acre or 300 linear feet of stream bed may be required on a case-by-case basis to ensure impacts are minimal.

The Project will comply with this condition.

23. Heavy equipment: Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

The Project will comply with this condition.

23. Temporary fills: The soils of any temporarily impacted areas located in wetlands that are cleared, grubbed, and/or filled, must be restored once these areas are no longer needed for their authorized purpose, no later than completion of project construction, and not to exceed 12 months after commencing the temporary impacts. To restore, temporary fill must be removed in its entirety and the affected areas returned to preconstruction elevations, the soil surface loosened by ripping or chisel plowing to a depth of 8-12", and then seeded using native wetland species. Fill or dredged material in WOTUS that is not removed within the 12-month period will be considered a permanent impact, unless otherwise determined by the Corps. This additional impact to WOTUS may result in the Corps initiating a permit non-compliance action, which may include a restoration order, after-the-fact permitting, and/or compensatory mitigation.

The Project will comply with this condition.

24. Sedimentation and erosion control: Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, and any work below the ordinary high-water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within WOTUS during periods of low-flow or no-flow.

The Project will comply with this condition.

25. Countersinking of pipes and culverts: Based on consultation with Virginia Department of Wildlife Resources (VDWR), the Corps has determined that fish and other aquatic organisms are most likely present in any nontidal stream being crossed, in the absence of site-specific evidence to the contrary. The following conditions will apply in nontidal waters:

a. All pipes and culverts placed in streams will be countersunk at both the inlet and outlet ends, unless indicated otherwise by the Corps on a case-by-case basis (see below). Pipes that are 24" or less in diameter shall be countersunk 3" below the natural stream bottom. Pipes that are greater than 24" in diameter shall be countersunk 6" below the natural stream bottom. The countersinking requirement does not apply to bottomless pipes/culverts or pipe arches. All single pipes or culverts (with bottoms) shall be depressed (countersunk) below the natural streambed at both the inlet and outlet of the structure. In sets of multiple pipes or culverts (with bottoms) at least one pipe or culvert shall be depressed (countersunk) at both the inlet and outlet to convey low flows.

b. When countersinking culverts, permittees must ensure reestablishment of a surface water channel (within 15 days post construction) that allows for the movement of aquatic organisms and maintains the same hydrologic regime that was present preconstruction (i.e., the depth of surface water through the permit area should match the upstream and downstream depths). This may require the addition of finer materials to choke the larger stone and/or placement of riprap to allow for a low flow channel.

c. The requirement to countersink does not apply to extensions of existing pipes or culverts that are not countersunk, or to maintenance of pipes/culverts that do not involve replacing the pipe/culvert (e.g., repairing cracks or adding material to prevent/correct scour).

d. Floodplain pipes: The requirement to countersink does not apply to pipes or culverts that are being placed above ordinary high water, such as those placed to allow for floodplain flows. The placement of pipes above ordinary high water is not jurisdictional (provided no fill is discharged into wetlands).

e. Hydraulic opening: Pipes should be adequately sized to allow for the passage of ordinary high water with the countersinking and invert restrictions taken into account.

f. Pipes on bedrock or above existing utility lines: Different procedures will be followed for pipes or culverts to be placed on bedrock or above existing buried utility lines where it is not practicable to relocate the lines, depending on whether the work is for replacement of an existing pipe/culvert or a new pipe/culvert:

i. Replacement of an existing pipe/culvert: Countersinking is not required provided the elevations of the inlet and outlet ends of the replacement pipe/culvert are no higher above the stream bottom than those of the existing pipe/culvert. Documentation (photographic or other evidence)

must be maintained in the permittee's records showing the bedrock condition and the existing inlet and outlet elevations.

ii. A pipe/culvert is being placed in a new location: If the permittee determines that bedrock or an existing buried utility line that is not practicable to relocate prevents countersinking, he/she should evaluate the use of a bottomless pipe/culvert, bottomless utility vault, span (bridge), or other bottomless structure to cross the waterway, and also evaluate alternative locations for the new pipe/culvert that will allow for countersinking. If the permittee determines that neither a bottomless structure nor an alternative location is practicable, justification must be provided in the 23-SPGP-PASDO application. The permittee must provide documentation of measures evaluated to minimize disruption of the movement of aquatic life as well as documentation of the cost, engineering factors, and site conditions that prohibit countersinking the pipe/culvert. Options that must be considered include partial countersinking (such as less than 3" of countersinking, or countersinking of one end of the pipe), and constructing stone step pools, low rock weirs downstream, or other measures to provide for the movement of aquatic organisms. The permit application must also include photographs documenting site conditions. NOTE: Blasting of stream bottoms through the use of explosives is not acceptable as a means of providing for countersinking of pipes on bedrock.

g. Pipes on steep terrain: Pipes being placed on steep terrain (slope of 5% or greater) must be countersunk in accordance with the conditions above and will in most cases be non-reporting. It is recommended that on slopes greater than 5%, a larger pipe than required be installed to allow for the passage of ordinary high water in order to increase the likelihood that natural velocities can be maintained. There may be situations where countersinking both the inlet and outlet may result in a slope in the pipe that results in flow velocities that cause excessive scour at the outlet and/or prohibit some fish movement. This type of situation could occur on the side of a mountain where falls and drop pools occur along a stream. Should this be the case, or should the permittee not want to countersink the pipe/culvert for other reasons, justification must be provided in the 23-SPGP-PASDOapplication. The permittee must provide documentation of measures evaluated to minimize disruption of the movement of aquatic life and documentation of the cost, engineering factors, and site conditions that prohibit countersinking the pipe/culvert. The permittee should design the pipe to be placed at a slope as steep as stream characteristics allow, countersink the inlet 3-6", and implement measures to minimize any disruption of fish movement. These measures can include constructing a stone step/pool structure, preferably using river rock/native stone rather than riprap, constructing low rock weirs to create a pool or pools, or other structures to allow for fish movements in both directions. Stone structures should be designed with sufficient-sized stone to prevent erosion or washout and should include keying-in as appropriate. These structures should be designed both to allow for fish passage and to minimize scour at the outlet. The quantities of fill discharged below ordinary high water necessary to comply with these requirements (i.e., the cubic yards of stone, riprap or other fill placed below the plane of ordinary high water) must be included in project totals.

h. Problems encountered during construction: When a pipe/culvert is being replaced, and the design calls for countersinking at both ends of the pipe/culvert, and during construction it is found that the streambed/banks are on bedrock, a utility line, or other documentable obstacle, then the permittee must stop work and

contact the Corps (contact by telephone and/or email is acceptable). The permittee must provide the Corps with specific information concerning site conditions and limitations. The Corps will work with the permittee to determine an acceptable plan, taking into consideration the information provided by the permittee, but the permittee should recognize that the Corps could determine that the work will not qualify for a 23-SPGP-PASDO permit.

i. Emergency pipe replacements: In the case of an emergency situation, such as when a pipe/culvert washes out during a flood, a permittee is encouraged to countersink the replacement pipe at the time of replacement, in accordance with the conditions above. However, if conditions or timeframes do not allow for countersinking, then the pipe can be replaced as it was before the washout, but the permittee will have to replace and countersink the pipe/culvert and at a later time in accordance with the guidance above. In other words, the replacement of the washed-out pipe is viewed as a temporary repair, and a countersunk replacement should be made at the earliest possible date. The Corps must be notified of all pipes/culverts that are replaced without countersinking at the time that it occurs, even if it is an otherwise non-reporting activity, and must provide the permittee's planned schedule for installing a countersunk replacement (it is acceptable to submit such notification by email). The permittee should anticipate whether bedrock or steep terrain will limit countersinking, and if so, should follow the procedures outlined in (f) and/or (g) above.

The Project will comply with this condition.

26. Discharge of pollutants: All authorized activities involving any discharge of pollutants into WOTUS shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the CWA (33 U.S.C. § 1251 et seq.) and applicable state and local laws.

The Project will comply with this condition.

27. Suitable material: No activity may use unsuitable material (e.g., trash, debris, car bodies, or asphalt). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

The Project will comply with this condition.

28. Obstruction of high flows: Discharges of dredged or fill material must not permanently restrict or impede the passage of normal or expected high flows.

The Project will comply with this condition.

29. Aquatic life movements: No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

The Project will comply with this condition.

30. Spawning areas: Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

The Project will comply with this condition.

31. Migratory bird breeding areas: Activities in WOTUS that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

The Project will comply with this condition.

32. Native trout: Designated Trout Waters, are defined by the Virginia State Water Control Board and the VDWR. The waters, occurring specifically within the mountains of Virginia, are within the following river basins:

Potomac-Shenandoah River Basins
James River Basin
Roanoke River Basin
New River Basin
Tennessee and Big Sandy River Basins
Rappahannock River Basin

Information on designated trout streams can be obtained via VDWR's Virginia Fish and Wildlife Information Service's (VAFWIS's) Cold Water Stream Survey database. Basic access to the VAFWIS is available via https://services.dwr.virginia.gov/fwis/index.asp. VDWR recommends the following time-of-year restrictions (TOYRs) for any in-stream work within streams identified as wild trout waters in its Cold-Water Stream Survey database. The recommended TOYRs for trout species are: Brook Trout: October 1 through March 31 Brown Trout: October 1 through March 31 Rainbow Trout: March 15 through May 15 This condition applies to the following counties and cities: Albemarle, Allegheny, Amherst, Augusta, Bath, Bedford, Bland, Botetourt, Bristol, Buchanan, Buena Vista, Carroll, Clarke, Covington, Craig, Dickenson, Floyd, Franklin, Frederick, Giles, Grayson, Greene, Henry, Highland, Lee, Loudoun, Madison, Montgomery, Nelson, Page, Patrick, Pulaski, Rappahannock, Roanoke City, Roanoke Co., Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Staunton, Tazewell, Warren, Washington, Waynesboro, Wise, and Wythe.

Not applicable to the Project. No native trout streams within the project vicinity.

33. Anadromous fish use areas: Authorizations associated with the 23-SPGP-PASDO shall not adversely affect spawning habitat or a migratory pathway for anadromous fish. Areas of anadromous fish use are indicated on the VDWR information system at: https://services.dwr.virginia.gov/fwis/index.asp. If a project is located within an area documented as an anadromous fish use area (confirmed or potential), all in-stream work is prohibited from occurring between February 15 through June 30 of any given year or other time of year restriction (TOYR) specified by the VDWR and/or VMRC. Should the Corps determine that the work is minimal and no TOYR is needed, the Corps will initiate

consultation with National Oceanic Atmospheric Administration (NOAA) Fisheries Service for their concurrence.

The Project will comply with this condition.

34. All 23-SPGP-PASDO permitted aquaculture or mariculture activities shall include the immediate removal of all inactive or derelict nets, cages and other in-water gear associated with the fishery to minimize impacts to fish and wildlife and to avoid the gear turning into in-water or washed-up debris.

Not applicable to the Project.

35. Water supply intakes: No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization. Any damaged/replaced surface water intakes should, upon repair, be brought up to current standards to minimize impingement/entrainment of aquatic species, as specified in the Surface Water Withdrawal Intake Design and Operation Standards found here: https://dwr.virginia.gov/wp-content/uploads/media/Surface-Water-Intake-Design-Operation-Standards.pdf.

The Project will comply with this condition.

36. Invasive species: Plant species listed in the most current Virginia Department of Conservation and Recreation's (DCR) Invasive Alien Plant List shall not be used for revegetation for activities authorized by the 23-SPGP-PASDO. The list of invasive plants in Virginia is found at: https://www.dcr.virginia.gov/natural-heritage/invsppdflist.DCR recommends the use of regional native species for re-vegetation as identified in the DCR Native Plants for Conservation, Restoration and Landscaping brochures for the coastal, piedmont and mountain regions http://www.dcr.virginia.gov/natural-heritage/nativeplants#brochure also see the DCR native plant finder: https://www.dcr.virginia.gov/natural-heritage/native-plants-finder.

The Project will comply with this condition.

37. Inspections: The permittee understands and agrees that the Corps is permitted and allowed to make periodic inspections at any time the Corps deems necessary to ensure that the activities being performed under authority of this permit are in accordance with the terms and conditions prescribed herein. The Corps reserves the right to require post-construction engineering drawings and/or surveys of any work authorized under 23-SPGP-PASDO, as deemed necessary on a case-by-case basis.

The Project will comply with this condition.

38. Maintenance: Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable 23-SPGP-PASDO general conditions.

The Project will comply with this condition.

39. Property rights: 23-SPGP-PASDO does not convey any property rights, either in real estate or material, or convey any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations. If real estate rights are needed from the Corps, the permittee must contact the Norfolk District Corps Real Estate Office at (757) 201-7739or at the address listed on the front page of this permit. Federal property can be located on the "NAO Real Estate Data – CWLDM Land Parcel Area" layer on the Norfolk District Section 408 Map located on the Norfolk District Section 408 webpage at: https://www.nao.usace.army.mil/408Review/.

The Project will comply with this condition.

40. Suspension and revocation: 23-SPGP-PASDO and individual verifications under 23-SPGP-PASDO may be either suspended or revoked in whole or in part pursuant to the policies and procedures of 33 C.F.R. § 325.7. Any such action shall not be the basis for any claim for damages against the United States.

The Project will comply with this condition.

41. Restoration directive: The permittee, upon receipt of a restoration directive, shall restore the WOTUS to their former conditions without expense to the United States and as directed by the Secretary of the Army or his/her authorized representative. If the permittee fails to comply with such a directive, the Secretary or his/her designee, may restore the WOTUS to their former conditions, by contract or otherwise, and recover the cost from the permittee.

The Project will comply with this condition.

42. Special conditions: The Corps may impose other special conditions on a project verified pursuant to 23-SPGP-PASDO that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all conditions of the authorization/verification, including special conditions, constitutes a permit violation and may subject the permittee, or his/her contractor, to criminal, civil, or administrative penalties and/or restoration.

The Project will comply with this condition.

43. False or incomplete information: In granting authorization pursuant to this permit, the Corps has relied upon information and data provided by the permittee. If, subsequent to notification by the Corps that a project qualifies for this permit, such information and data prove to be false or incomplete, the Corps may suspend or revoke authorization, in whole or in part, and/or the United States or Corps may institute appropriate legal proceedings.

The Project will comply with this condition.

44. Abandonment: If the permittee decides to abandon the activity authorized under 23-SPGP-PASDO, unless such abandonment is merely the transfer of property to a third party, they may be required to restore the area to the satisfaction of the Corps.

The Project will comply with this condition.

45. Transfer of verification: To transfer verification under 23-SPGP-PASDO, the transferee and permittee must supply the Corps with a written and signed, by all appropriate parties, request to make such a transfer. Such transfer is not effective until written approval has been granted by the Corps.

The Project will comply with this condition.

46. Binding effect: The provisions of the permit authorization shall be binding on any assignee or successor in interest of the original permittee.

The Project will comply with this condition.

46. Expiration of 23-SPGP-PASDO: Unless further suspended or revoked, the 23-SPGP-PASDO will be in effect until September 4th, 2028.

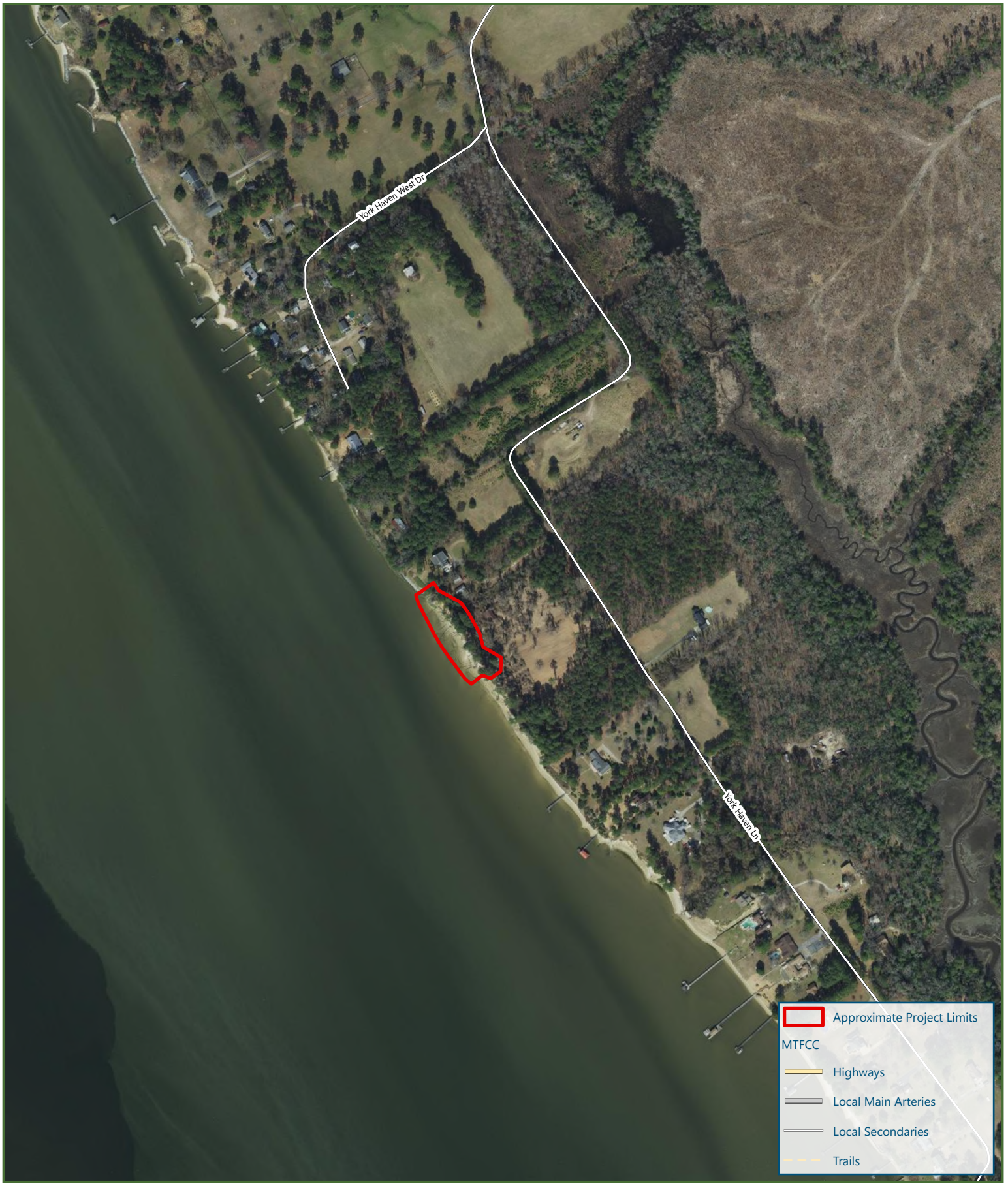
a. Activities which have commenced (i.e., are under construction) or are under contract to commence construction in reliance upon 23-SPGP-PASDOwill remain authorized provided the activity is completed within 12 months of the date of this 23-SPGP-PASDO's expiration of September 4th , 2028, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 325.?(a-e). Activities qualifying for this extension that are not complete by September 4th, 2028, must apply for new general and/or individual Corps permit authorization.

b. Activities which have NOT commenced and are NOT under contract to commence construction by the September 4th, 2028, expiration must apply for a new general and/or individual Corps permit authorization.

The Project will comply with this condition.

APPENDIX A

PROJECT LOCATION, VICINITY, TOPOGRAPHIC IMAGERY, AND ADJACENT PROPERTY OWNER MAPS



Project Location Map

Mummichog Nutrient Bank
Gloucester County, Virginia
76.6291°W 37.3733°N

N

1 in = 500 ft when printed at 8.5x11"

0 250 500

Feet

Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: Aerial imagery from VGIN (most recent).
Spatial Reference:
NAD 1983 StatePlane Virginia North FIPS 4501 Feet
Date Exported: 3/31/2025
Project Number: 106287

res
www.res.us

Vicinity Map

Mummichog Nutrient Bank
Gloucester County, Virginia
76.6291°W 37.3733°N

N

1 in = 0 mi when printed at 8.5x11"

0 1,000 2,000

Feet

Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: Street basemap from Esri.
Spatial Reference:
NAD 1983 StatePlane Virginia South FIPS 4502 Feet
Date Exported: 3/31/2025
Project Number: 106287

res
www.res.us

Cartographer: tduong | POC: cbishop | Path: R:\Resgis\Projects\VA\106287_York_Nutrient_Bank\PRO\BaseMaps_TB.aprx | Layout: 106287 Vicinity 8.5x11

USGS Topographic Map

Mummichog Nutrient Bank
Gloucester County, Virginia
76.6291°W 37.3733°N

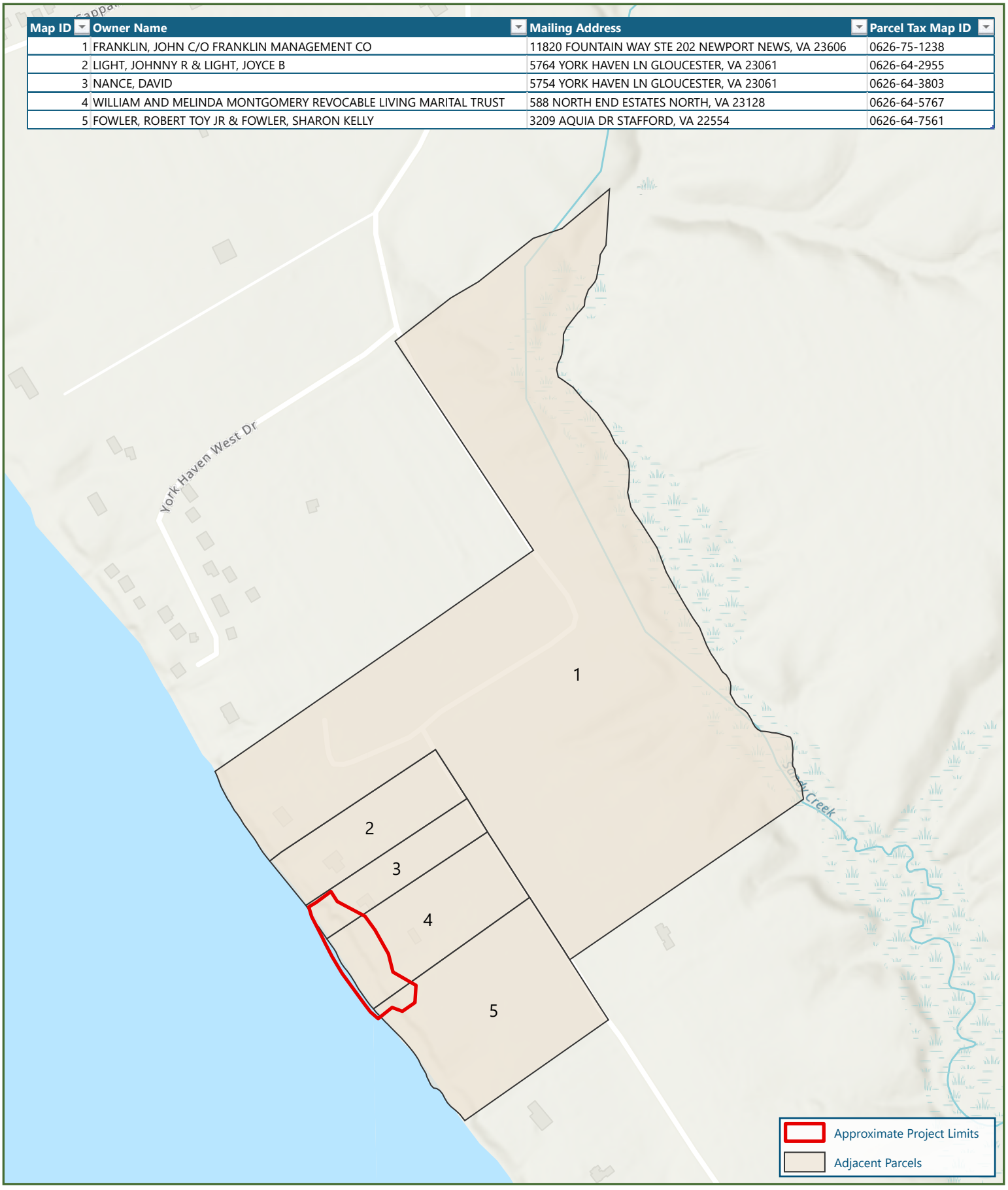
N

1 in = 2,000 ft when printed at 8.5x11"
0 1,000 2,000
Feet

Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: USA Topo Map from Esri. Quads from USGS.
Spatial Reference:
NAD 1983 StatePlane Virginia South FIPS 4502 Feet
Date Exported: 3/31/2025
Project Number: 106287

res
www.res.us

Map ID	Owner Name	Mailing Address	Parcel Tax Map ID
1	FRANKLIN, JOHN C/O FRANKLIN MANAGEMENT CO	11820 FOUNTAIN WAY STE 202 NEWPORT NEWS, VA 23606	0626-75-1238
2	LIGHT, JOHNNY R & LIGHT, JOYCE B	5764 YORK HAVEN LN GLOUCESTER, VA 23061	0626-64-2955
3	NANCE, DAVID	5754 YORK HAVEN LN GLOUCESTER, VA 23061	0626-64-3803
4	WILLIAM AND MELINDA MONTGOMERY REVOCABLE LIVING MARITAL TRUST	588 NORTH END ESTATES NORTH, VA 23128	0626-64-5767
5	FOWLER, ROBERT TOY JR & FOWLER, SHARON KELLY	3209 AQUIA DR STAFFORD, VA 22554	0626-64-7561



Adjacent Property Owners

Mummichog Nutrient Bank
Gloucester County, Virginia
76.6281°W 37.376°N

N

1 in = 400 ft when printed at 8.5x11"

0 200 400

Feet

Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: Gloucester County Parcel Data 2022
Spatial Reference:
NAD 1983 StatePlane Virginia North FIPS 4501 Feet
Date Exported: 3/31/2025
Project Number: 106287

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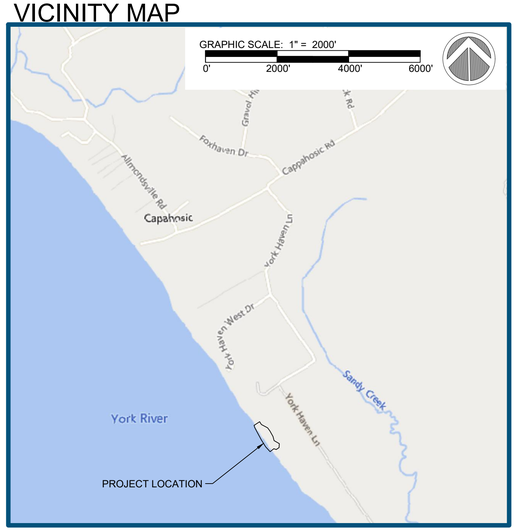
APPENDIX B

LIVING SHORELINE DESIGN PLAN

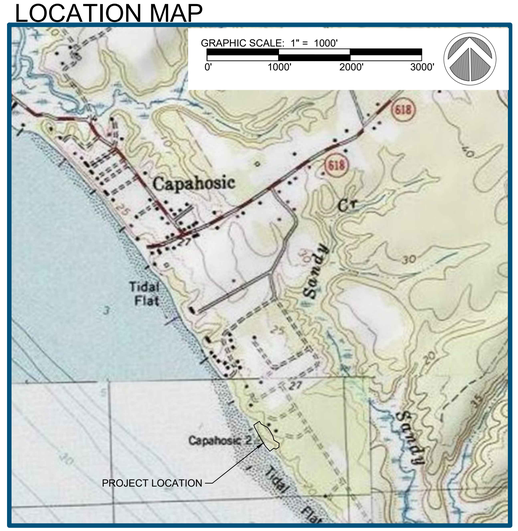
MUMMICHOG NUTRIENT BANK NRIP

GLOUCESTER COUNTY, VA

VICINITY MAP



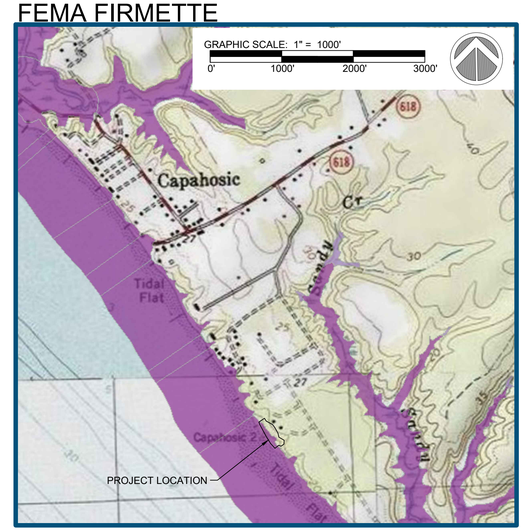
LOCATION MAP



LATITUDE: 37.373151493059446
LONGITUDE: -76.62923478650926

AERIAL PHOTOGRAPH-PROJECT OVERVIEW

FEMA FIRMETTE



REFERENCE FEMA MAP: 51073C0160F

CLIENT/APPLICANT:
NAME: HGS, LLC. A RES COMPANY
ADDRESS: 5367 TELEPHONE ROAD
WARRENTON, VA 20187
CONTACT: MONICA YOUNG
PHONE NUMBER: 910.232.7505
EMAIL: MYOUNG@RES.US

PROPERTY INFO:
PROPERTY OWNER: WILLIAM AND MELINDA MONTGOMERY REVOCABLE LIVING MARITAL TRUST
SITE ADDRESS: 5728 YORK HAVEN LANE, GLOUCESTER, VA
TAX-MAP: 36-2
ZONING: SF-1
ACREAGE: 3.86

PROPERTY OWNER: DAVID NANCE
SITE ADDRESS: 5754 YORK HAVEN LN GLOUCESTER, VA
TAX-MAP: 36-1A
ZONING: SF-1
ACREAGE: 1.83

PROPERTY OWNER: ROBERT TOY JR FOWLER
SITE ADDRESS: 5704 YORK HAVEN LN GLOUCESTER, VA
TAX-MAP: 36-3
ZONING: SF-1
ACREAGE: 6.582

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	SITE PLAN
3	CROSS-SECTIONS
4	PLANTING PLAN
5	PLANTING NOTES & SCHEDULES

JOB NUMBER: 106287

MUMMICHOG NUTRIENT BANK NRIP

30% DESIGN REVIEW
X NA

PERMIT PLAN DESIGN REVIEW
CHRISTINE HATTERICK 1/13/2025

CONSTRUCTION PLAN REVIEW
X NA

REVISIONS

MUMMICHOG NUTRIENT BANK NRIP
GLOUCESTER COUNTY, VA

PROJECT MANAGER:	MY	JOB NUMBER:	106287
DESIGNED:	KG	DESIGN TYPE:	SHORELINE TMDL
DRAWN:	BW	PLAN DATE:	4/29/2025

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COVER SHEET 1 OF 5

NOTES:
1. TOPOGRAPHIC INFORMATION AND LINE WORK SHOWN IS BASED ON AN AERIAL AND GROUND SURVEY PERFORMED BY RES ON JANUARY 24 - FEBRUARY 1 2024. CONTOUR INTERVAL IS ONE (1) FOOT.
2. PRIMARY PROPERTY LINE (MONTGOMERY PROPERTY) IS BASED A GROUND SURVEY PERFORMED BY RES ON JANUARY 24 - FEBRUARY 1 2024. NANCE PROPERTY AND ADJACENT PROPERTY LINES ARE BASED ON AVAILABLE GIS DATA.

GRAPHIC SCALE: 1" = 20'
0' 20' 40' 60'
HORIZONTAL DATUM = NAD83-2011
VERTICAL DATUM = NAVD-88

LEGEND:
- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. MEAN LOW WATER (MLW)
- EX. MEAN HIGH WATER (MHW)
- EX. 1.5x MEAN TIDE RANGE
- EX. RIP-RAP
- EX. TREE, DBH ≥ 4"
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. MEAN LOW WATER (MLW)
- PR. MEAN HIGH WATER (MHW)
- PR. BREAKWATER STRUCTURE

SALVAGE AND REAPPLY EX. RIPRAP AS NEEDED TO SMOOTHLY TIE INTO REMAINING EX. RIPRAP.

5754 YORK HAVEN LANE, GLOUCESTER, VA
NANCE, DAVID
TAX MAP 36-1A

5728 YORK HAVEN LANE, GLOUCESTER, VA
WILLIAM AND MELINDA MONTOGMERY
REVOCABLE LIVING MARITAL TRUST
TAX MAP 36-2

PR. BREAKWATER (4 EA)
4.0' TOP WIDTH
20.0' BOTTOM WIDTH
LENGTHS VARY
(SEE DIMENSIONS)

59.1'
77.3'
20.0'
70.6'
87.8'
20.0'
73.6'
91.9'
20.0'
59.7'
61.1'
52.0'

PR. MLW
EX. MLW
PR. MHW
EX. MHW
PR. 150' PIER

YORK RIVER
EBB FLOOD

W

EX. STONE ARMORING SHALL BE SALVAGED AND REAPPLIED AFTER GRADING TO THE SAME ELEVATION AS WAS PREVIOUSLY INSTALLED.

5704 YORK HAVEN LANE, GLOUCESTER, VA
FOWLER, ROBERT TOY JR & SHARON KELLY
TAX MAP 36-3

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MUMMICHOG NUTRIENT BANK NRIP
HGS, LLC. A RES COMPANY

SITE PLAN

GLOUCESTER COUNTY, VA

STAMP/SEAL:

30% DESIGN REVIEW
X NA
Signature Date

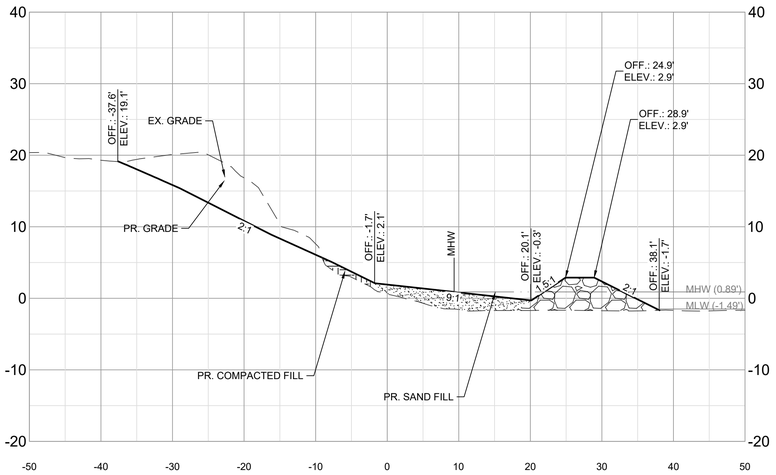
PERMIT PLAN DESIGN REVIEW
CHRISTINE HATTERICK 1/13/2025
Signature Date

CONSTRUCTION PLAN REVIEW
X NA
Signature Date

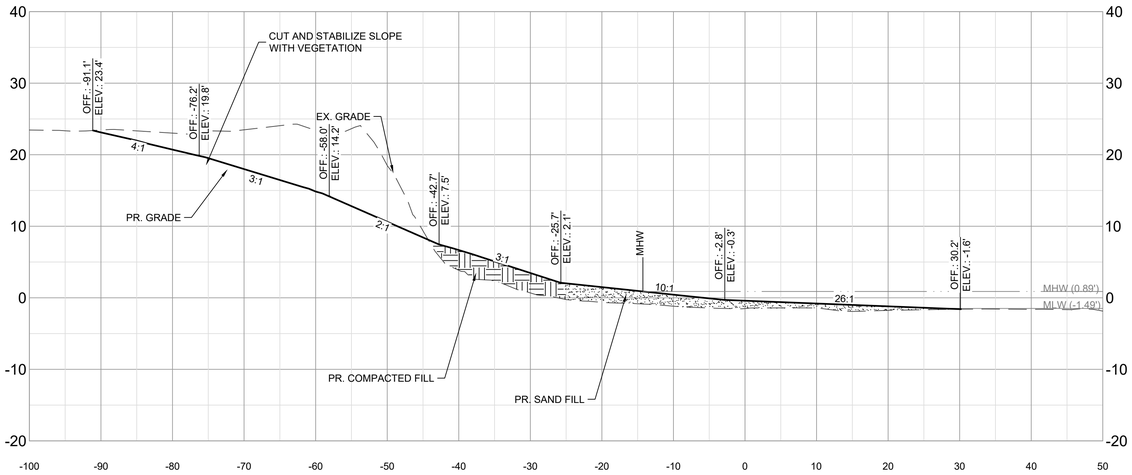
REVISIONS:

PROJECT MANAGER:	MY
DESIGNED:	KG
DRAWN:	BW
JOB NUMBER:	106287
DESIGN TYPE:	SHORELINE TMDL
DATE:	4/29/2025
SHEET NO:	2 OF 5

SHORELINE STABILIZATION XS#1



SHORELINE STABILIZATION XS#2



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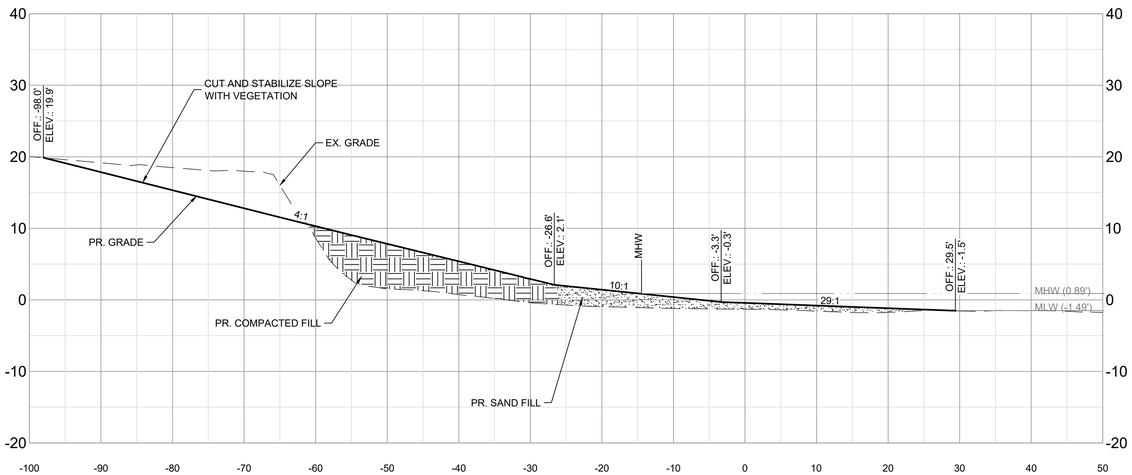
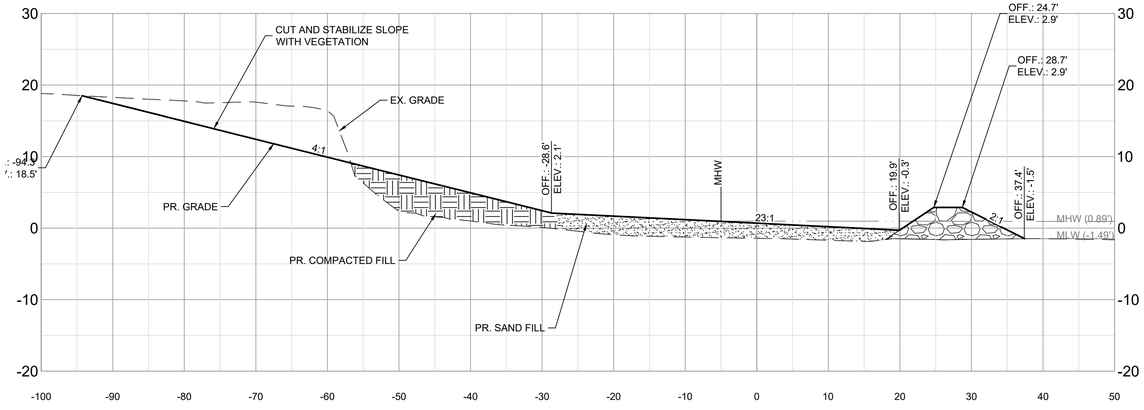


SHORELINE STABILIZATION XS#4



HORIZONTAL SCALE: 1" = 10'
0' 10' 20' 30'

VERTICAL SCALE: 1" = 1'
0' 1' 2' 3'

NOTE: CROSS-SECTION VIEW SCALES VARY FROM PLAN VIEW

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HGS, LLC, A RES COMPANY

CROSS-SECTIONS

GLOUCESTER COUNTY, VA

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X	NA
Signature	Date

PERMIT PLAN DESIGN REVIEW

CHRISTINE HATTERICK	1/13/2025
Signature	Date

CONSTRUCTION PLAN REVIEW

X	NA
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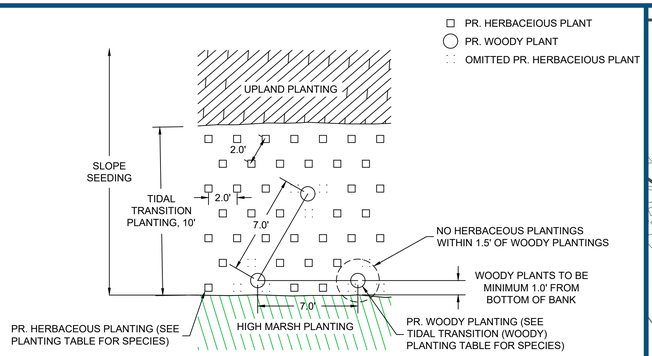
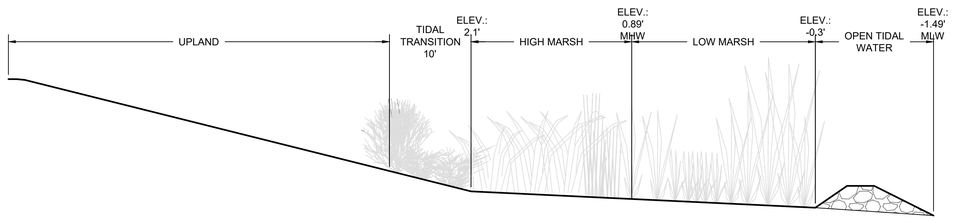


1 TIDAL TRANSITION PLANTING DETAIL
NOT TO SCALE



2 TYPICAL PLANTING ZONES
NOT TO SCALE

NOTES:
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0' 20' 40' 60'
HORIZONTAL DATUM = NAD83-2011
VERTICAL DATUM = NAVD-88

5754 YORK HAVEN LANE, GLOUCESTER, VA
NANCE, DAVID
TAX MAP 36-1A

LEGEND:
- PR. LOW MARSH PLANTING ONLY
- PR. HIGH MARSH PLANTING ONLY
- PR. TIDAL TRANSITION PLANTING & SLOPE SEED MIX
- PR. UPLAND PLANTING & SLOPE SEED MIX

TIDAL TRANSITION PLANTING & SLOPE MIX SEEDING (TYP.)
SEE TIDAL TRANSITION PLANTING DETAIL 1; SHEET 4

W

YORK RIVER
EBB FLOOD

5704 YORK HAVEN LANE, GLOUCESTER, VA
FOWLER, ROBERT TOY JR & SHARON KELLY
TAX MAP 36-3

res
HGS, LLC. A RES COMPANY
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MUMMICHOG NUTRIENT BANK NRIP
HGS, LLC. A RES COMPANY

PLANTING PLAN

GLOUCESTER COUNTY, VA

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X NA
Signature Date

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Signature Date

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SHEET NO:	4 OF 5

FILENAME:R:\Rescad\Projects\106287-York Nutrient Bank\~NRIP\Plan Sheets\106287 - PLANTING PLAN.dwg DATE:4/29/2025 1:57 PM BY:Bwilfong

GENERAL PLANTING NOTES:

1. **SUPPLY**: PLANTS AND SEEDS SHALL BE OBTAINED FROM A COMMERCIAL SUPPLIER. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH RELIABLE SOURCES TO ENSURE THAT AN ADEQUATE SUPPLY OF THE REQUIRED PLANT AND SEED MATERIALS IS AVAILABLE.
2. **SUBSTITUTIONS:** IN THE EVENT THAT A PLANT OR SEED SPECIFIED IS NOT COMMERCIALLY AVAILABLE, THE CONTRACTOR MAY REQUEST A SUBSTITUTION IN WRITING. ALL REQUESTS FOR SUBSTITUTIONS SHALL BE MADE AT LEAST 1 MONTH PRIOR TO INSTALLATION AND BE APPROVED BY THE ENGINEER OF RECORD OR ASSIGNEE.
3. ALL PLANT MATERIAL SHALL BE UNIFORMLY SHAPED AND HAVE A VIGOROUS ROOT SYSTEM. THE PLANT MATERIAL SHALL BE HEALTHY, AND FREE OF DEFECTS, DECAY, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, AND ALL FORMS OF INFESTATIONS. THE PLANT MATERIALS MUST BE FRESH AND FREE OF TRANSPLANT SHOCK OR VISIBLE WILT. UNHEALTHY PLANT STOCK ARE UNACCEPTABLE AND WILL BE REJECTED.
4. ALL CONTAINER GROWN STOCK, INCLUDING PLUGS, SHALL HAVE BEEN PROPAGATED FOR A SUFFICIENT TIME FOR THE ROOTS TO HAVE DEVELOPED SUFFICIENTLY TO HOLD THE SOILS TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER STOCK WITH POORLY DEVELOPED ROOTS ARE UNACCEPTABLE AND WILL BE REJECTED.
5. **WEATHER CONDITION:** NO SEEDING OR PLANTING SHALL OCCUR WHEN THE SOIL IS FROZEN OR THE SITE IS FLOODED.
6. THE FINAL LOCATION OF PLANT MATERIAL, AS WELL AS LOCATION OF PLANTING ZONES, WILL BE SUBJECT TO REVISION BASED ON ON-SITE OBSERVATIONS IN TIDE RANGE DURING CONSTRUCTION.
7. DURING PLANTING THE CONTRACTOR SHALL WATER EACH PLANT WITH THE FOLLOWING MINIMUM QUANTITIES OF WATER, UNLESS THE ENGINEER OF RECORD OR ASSIGNEE DETERMINES THERE IS SUFFICIENT SOIL MOISTURE ON SITE:
   - TREES 1 GALLON OF WATER
   - SHRUBS 1 GALLON OF WATER
   - PLUGS 1 PINT OF WATER

UPLAND WOODY PLANTING NOTES:

1. **TIMING:** THE PLANTING SEASON FOR CONTAINER TREES AND SHRUBS SHALL BE FROM SEPTEMBER 15 TO DECEMBER 15 AND FEBRUARY 15 TO MAY 15. ADJUSTMENTS TO THE PLANTING SEASONS MAY BE MADE BY THE ENGINEER OF RECORD OR ASSIGNEE BASED ON SEASONAL AND SITE CONDITIONS.

TIDAL MARSH NOTES:

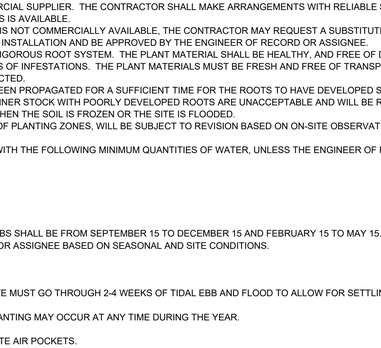
1. **PLUG SPACING:** 1.5' O.C.
2. ONCE THE TIDAL PORTION OF THE SITE IS AT FINAL GRADE, THE SITE MUST GO THROUGH 2-4 WEEKS OF TIDAL EBB AND FLOOD TO ALLOW FOR SETTLING OF THE SITE PRIOR TO PLANTING AND TO CONFIRM PLANTING ZONES.
3. **TIMING:** PLANTING WILL OCCUR DURING PERIODS OF LOW TIDE. PLANTING MAY OCCUR AT ANY TIME DURING THE YEAR.
4. **FERTILIZER:** NO FERTILIZER SHOULD BE USED.
5. SAND AROUND PLUGS WILL BE FIRMLY COMPACTED AS TO ELIMINATE AIR POCKETS.
6. TOP OF ROOTS SHALL BE 1" BELOW GROUND SURFACE AND COVERED.

TIDAL PLANTING NOTES:

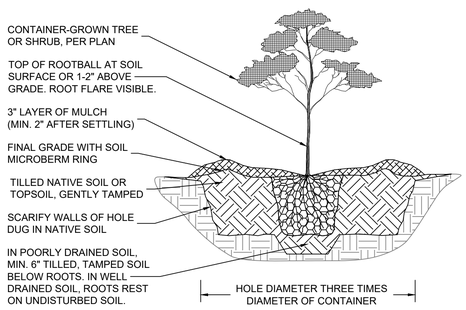
1. **HERB PLUG SPACING:** 2' OC STAGGERED IN BETWEEN SHRUBS.
2. **WOODY SPACING:** 7' OC STAGGED IN 2 ROWS

SEEDING NOTES:

1. **SEED SOURCING -** COMMERCIAL SEED SHALL BE ORIGINALLY SOURCED FROM WITHIN THE SAME ECOREGION AS THE PROJECT.
2. **SUBSTITUTIONS** - IF A SPECIFIC SEED IS NOT AVAILABLE A SIMILAR SEED SHALL BE SUBSTITUTED THAT HAS SAME NWI INDICATOR. IF A SIMILAR SEED IS NOT AVAILABLE, THEN THE PERCENTAGE OF ANOTHER SPECIES IN THE SEED MIX SHOULD ADJUSTED TO REPLACE THE UNAVAILABLE SEED. ALL CHANGES MUST BE APPROVED BY ENGINEER OF RECORD OR ASSIGNEE.
3. **APPROVAL OF SEED MIX -** THE COMMERCIAL SEED SOURCE SHALL PROVIDE A SEED TAG LISTING PERCENT WEEDS, PERCENT OTHER CROPS, PERCENT DEBRIS, PERCENT SEED, GERMINATION, DORMANCY, AND TOTAL PURE LIVE SEED. THE ENGINEER OF RECORD OR ASSIGNEE MUST REVIEW AND APPROVE THE FINAL SEED MIX. THE ACTUAL SEED TAG FROM SEED SHIPMENTS SHALL BE RETAINED AS DOCUMENTATION OF SEED CONDITION AND LOT NUMBER.
4. **SEED STORAGE -** THE SEED SHALL BE KEPT IN A COOL AND DRY STORAGE UNTIL READY FOR USE. WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGE DURING TRANSPORTATION OR STORAGE SHALL NOT BE USED.
5. **SEQUENCING -** SEEDING SHALL BE INSTALLED AFTER ACHIEVING FINAL GRADE AND EQUIPMENT IS REMOVED FROM THE AREA BUT PRIOR TO THE INSTALLATION OF COIR OR OTHER EROSION CONTROL FABRICS OR MULCHES
6. 4" SALVAGED TOPSOIL WILL BE APPLIED HALFWAY DOWN BACKSLOPE AND IN GRADED UPLAND AREAS. IF SALVAGED TOPSOIL VOLUMES ARE INSUFFICIENT, TOPSOIL WILL BE IMPORTED. IMPORTED TOPSOIL WILL HAVE BEEN SCREENED AND WILL CONTAIN A MINIMUM OF APPROXIMATELY 10-15% ORGANIC MATTER. PROGRANICS (AN ENGINEERED BIOTIC SOIL MEDIA) MAY ALSO BE APPLIED IN LIEU OF IMPORTED TOPSOIL AND WILL BE DETERMINED DURING CONSTRUCTION.
7. FOLLOWING CONSTRUCTION, THE UPPER 6" OR GREATER OF SOIL WITHIN HAUL ROADS, STAGING AREAS, AND STOCKPILE AREAS WILL BE DISKED TO REDUCE SURFACE COMPACTION PRIOR TO SEEDING
8. **METHOD OF SEED INSTALLATION -** THE MOST EFFECTIVE METHOD OF SEED INSTALLATION SHALL BE USED DEPENDING ON THE SITE CONDITIONS. LARGE OPEN GROUND CAN BE SEEDED WITH DRILL SEEDER OR BROADCAST. SMALLER SECTIONS CAN BE SEEDED WITH BROADCAST SEEDER OR BY HAND SEEDER. STEEP SLOPES ARE TO BE SEEDED WITH BROADCAST SEEDER OR BY HAND SEEDER.
   a. **DRILL SEEDING -** IF A DRILL SEEDER IS USED, THE EQUIPMENT MUST BE CLEANED OF ALL PRIOR SEED, CALIBRATED TO THE SEEDING RATE FOR THIS PROJECT, AND MONITORED DURING SEEDING TO INSURE SEED IS BEING DISTRIBUTED EFFECTIVELY. IF USING SEED THAT HAS NOT BEEN DEBEARDED, A SPECIALTY SEEDER MUST BE USED.
   b. **BROADCAST SEEDING -** USING EITHER A TUB BROADCAST SEEDER ON A TRACTOR OR ATV OR A BAG HAND SEEDER, DISTRIBUTE THE SEED PER THE SEEDING RATE IN THE PLANS. TO IMPROVE UNIFORMITY OF DISTRIBUTION, SOW HALF THE SEED IN ONE DIRECTION AND THE OTHER HALF AT 90 DEGREES TO FIRST SOWING.
9. **MIXING OF SEED** - THE E&S SEED MAY BE MIXED WITH A CORRECT PORTION OF NATIVE SEED AND THEN SOWN AT THE SAME TIME TO IMPROVE UNIFORM DISTRIBUTION OF THE SEED.
10. NO LIME OR FERTILIZER SHALL BE USED IN THE UPLAND SEEDING AREAS.
11. **EROSION AND SEDIMENT CONTROL SEEDING** - EROSION AND SEDIMENT CONTROL SEEDING - THE SEED USED FOR INITIAL STABILIZATION OF THE SITE SHALL BE BASED ON THE SEASON AT TIME OF SEEDING, AND BE PER TABLE C-SSM-09-3 OF THE DEQ STORMWATER MANAGEMENT HANDBOOK. GERMAN MILLET (SETARIA ITALICA) SHALL BE USED APRIL 15 - AUGUST 31; A 50 / 50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) & CEREAL (WINTER) RYE (SECALE CEREALE) SHALL BE USED SEPT. 1 - FEBRUARY 15TH (TRANSITIONING TO FULL CEREAL RYE IS ACCEPTABLE IF WEATHER IS PERSISTENTLY COLD); AND ANNUAL RYE FROM FEBRUARY 16TH - APRIL 15TH.



1 HERBACEOUS PLUG PLANTING
NOT TO SCALE



NOTES:
1. CONTAINER PLANTING HOLE DIAMETER SHALL BE 3X WIDTH OF POT. SLOPES AND FLOOR OF THE PLANTING HOLE SHOULD BE SCARIFIED TO FACILITATE ROOT GROWTH.
2. SEE PLANTING NOTES FOR FERTILIZER REQUIREMENT.
3. PLANT AT SAME DEPTH AS WHEN PREVIOUSLY GROWN. (SLIGHTLY HIGHER IN POORLY DRAINED SOILS). ROOT FLARE SHALL BE VISIBLE.
4. IN WELL DRAINED SOIL, ROOT MASS SHOULD SIT DIRECTLY ON UNDISTURBED SOIL. IN POORLY DRAINED OR COMPACTED SOIL, ROOT MASS SHALL SIT ON 6" OF TILLED, TAMPED SOIL.
5. IF PLANT IS POT-BOUND OR ROOTS ARE CIRCLING, USE CLEAN BLADE TO SCORE THE ROOT MASS WITH ½" DEEP LINEAR SLITS DOWN SIDES OF ROOT MASS.
6. BACKFILL WITH EXISTING EXCAVATED MATERIAL, OR TOPSOIL WHERE REQUIRED. ENCIRCLE THE PLANT WITH A SOIL MICROBERM TO HELP WATER INFILTRATE NEAR ROOTS.
7. TOPDRESS WITH 2"-3" MULCH LAYER, TAKING CARE TO NOT PLACE AGAINST THE PLANT TRUNK, AS THIS WILL CAUSE STEM ROT.

3 CONTAINER PLANT INSTALLATION
NOT TO SCALE

SLOPE (SEED MIX)

ACRES 1.36
POUNDS PER ACRE 17
TOTAL POUNDS 23.12

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	% by weight
Grasses/Sedges			***83.1%***
Panicum virgatum, 'Shelter'	Switchgrass, 'Shelter'	FAC	*15.0%*
Panicum amarum, Atlantic-VA Ecotype	Coastal Panicgrass, Atlantic-VA Ecotype	FAC	*15.0%*
Andropogon virginicus, MO Ecotype	Broomsedge, MO Ecotype	FAC	*5.0%*
Sorghastrum nutans, 'Rumsey'	Indiangrass, 'Rumsey'	FACU	*15.0%*
Schizachyrium scoparium, 'Blaze'	Little Bluestem, 'Blaze'	FACU	*20.0%*
Tridens flavus	Purpletop	FACU	*8.0%*
Chasmanthium latifolium, WV Ecotype	River Oats, WV Ecotype	FAC	*5.0%*
Juncus tenuis, PA Ecotype	Path Rush, PA Ecotype	FAC	*0.1%*
Forbs / Legumes			***16.9%***
Chamaecrista fasciculata, PA Ecotype	Partridge Pea, PA Ecotype	FAC	*4.0%*
Rudbeckia hirta	Blackeyed Susan	FACU	*2.0%*
Lupinus perennis	Perennial Blue Lupine, Common Commercial	NI	*2.0%*
Helenium autumnale, PA Ecotype	Common Sneezeweed, PA Ecotype	FACW	*1.0%*
Aster novi-belgii, Albany Pine Bush-NY Ecotyp	New York Aster, Albany Pine Bush-NY Ecotype	NI	*1.0%*
Achillea millefolium	Common Yarrow	FACU	*1.0%*
Asclepias tuberosa	Butterfly Milkweed	NI	*2.0%*
Coreopsis lanceolata	Lanceleaf Coreopsis	UPL	*3.4%*
Coreopsis tripteris, PA Ecotype	Tall Coreopsis, PA Ecotype	FAC	*0.5%*
			100.0%

INCLUDE A TEMPORARY SEEDING COVER CROP TO THE ABOVE MIX FOR E&S STABILIZATION. SEE PLANTING NOTES FOR DETAILS.

UPLAND (WOODY)

TO BE SEEDED WITH SLOPE SEED MIX

TOTAL PLANTS 192 **TOTAL ACREAGE: 0.46 AC**

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	STOCK	QUANTITY
Canopy Tree (42 plants)				
Acer rubrum	Red Maple	FAC	#15	5
Carya tomentosa	Mockernut Hickory	FACU	#15	6
Pinus taeda	Loblolly Pine	FAC	#15	4
Platanus occidentalis	American Sycamore	FACW	#15	6
Quercus rubra	Northern Red Oak	FACU	#15	5
Betula nigra	River birch	FACW	#15	5
Quercus phellos	Willow Oak	FACW	#15	5
Sassafrass albidum	Sassafrass	FACU	#15	6
			Total	**42**
Understory Tree (84 plants)				
Amelanchier arborea	Downy Serviceberry	FACU	#7	14
Carpinus caroliniana	American Hornbeam	FAC	#7	14
Cercis canadensis	Redbud	UPL	#7	14
Cornus florida	Flowering Dogwood	FACU	#7	14
Prunus americana	American plum	FACU	#7	14
Morus rubra	Red Mulberry	FACU	#7	14
			Total	**84**
Shrubs (66 plants)				
Ilex verticillata	Winterberry	FACW	#1	22
Kalmia latifolia	Mountain Laurel	FACU	#1	22
Viburnum prunifolium	Blackhaw Viburnum	FACU	#1	22
			Total	**66**
				192

NOTE: PLANTS SHALL BE EVENLY DISTRIBUTED THROUGHOUT PLANTING AREA

TIDAL TRANSITION (WOODY)

TO BE SEEDED WITH SLOPE SEED MIX

APPROX. LENGTH OF SHORELINE 390
TOTAL PLANTS 111 7' OC, 2 ROWS

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	STOCK	%	QUANTITY
Baccharis halimifolia	Groundsel Bush	FAC	TUBLING	50%	60
Iva frutescens	Marsh elder	FAC	TUBLING	50%	60
				100%	**120**

TIDAL TRANSITION (HERBACEOUS)

ACRES 0.09
PLANTS PER ACRE 12,632
TOTAL PLANTS 1,140 2' OC

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	STOCK	%	QUANTITY
Spartina patens	Meadow Hay	FACW	2" Plug	50%	570
Panicum virgatum	Switchgrass	FACW	2" Plug	50%	570
				100%	**1,140**

HIGH MARSH

ACRES 0.15
PLANTS PER ACRE 22,215
TOTAL PLANTS 3,335 1.5' OC

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	STOCK	%	QUANTITY
Spartina patens	Meadow Hay	FACW	2" Plug	100%	3,335
				100%	**3,335**

LOW MARSH

ACRES 0.18
PLANTS ACRE 22,215
TOTAL PLANTS 4,000 1.5' OC

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	STOCK	%	QUANTITY
Spartina alterniflora	Smooth Cordgrass	OBL	2" Plug	100%	4,000
				100%	**4,000**

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MUMMICHOG NUTRIENT BANK NRIP
HGS, LLC, A RES COMPANY

PLANTING NOTES & SCHEDULES

GLOUCESTER COUNTY, VA

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SHEET NO:	5 OF 5

APPENDIX C

IMPACTS MAP

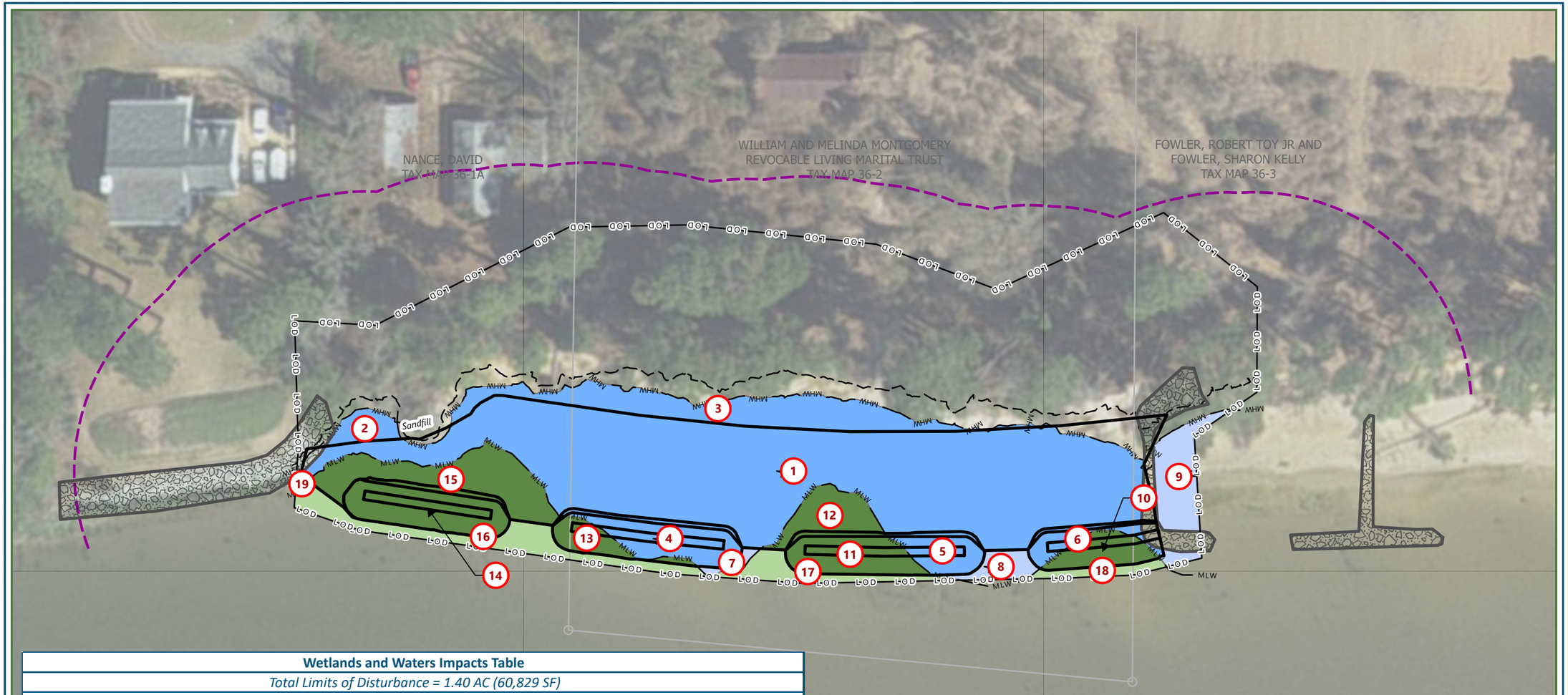

Figure # 1
Impacts Map

Mummichog Nutrient Bank
Gloucester County, Virginia
76.63°W 37.3727°N

- Impact ID
- EX-WSE-1.5 x MeanTideRange
- Limits of Disturbance
- Mean High Water (MHW)
- Mean Low Water (MLW)
- Parcel Boundary
- Existing Riprap Breakwater
- Permanent,Estuarine Unconsolidated Bottom (E1UB) Wetland,Below
- Permanent,Estuarine Unconsolidated Shore (E2US) Wetland,Above
- Temporary,Estuarine Unconsolidated Bottom (E1UB) Wetland,Below
- Temporary,Estuarine Unconsolidated Shore (E2US) Wetland,Above
- 100' RPA Line

Wetlands and Waters Impacts Table

Total Limits of Disturbance = 1.40 AC (60,829 SF)

Total Regulated Impacts = 0.66 AC (28,660 SF)

Resource Type	Impact Type	Cowardin Class	Impact ID	SF	AC	Impact Source
Impacts Above MLW to MHW 20,468 SF (0.47 AC)	Permanent 18,945 SF (0.43 AC)	E2US Wetland 18,945 SF (0.43 AC)	1	13,954	0.3203	Sand fill
			2	378	0.0087	Grading
			3	2,391	0.0549	Grading
			4	1,152	0.0264	Breakwater
			5	638	0.0146	Breakwater
			6	432	0.0099	Breakwater
	Temporary 1,523 SF (0.03 AC)	E2US Wetland 1,523 SF (0.03 AC)	7	105	0.0024	Construction Disturbance
			8	362	0.0083	Construction Disturbance
			9	1,056	0.0242	Construction Disturbance
Impacts Below MLW 8,192 SF (0.19 AC)	Permanent 6,054 SF (0.14 AC)	E1UB Wetland 6,054 SF (0.14 AC)	10	609	0.0140	Breakwater
			11	1,065	0.0245	Breakwater
			12	747	0.0171	Sand fill
			13	472	0.0108	Breakwater
			14	1,438	0.0330	Breakwater
			15	1,723	0.0395	Sand fill
	Temporary 2,138 SF (0.05 AC)	E1UB Wetland 2,138 SF (0.05 AC)	16	1,256	0.0288	Construction Disturbance
			17	569	0.0131	Construction Disturbance
			18	271	0.0062	Construction Disturbance
			19	42	0.0010	Construction Disturbance

1 in = 50 ft when printed at 11x17"

0 25 50
Feet

Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: Aerial is from VGIN.
Spatial Reference:
NAD 1983 StatePlane Virginia South FIPS 4502 Feet
Date Exported: 7/3/2024 (TD)
Revisions: 2/17/2025 (LC), 3/6/2025 (TD)
Project Number: 106287

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www.res.us

APPENDIX D

THREATENED AND ENDANGERED SPECIES RESEARCH INFORMATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694

In Reply Refer To: 03/28/2025 19:54:05 UTC
Project Code: 2025-0075891
Project Name: Mummichog Nutrient Bank

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

PROJECT SUMMARY

Project Code: 2025-0075891
Project Name: Mummichog Nutrient Bank
Project Type: Shoreline Stabilization
Project Description: Living Shoreline Project on the bank of the York River
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.372849849999994,-76.62976786450942,14z

Counties: Gloucester County, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.

3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

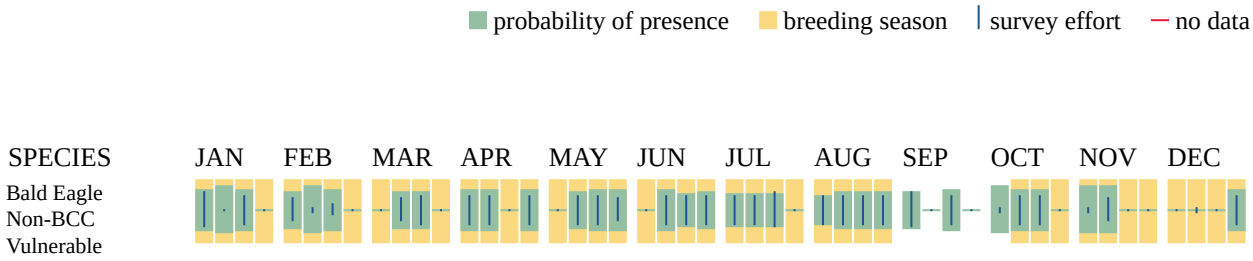
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory

birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Scarlet Tanager *Piranga olivacea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11967	Breeds May 10 to Aug 10
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

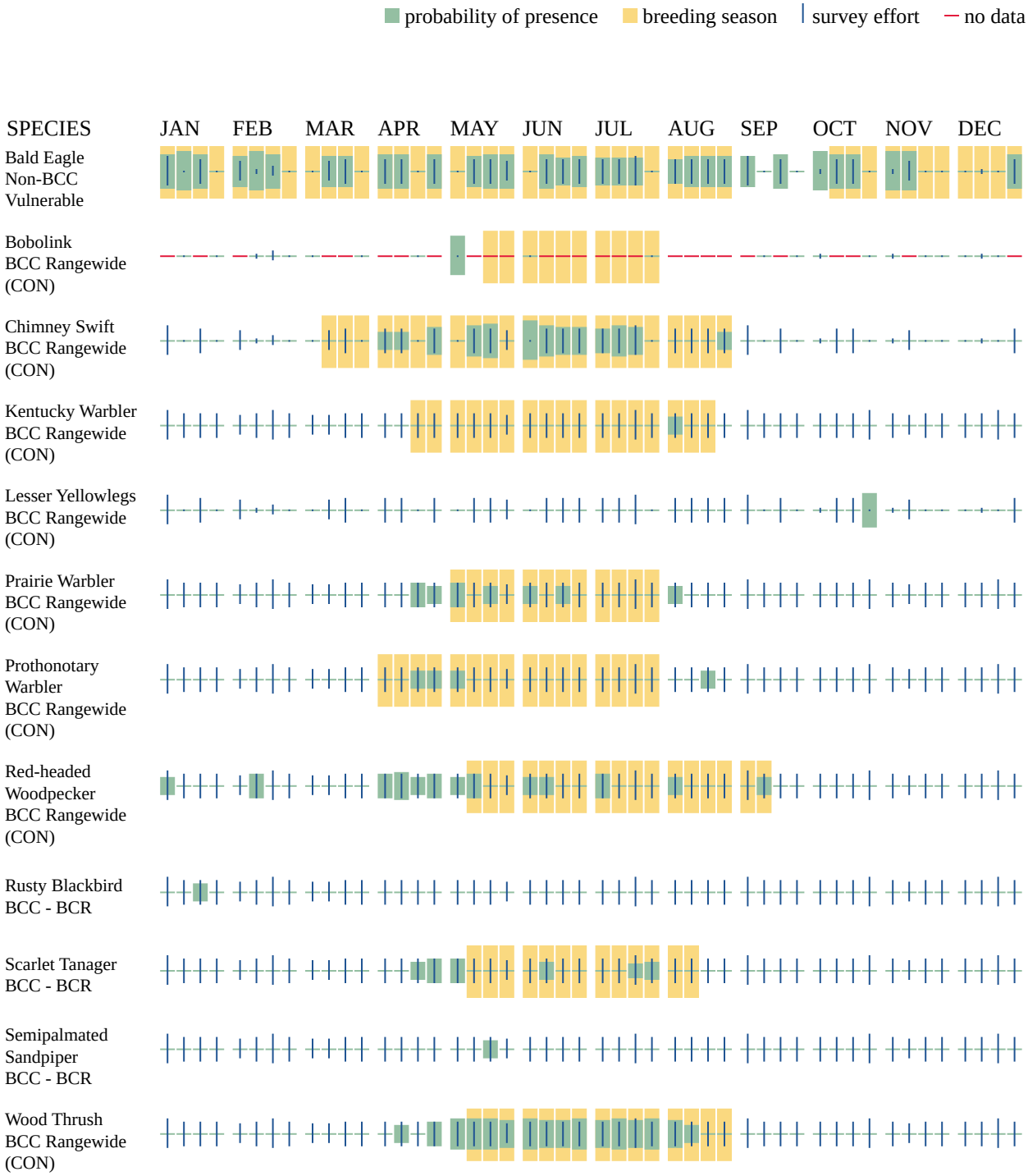
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kelsey Bennett
Address: 1408 Roseneath Rd. Suite B
City: Richmond
State: VA
Zip: 23230
Email kbennett@res.us
Phone: 4849290411

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694

In Reply Refer To: 03/28/2025 20:01:29 UTC
Project code: 2025-0075891
Project Name: Mummichog Nutrient Bank

Federal Nexus: yes
Federal Action Agency (if applicable): Army Corps of Engineers

Subject: Technical assistance for 'Mummichog Nutrient Bank'

Dear Kelsey Bennett:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on March 28, 2025, for 'Mummichog Nutrient Bank' (here forward, Project). This project has been assigned Project Code 2025-0075891 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter.**

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	May affect
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	May affect

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

Conclusion

Consultation with the Service is not complete. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect." A "May Affect" determination in this key indicates that the project, as entered, is not consistent with the questions in the key. Not all projects that reach a "May Affect" determination are anticipated to result in adverse impacts to listed species. These projects may result in a "No Effect", "May Affect, Not Likely to Adversely Affect", or "May Affect, Likely to Adversely Affect" determination depending on the details of the project. Please contact our Virginia Ecological Services Field Office to discuss methods to avoid or minimize potential adverse effects to those species or designated critical habitats.

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate. Projects that receive a may affect determination for tricolored bat through the key, should contact the appropriate Ecological Services Field Office if they want to conference on this species.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Mummichog Nutrient Bank

2. Description

The following description was provided for the project 'Mummichog Nutrient Bank':

> Living Shoreline Project on the bank of the York River

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.372849849999994,-76.62976786450942,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   No

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

12. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    No

13. Will the action result in effects to a culvert or tunnel at any time of year?

    No

14. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

15. Does the action include the intentional exclusion of bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No

16. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

17. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

18. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic permanently or temporarily on one or more existing roads?

    Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    No

19. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

20. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

21. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

22. Will the action include drilling or blasting?

    No

23. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

24. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    Yes

25. Will the action include or result in herbicide use that may affect suitable summer habitat for the northern long-eared bat or tricolored bat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

26. Will all herbicide use that may affect suitable summer habitat for the northern long-eared bat or tricolored bat include only targeted application methods like hack-and-squirt, basal bark, injections, cut-stump, or spot-spraying (foliar spraying on individual herbaceous plants with no foliar spraying of deciduous tree leaves or Spanish moss)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

27. Will the action include or cause the application or drift of pesticides (e.g., fungicides, insecticides, or rodenticides) into forested areas that are suitable summer habitat for the northern long-eared bat or tricolored bat?

    Answer "Yes" if the application may result in transport (e.g., in water) or aerial drift of the pesticide into forested areas that are suitable summer habitat for the northern long-eared bat or tricolored bat.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

28. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

29. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

30. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

31. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

32. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    Yes

33. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    No

34. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    No

35. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    Yes

36. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    No

37. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 40 acres in total extent?

    No

38. Will the proposed action result in the use of prescribed fire?

    Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

    No

39. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

40. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

41. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

42. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
If unsure, answer "Yes."

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

43. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    No

44. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

45. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Summer Occupancy season** for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

46. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

47. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

48. Has a presence/probable absence bat survey targeting the tricolored bat and following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    No

49. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?
(If unsure, answer ""Yes."")

    Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (Tillandsia usneoides), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

50. Do any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (*Tillandsia usneoides*), clusters of dead pine needles of large live pine trees)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

51. Will any tree cutting/trimming or other knocking or bringing down of trees be conducted during the Pup Season for tricolored bat?
    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

52. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

1.4

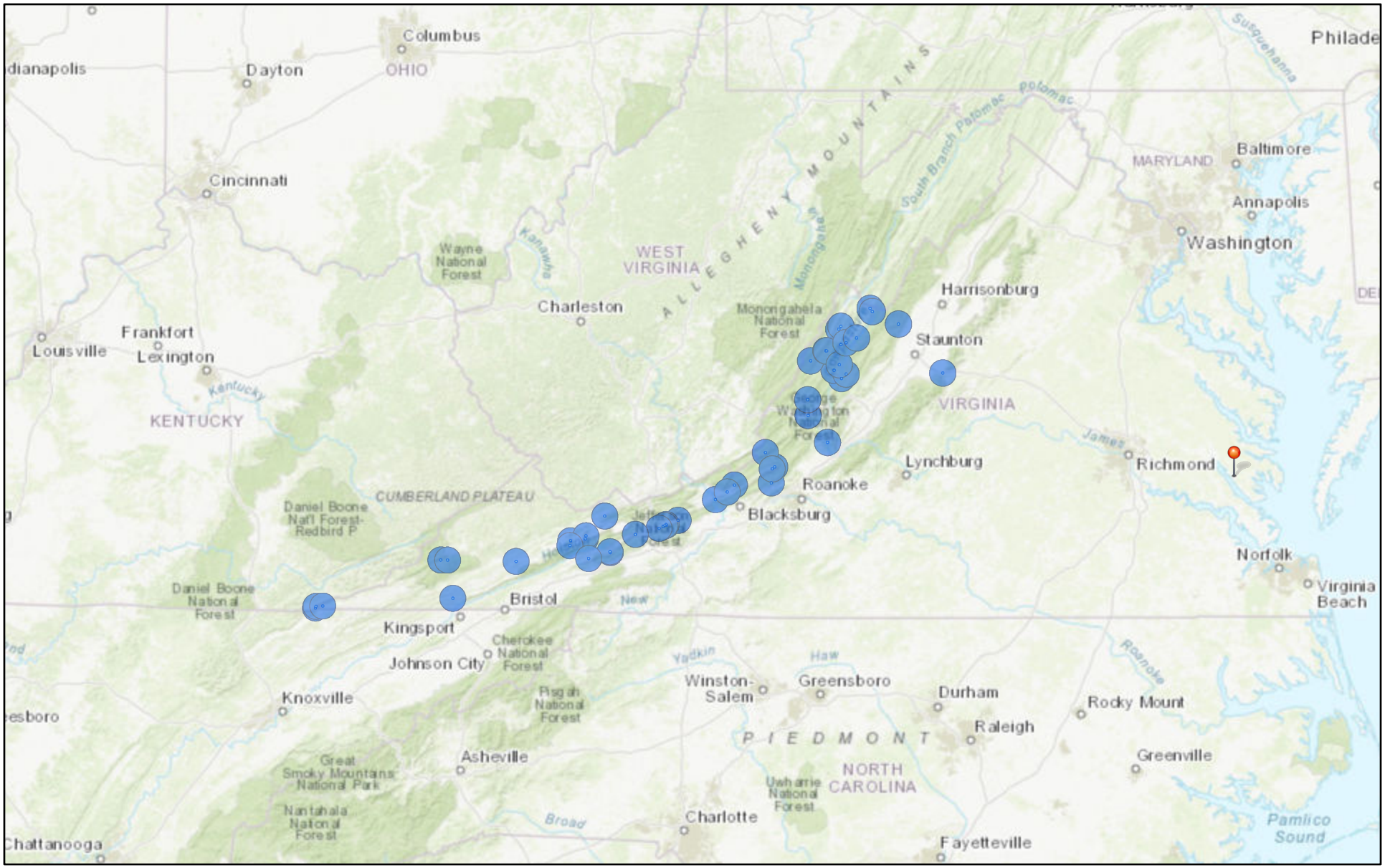
IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kelsey Bennett
Address: 1408 Roseneath Rd. Suite B
City: Richmond
State: VA
Zip: 23230
Email kbennett@res.us
Phone: 4849290411

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

MYLU PESU Map



5/10/2024, 12:29:02 PM

Tri-colored and Little Brown Hibernaculum Half Mile Buffer

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

1:4,622,324

0 30 60 120 mi

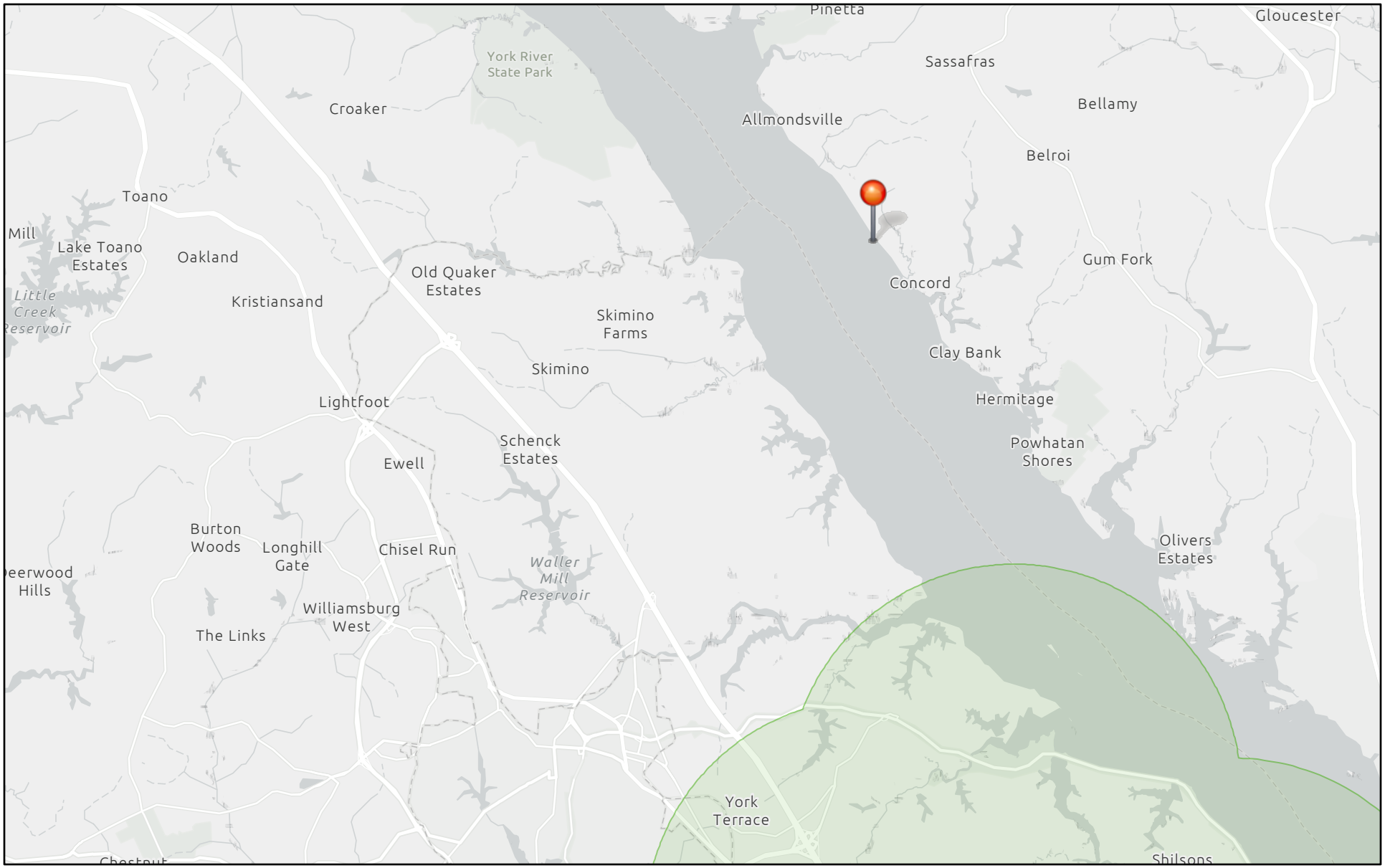
0 50 100 200 km

Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

Dept. Game and Inland Fisheries

Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS |

NLEB Locations and Roost Trees



5/10/2024, 12:25:33 PM

NLEB Capture 3 Mile Buffer

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS

VA Dept. Game & Inland Fisheries

VaFWIS Search Report Compiled on 1/24/2024, 1:23:26 PM

Help

Known or likely to occur within a **2 mile radius around point 37.3733000 -76.6290982** in **073 Gloucester County, 095 James City County, 199 York County, VA**

View Map of Site Location

572 Known or Likely Species ordered by Status Concern for Conservation (displaying first 36) (36 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
030074	FESE	Ia	Turtle, Kemp's ridley sea	Lepidochelys kempii		BOVA
050022	FEST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes	BOVA,TEWaters,Habitat,SppObs,HU6
030075	FESE	Ic	Turtle, leatherback sea	Dermochelys coriacea		BOVA
040183	FESE		Tern, roseate	Sterna dougallii dougallii		BOVA
030071	FTST	Ia	Turtle, loggerhead sea	Caretta caretta		BOVA
040144	FTST	Ia	Knot, red	Calidris canutus rufa		BOVA,HU6
040110	FTSE	Ia	Rail, eastern black	Laterallus jamaicensis jamaicensis	Potential	BOVA,Habitat,HU6
030072	FTST	Ib	Turtle, green sea	Chelonia mydas		BOVA
040120	FTST	IIa	Plover, piping	Charadrius melodus		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
020052	SE	IIa	Salamander, eastern tiger	Ambystoma tigrinum		BOVA
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus		BOVA
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA

040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii	Potential	Habitat,HU6
020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei	Potential	BOVA,Habitat
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus		BOVA
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Potential	BOVA,Habitat,HU6
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
010077		Ia	Shiner, bridle	Notropis bifrenatus		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		BOVA
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
020002		IIa	Treefrog, barking	Hyla gratiosa		BOVA
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040033		IIa	Egret, snowy	Egretta thula		BOVA
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea	Yes	BOVA,BBA,CWB
040114		IIa	Oystercatcher, American	Haematopus palliatus		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA

Site Location

37,22,23.8 -76,37,44.7
is **the Search Point**

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

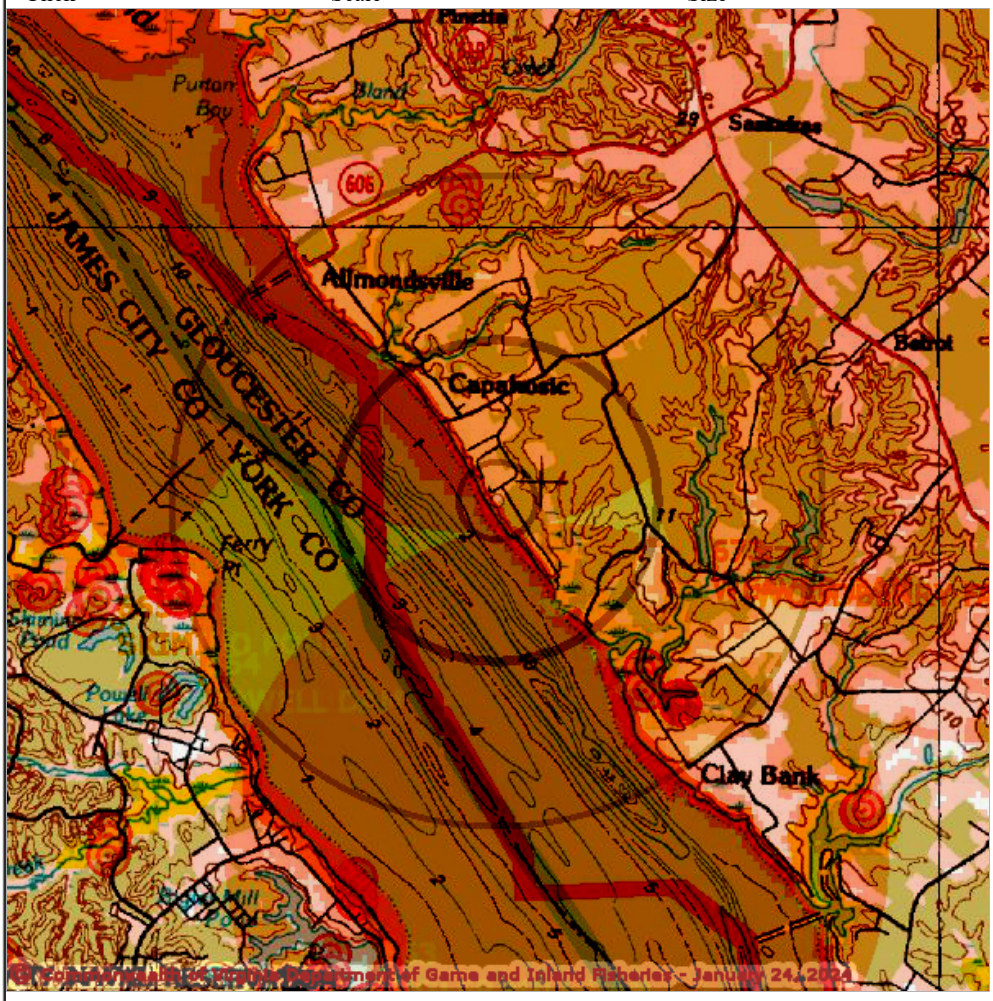
Search Point is at map center

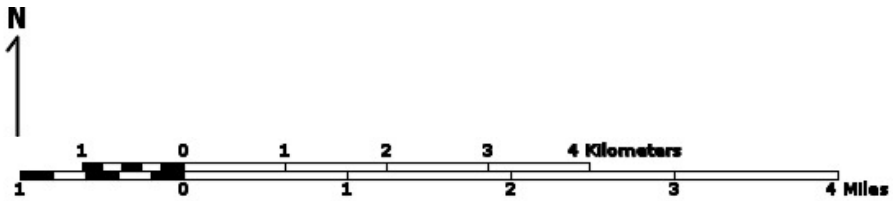
Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help





Point of Search 37,22,23.8 -76,37,44.7
Map Location 37,22,23.8 -76,37,44.7

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 350958 and top 4142330. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5

Map Overlay Legend

T & E Waters
Federal
State

Predicted Habitat WAP Tier I & II
Aquatic
Terrestrial

Trout Waters
Class I - IV
Class V - VI

Anadromous Fish Reach
Confirmed
Potential

23 Impediment

Position Rings 1 mile and 1/4 mile at the Search Point

2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Wildlife Resources.

map assembled 2024-01-24 13:23:30 (qa/qc March 21, 2016 12:20 - tn=1710271.0 dist=3218 I)
$poi=37.3733000 -76.6290982

Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Web Project ID: WEB0000025079

Client Project Number:

PROJECT INFORMATION

TITLE: Mummichog Nutrient Bank

DESCRIPTION: Installation of living shoreline to repair and protect degraded back.

EXISTING SITE CONDITIONS: Eroded Shoreline and residential yard

Instream Activity: Yes - Instream Impact Required

QUADRANGLES: Williamsburg

COUNTIES: Gloucester

Latitude/Longitude (DMS): 37° 22' 22.1455" N / 76° 37' 47.771" W

Acreage: 3 acres

Major Ground Disturbing Activities: Bank Grading; Excavation/Trenching/Topsoil Stripping/Clearing/Grubbing; Tree removal (timber harvest) with heavy machinery; Other: Installation of breakwater structures for living shoreline

Minor Ground Disturbing Activities: Plantings with no excavation

Comments:

REQUESTOR INFORMATION

Priority: N

Tier Level: Tier I

Tax ID:

Contact Name: Kelsey Bennett

Company Name: RES

Address: 1408 Roseneath Rd. Suite B

City: Richmond

State: VA

Zip: 23230

Phone: 484-929-0411

Fax:

Email: kbennett@res.us

Conservation Site	Site Type	Brank	Acreage	Listed Species Presence	Essential Conservation Site?	Land Conservation Priorities
Natural Heritage Screening Features Intersecting Project Boundary						

Intersecting Predictive Models
Predictive Model Results

Mummichog Nutrient Bank

Buffered Project Boundary

Project Boundary

0 0.05 0.1 0.2 Miles

Scale: 1:4,514

Quads: Williamsburg

Counties: Gloucester

Company: RES

Lat/Long: 372222 / -763747

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

The project mapped as part of this report has been searched against the Department of Conservation and Recreation's Biotics Data System for occurrences of natural heritage resources in the vicinity of the area indicated for this project. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100 foot buffer. In addition, the project area does not intersect any of the predictive models identifying potential habitat for natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

Any absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks additional natural heritage resources. New and updated information is continually added to Biotics. Please revisit this website or contact DCR for an update on this natural heritage information if a significant amount of time passes (DCR recommends no more than six months) before it is utilized.

The Virginia Department of Wildlife Resources maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented in the Natural Heritage Data Explorer. Their database may be accessed from https://svcgis.dwr.virginia.gov/fwis/ or contact Lee Brann at Lee.Brann@dwr.virginia.gov.

Thank you for submitting your project to the Virginia Department of Conservation and Recreation's Natural Heritage Data Explorer Web Service. Based on the preliminary screening results for this project, no further correspondence will be sent from this office. Should you have any questions or concerns about this report, the Data Explorer, or other Virginia Natural Heritage Program services, please contact the Natural Heritage Project Review Unit at 804-371-2708.

CCB Mapping Portal

Layers: VA Eagle Nest Buffers, VA Eagle Nest Locator

Map Center [longitude, latitude]: [-76.62843704223633, 37.37442033151539]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Buffers&layer=VA+Eagle+Nest+Locator&zoom=14&lat=37.37442033151539&lng=-76.62843704223633&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=Street+Map+%28OSM%2FCarto%29

Report Generated On: 01/23/2024

APPENDIX E

CULTURAL AND HISTORICAL RESOURCE RESEARCH INFORMATION

Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
- DHR Easements
- County Boundaries

N

Feet

0 500 1000 1500 2000

1:18,056 / 1"=1,505 Feet

Title: Mummichog Nutrient Bank

Date: 4/1/2024

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Property Information

Property Names

Name Explanation	Name
Current Name	Cappahosic
Historic	Cappahosic House

Property Addresses

Alternate - Route 618
Current - 3198 Cappahosic Road

County/Independent City(s): Gloucester (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23061
Magisterial District(s): *No Data*
Tax Parcel(s): 29-81
USGS Quad(s): GRESSITT

Property Evaluation Status

NRHP Listing
VLR Listing
This property is subject to an easement held by the Board of Historic Resources

This Property is associated with the Revolutionary War Route and Transportation Survey … 1781-1782.

Additional Property Information

Architecture Setting: Rural
Acreage: 4.72

Site Description:

2002: Cappahosic House is a two story Georgian style brick dwelling that sits on a four acre parcel of land overlooking the York River in Gloucester County, Virginia. The primary brick dwelling is situated just to the east of state route 618 and is on a northeast to southwest axis facing the York River. The property runs parallel to the river.

The archaeological site identified and associated with the Cappahosic House is a multicomponant site containing evidence of Late Woodland, mid- to late 18th - and 19th -century occupations. The site is located on a natural terrace approximately 700 feet east of the north bank of the York River in Gloucester County, Virginia. The nominated acreage includes 4.7 acres of relatively flat and open land. The southern half of the property is pasture, and the west quarter is open lawn with scattered trees and shrubs. All the present structures are located in the northeast quarter of the property. These include the Cappahosic House, traditionally dated to the first quarter of the eighteenth century, a modern carriage house style garage, a greenhouse, a guest house, a shed, and a small pole barn.

There are several other buildings on the property that are not contributing structures. The present owners built a modern carriage house style garage, which sits to the northeast of the main home, in 1999. Adjacent to this building is a small one and a half story guesthouse and a pump house. Just to the southwest of the guesthouse is a modern well house. Sitting behind the guesthouse to the northeast is a large one-story greenhouse with a front gable roof, built by the present owners. This glass structure sits to the southeast of a small vegetable and flower garden.

On the east of the greenhouse is a one-story wood frame shed with two plastic flap doorways. On the northeast side of the vegetable and flower garden sits another small wood frame shed with a single plastic flap doorway.

Located to the southeast of the main home is an open wooden trellis gazebo with a wood floor and flat open beam wood roof covering. This structure was built by the present owners and sits on an older brick foundation.

The property has a natural slope to the southwest towards the river in front of the home. To the east of the garden and green house the property opens into a large field. The field is open to allow cattle from a neighboring property to graze.

Surveyor Assessment:

According to local legend, the house was built by John Stubbs in the early 1700's. He had obtained land patents in 1652 and 1702.

2002: Cappahosic House stands on the York River as one of the few remaining pre-Revolutionary homes in Gloucester County. This Georgian style brick home has retained many of its original features including flooring, ceiling joists and several mantels. Throughout its nearly 250 years of history, the home has been occupied by various families whose influence on the site have shaped it into the present condition without damaging its integrity. This home is significant under Criterion C for architecture because of the number of original features it retains and its ability to represent mid-18th - century Georgian architecture as a rarity in Gloucester County. It also is significant under Criterion D for archaeological deposits that could add to our understanding of the history of the Cappahosic House.

See nomination for additional historical background information.

2008 update: Cappahosic in Gloucester County was built in 1756--at least the wood was cut then, though it may not have been completed that year.

June 2009: Following the Battle of the Hook on 3 October 1781, Washington requested of Weedon on 4 October 1781:

Dear Sir,

I wish you will be so good as to consult Genl Choisey & determine if there may not a shorter route for your Expresses be found below the Town, under cover of the French ships, than is at present used. I fancy as the ships now lye, the distance may be much

shortened by passing the way I mention. As the necessity of frequent and expeditious communications will probably increase - and may be of the utmost importance – it is a matter of great consequence to find out the shortest rout for our Expresses.
I am &c.

Prior to the Battle of the Hook, which hemmed in Crown forces around Gloucster Point, the couriers had to make the trip all the way up to West Point, VA, cross the Pamunkey & Mattaponi Rivers there, then ride on down past Williamsburg to Washington's HQ, some seventy miles one way.

Rather than cross below Yorktown, however, a courier route was established upstream from Colonel William Digges Plantation on the York River to Timberneck Landing.

On 8 October 1781, Weedon wrote from his "Post in Timber Neck Creek" to Washington:

Sir,
Agreeable to your Excellency's direction consulted Genl Choisy on a communication with your Camp. We shall establish two, one by the way of the Fleet which he thinks the most secure, and one from this post, where I write you on my horse – In my Opinion, there is no kind of risque from hence as we have a (fine?) view of the River and can discern any thing Hostile for some distance. The boat will pass from my position with Dispatches from this Camp, over to the Seat of Colo. Williams Digges four or five miles above York. If your Excellency will direct a swift rowing Pettiauger or Boat to be kept nearly at that place under a small guard and 2 Lt. Dragoons any Intelligence from the two Camps may be communicated in two hours. ...
...I have the honor to be wiith great respect and esteem yr Excellency's
most obdt servt
GWeedon
PS If no Vessel can be provided on the other side – three smokes made to the left or above Digges' House will be a Signal for our Boat to go over. GWeedon

Verification of the use of this route is made on Oct 16 when Thomas Nelson sent a letter to Choisy about sending him some harnesses for horses by this same route. It reads in part, "They will be sent to Digges's on York River to which place I understand your boats from Gloucester come."

Surveyor Recommendation: Recommended Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category:	Domestic
Resource Type:	Single Dwelling
NR Resource Type:	Building
Historic District Status:	Contributing
Date of Construction:	Ca 1756
Date Source:	Dendrochronology
Historic Time Period:	Colony to Nation (1751 - 1789)
Historic Context(s):	Architecture/Landscape, Domestic, Military/Defense, Subsistence/Agriculture
Other ID Number:	*No Data*
Architectural Style:	Georgian
Form:	*No Data*
Number of Stories:	2.0
Condition:	Good
Interior Plan:	Central Passage, Double Pile
Threats to Resource:	None
Cultural Affiliations:	*No Data*

Cultural Affiliation Details:

No Data

Architectural Description:

Architecture Summary: This Georgian house includes a modillioned cornice, a molded brick water table, and a belt course on the second floor.

Interior Description: The interior has four rooms downstairs and four rooms upstairs, each with a corner fireplace.

2002 nomination: The main dwelling is two full stories with a cellar. The majority of the exterior is laid in Flemish bond, both above and below the watertable and was whitewashed at one time. There is a belt course of brick, continuing on all four sides, that separates the first and second floors. The historic portion has windows that are nine over nine wood double-hung sash with first floor windows slightly larger than those on the second story. The home is topped with a standing seam jerkinhead red tin roof. The southwest and northeast elevations are three bays wide and served historically as the entrance and rear of the home respectively.

Just below the dentil molded cornice on the southwest and northeast elevations, the whitewash is still visible on the upper rows of brick. The windows on these elevations do not have jackarches remaining, but had them in the past. This is evidenced by the angle at which the remaining original closer bricks are cut. There are also iron hooks left from earlier times on either side of the center and top and bottom west windows, which had been used to hold open earlier shutters. There are four brick steps leading to a rounded brick landing at the front door. A shadow of a former unpedimented door surround with an entablature is visible. The surround was removed and replaced with shutters that have since been removed as well. Presently, a variation in the brick where the bond is changed from Flemish to a stretcher pattern only is all that remains of the former classical surround. Just below the water table appear two cellar openings, which are covered by wooden slats on either side of the brick steps.

The West side of the home facing Cappahosic Rd is two bays wide. This side exhibits extensive alterations to the exterior wall of the second story. The chimney appears to have remained in tact, however, on either side of the chimney the wall had previously been damaged and altered. The wall on the south side of the chimney appears to have been damaged and fixed with an unknown white plaster-like material, which is now showing signs of wear. This part of the wall is only one brick thick. On the north side of the chimney, the wall had also been previously altered as evidenced by newer brick, which is laid in the garden English bond style. The rear of the home is three bays wide. The first floor windows exhibit shadows of former jack arches. Projecting from the rear is a modern one and a half story addition that was added in 1983. Oriented perpendicular to the original home, the main living space of the addition is accessed from the historic building through a one story breezeway where the original rear door opened. The breezeway contains one door and one window opening to the driveway on the East Side of the house. This wood frame addition sits on a raised brick foundation. The exterior is designed with a clipped gable roof covered with wooden shingles and walls clad in vinyl siding. There are a total of four hipped dormers, two each on the east and west sides. The first floor is three bays wide with the door in the center. First floor windows are double hung sash 6/9, with the second story dormers being 6/6 double hung sash. There is one large brick exterior side chimney on this addition, running parallel to the rear of the historic home. The chimney and foundation are both laid in the Flemish bond. There are also two narrow glass windows on either side of the chimney on the second level.

The East Side of the home contains two bays. The windows on this side of the home have jack arches, which were rebuilt. The visible closer bricks indicate the alteration in the size of the window. There is a cellar entrance, which sits directly under the southeastern window. This brick addition houses brick stairs descending into the cellar. The cellar is large and open with concrete pillars breaking the space to brace the original floor above. The floor has been raised over time to its current height, over a foot above its original location found during an archaeological investigation.

Detailed Interior Description

The first floor and second floor plans are almost identical to each other. There are four main rooms on each floor with the two in the rear being larger. Each of the rooms has an interior corner fireplace at a forty-five degree angle. All of the fireplaces have been rebuilt. The pine flooring throughout a majority of the house is original, as are the ceilings. There have been some repairs to the flooring in the rear parlor to the east as well as to the second floor hallway. The ceilings in the front west room on both floors have also been replaced. In 1947, solid mahogany paneling was added from floor to ceiling in the rear west room, which was the dining room. Mahogany wainscoting was added to the front and rear parlors on the east. In addition to the wainscoting, the fireplace wall in the rear parlor was clad in mahogany paneling from floor to ceiling, with a solid wood mantel. A mahogany mantel was added to both of the front rooms, as well.

The southwest door enters into a hallway that runs half the length of the house and opens into the large rear dining room. A narrow, three foot wide, stairway rises on the East Side of the hallway. This closed-string stair is composed of two stair runs with a set of winders connecting the upper and lowers runs to a small landing. There is a short closet opening onto the landing. The original balusters, made of poplar, appear with an urn and column design. The only difference in the floor plans of the first and second floors is in the hallway. On the second floor the hallway extends to the rear of the home where a modern bathroom has been added between the two rear rooms. All of the mantels in the upper rooms are early, and three are original. The three original mantels are of a very simple design and are located in the southwest bedchamber, northwest bedchamber and northeast bedchamber. The fourth, located in the southeast bedchamber, is an early 19th- century style, which is the only example seen in the home, indicating it was a later addition. There is access to the attic via a pull down stair in the second floor hallway.

Once in the attic, much of the original roof rafter structure can be seen. The rear slope has seen replacements of the three internal rear principal beams and their braces. The original posts are tenoned at their upper ends to the principles with wooden pegs. The original hand carved Roman numeral markings can also been seen on the ceiling joists from the attic. The old chimneystacks, which sit on top of triangular masonry bases, can be seen rising through the original framing of the end roof slopes.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Interior End	Brick	Other
Windows	Sash, Double-Hung	Wood	9/9
Windows	Louvered/Jalousied	Wood	Other
Roof	Gable, Clipped(Jerkinhead)	Metal	Standing Seam
Structural System and Exterior Treatment	Masonry	Brick	Bond, Flemish

Secondary Resource Information

Secondary Resource #1

Resource Category:	Domestic
Resource Type:	Outbuilding,Domestic
Date of Construction:	1980Ca
Date Source:	Site Visit
Historic Time Period:	The New Dominion (1946 - 1991)
Historic Context(s):	Architecture/Landscape, Domestic, Military/Defense, Subsistence/Agriculture

Architectural Style: No discernible style
Form: *No Data*
Condition: Fair
Threats to Resource: None Known
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2002: Frame guest house with gable roof and weatherboard siding.

Number of Stories: 1.5
Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Metal	*No Data*
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard
Windows	Double-hung	Wood	*No Data*
Foundation	Solid/Continuous	Brick	American/Common Bond

Secondary Resource #2

Resource Category: Agriculture/Subsistence
Resource Type: Stable
Date of Construction: 1999Ca
Date Source: Written Data
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: Georgian Revival
Form: *No Data*
Condition: Excellent
Threats to Resource: None Known
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2002: Stable/ garage: one and a half story structure with a clipped gable roof; two large barn-style double doors and one single door, which leads into a small office. The roof is covered with wood shingle and the sides are clad in wooden clapboard.

Interior Plan: Side Passage
Number of Stories: 2
Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Clipped Gable (Jerkinhead)	Shake	*No Data*
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard
Windows	Hopper/Awning	Wood	*No Data*
Foundation	Not Visible	*No Data*	*No Data*

Secondary Resource #3

Resource Category: Agriculture/Subsistence
Resource Type: Shed - Equipment
Date of Construction: 1980Ca
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Subsistence/Agriculture
Architectural Style: No discernible style
Form: *No Data*
Condition: Fair
Threats to Resource: Structural Failure
Cultural Affiliations: *No Data*

Cultural Affiliation Details:

No Data

Architectural Description:

2002: Mechanical run-in shed: three sides sheathed in vertical board, the other open. metal roof.

Number of Stories: 1

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Metal	*No Data*
Structural System and Exterior Treatment	Wood Frame	Wood	Vertical Board

Secondary Resource #4

Resource Category: Agriculture/Subsistence
Resource Type: Pump House
Date of Construction: 1995Ca
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: No discernible style
Form: *No Data*
Condition: Good
Threats to Resource: None Known
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2002: Square structure clad in wooden clapboard with a pyramid shaped wood shingle roof.

Secondary Resource #5

Resource Category: Domestic
Resource Type: Well
Date of Construction: 1995Ca
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Architectural Style: No discernible style
Form: *No Data*
Condition: Good
Threats to Resource: None Known
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2002: Just to the southwest of the guesthouse is a modem well house. This wooden structure contains four piers supporting a pyramidal shaped wood shingle roof over a square base housing the well opening.

Secondary Resource #6

Resource Category: Landscape
Resource Type: Pergola
Date of Construction: 1990Ca
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Landscape
Architectural Style: No discernible style

Form: *No Data*
Condition: Good
Threats to Resource: None Known
Cultural Affiliations: *No Data*
Cultural Affiliation Details:
No Data
Architectural Description:
2002: Wooden trellis with a wood floor and flat open beam wood roof covering. This structure sits on an older brick foundation.

Historic District Information

Historic District Name: Revolutionary War Route and Transportation Survey … 1781-1782
Local Historic District Name: *No Data*
Historic District Significance: 2008: This survey was conducted as part of the Cost-Share Survey that began as the Washington-Rochambeau Route. After initial investigations and survey, the project evolved to encompass land routes in 17 jurisdictions taken by Continental Army, French and Crown forces from August 1781 to July 1782 to, and from, the siege of Yorktown. Ninety individual resources were recorded as part of the effort.

CRM Events

Event Type: DHR Staff Site Visit

Project Review File Number: *No Data*
Investigator: Megan Melinat
Organization/Company: DHR
Photographic Media: Digital
Survey Date: 5/25/2018
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
Easement staff stewardship visit; complete report available in the easement property file.
Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction, D - Potential to Yield Important Historic and/or Pre-Historic Information

Event Type: DHR Staff Site Visit

Project Review File Number: *No Data*
Investigator: Megan Melinat
Organization/Company: DHR
Photographic Media: Digital
Survey Date: 3/30/2017
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
Easement staff stewardship visit; complete report available in the easement property file.
Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction, D - Potential to Yield Important Historic and/or Pre-Historic Information

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Selig, Dr. Robert A.
Organization/Company: Unknown (DSS)

Photographic Media: *No Data*

Survey Date: 6/1/2008

Dhr Library Report Number: VA-078

Project Staff/Notes:

This survey was conducted as part of the Cost-Share Survey that began as the Washington-Rochambeau Route. After initial investigations and survey, the project evolved to encompass land routes in 17 jurisdictions taken by Continental Army, French and Crown forces from August 1781 to July 1782 to, and from, the siege of Yorktown.

Project Bibliographic Information:

Name: Wells, Camille
Record Type: Letter/Memorandum
Bibliographic Notes: Dec 31, 2008 email communications with results of dendrochronological study of Cappahosic
---
Name: Selig, Dr. Robert A.
DHR CRM Report Number: VA-078
Record Type: Report
Bibliographic Notes: Revolutionary War Route and Transportation Survey in the Commonwealth of Virginia, 1781-1782. (Richmond, 2009)

Name: Wells, Camille
Record Type: Report
Bibliographic Notes: Dendrochronological Analysis of Cappahosic House, Gloucester, Gloucester County, Virginia -- January 2009

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction, D - Potential to Yield Important Historic and/or Pre-Historic Information

Event Type: NRHP Listing

DHR ID: 036-0011

Staff Name: NPS

Event Date: 4/11/2003

Staff Comment

No Data

Event Type: Easement: DHR

DHR ID: 036-0011

Staff Name: DHR

Event Date: 12/17/2002

Staff Comment

4.7219 acres

Event Type: VLR Listing

DHR ID: 036-0011

Staff Name: State Review Board

Event Date: 12/4/2002

Staff Comment

No Data

Event Type: NRHP Nomination

DHR ID: 036-0011

Staff Name: Taylor, Mary C.

Event Date: 9/23/2002

Staff Comment

DHR's Portsmouth Region Preservation office, Administrative Assistant

Event Type: DHR Board: Eligible

DHR ID: 036-0011

Staff Name: State Review Board

Event Date: 3/17/1987

Staff Comment

No Data

Event Type: PIF

Project Review File Number: *No Data*
Investigator: Harris, Jr., Lynwood V.
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 1/27/1987
Dhr Library Report Number: VA-078
Project Staff/Notes:

No Data

Project Bibliographic Information:

Name: Wells, Camille
Record Type: Letter/Memorandum
Bibliographic Notes: Dec 31, 2008 email communications with results of dendrochronological study of Cappahosic
---
Name: Selig, Dr. Robert A.
DHR CRM Report Number: VA-078
Record Type: Report
Bibliographic Notes: Revolutionary War Route and Transportation Survey in the Commonwealth of Virginia, 1781-1782. (Richmond, 2009)

Name: Wells, Camille
Record Type: Report
Bibliographic Notes: Dendrochronological Analysis of Cappahosic House, Gloucester, Gloucester County, Virginia -- January 2009

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction, D - Potential to Yield Important Historic and/or Pre-Historic Information

Event Type: Other

Project Review File Number: *No Data*
Investigator: State Review Board
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 12/19/1986
Dhr Library Report Number: VA-078
Project Staff/Notes:

This resource was deemed not eligible on this date.

Project Bibliographic Information:

Name: Wells, Camille
Record Type: Letter/Memorandum
Bibliographic Notes: Dec 31, 2008 email communications with results of dendrochronological study of Cappahosic
---
Name: Selig, Dr. Robert A.
DHR CRM Report Number: VA-078
Record Type: Report
Bibliographic Notes: Revolutionary War Route and Transportation Survey in the Commonwealth of Virginia, 1781-1782. (Richmond, 2009)

Name: Wells, Camille
Record Type: Report
Bibliographic Notes: Dendrochronological Analysis of Cappahosic House, Gloucester, Gloucester County, Virginia -- January 2009

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction, D - Potential to Yield Important Historic and/or Pre-Historic Information

Event Type: PIF

Project Review File Number: *No Data*
Investigator: Harris, Jr., Lynwood V.
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 11/17/1986
Dhr Library Report Number: VA-078
Project Staff/Notes:

No Data

Project Bibliographic Information:

Name: Wells, Camille

Record Type: Letter/Memorandum
Bibliographic Notes: Dec 31, 2008 email communications with results of dendrochronological study of Cappahosic
---
Name: Selig, Dr. Robert A.
DHR CRM Report Number: VA-078
Record Type: Report
Bibliographic Notes: Revolutionary War Route and Transportation Survey in the Commonwealth of Virginia, 1781-1782. (Richmond, 2009)

Name: Wells, Camille
Record Type: Report
Bibliographic Notes: Dendrochronological Analysis of Cappahosic House, Gloucester, Gloucester County, Virginia -- January 2009

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction, D - Potential to Yield Important Historic and/or Pre-Historic Information

Event Type: Survey:HABS Inventory

Project Review File Number: *No Data*

Investigator: Williams, Edward K.

Organization/Company: Unknown (DSS)

Photographic Media: *No Data*

Survey Date: 9/1/1959

Dhr Library Report Number: VA-078

Project Staff/Notes:

No Data

Project Bibliographic Information:

Name: Wells, Camille
Record Type: Letter/Memorandum
Bibliographic Notes: Dec 31, 2008 email communications with results of dendrochronological study of Cappahosic
---
Name: Selig, Dr. Robert A.
DHR CRM Report Number: VA-078
Record Type: Report
Bibliographic Notes: Revolutionary War Route and Transportation Survey in the Commonwealth of Virginia, 1781-1782. (Richmond, 2009)

Name: Wells, Camille
Record Type: Report
Bibliographic Notes: Dendrochronological Analysis of Cappahosic House, Gloucester, Gloucester County, Virginia -- January 2009

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction, D - Potential to Yield Important Historic and/or Pre-Historic Information

Bibliographic Information

Bibliography:

No Data

Property Notes:

No Data

Property Information

Property Names

Name Explanation	Name
Historic/Current	Tippecanoe

Property Addresses

Current - York Haven Lane

Property Evaluation Status

Not Evaluated

County/Independent City(s): Gloucester (County)
Incorporated Town(s): *No Data*
Zip Code(s): *No Data*
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): GRESSITT

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

No Data

Surveyor Assessment:

1992: This house near Cappahosic was built in the 1830s and was the home of Henry Hughes, who for some time was the County surveyor. Elizabeth Harwood's grandmother, then an infant, lived in the house for some time during the War Between the States. Her father and two uncles, all with their bodyguards, rode away together during the War on their way to Gloucester Point to join the Confederate Cavalry. The group camped at Gloucester Point for quite a while, impatiently, but finally left and became known as the "bloody fifth."

Years later, a part of the home was pulled down, and other changes were made.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction:
Date Source: *No Data*
Historic Time Period: Antebellum Period (1830 - 1860)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: *No Data*
Form: *No Data*
Number of Stories: 2.0
Condition: *No Data*
Threats to Resource: *No Data*
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

No Data

Exterior Components

Component	Component Type	Material	Material Treatment
Windows	Sash, Double-Hung	Wood	6/6
Porch	1-story, 2-bay	Wood	*No Data*
Windows	Sash, Double-Hung	Wood	2/2
Windows	Sash, Double-Hung	Wood	4/4
Roof	Gable	Metal	Standing Seam
Chimneys	Exterior End	Brick	*No Data*
Porch	1-story	Wood	*No Data*
Foundation	Piers	Brick	*No Data*
Structural System and Exterior Treatment	Frame	Wood	Weatherboard

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Windshield

Project Review File Number: *No Data*
Investigator: Shoemaker, Mary
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 5/1/1972
Dhr Library Report Number: *No Data*
Project Staff/Notes:

photos and mapping only in file - no survey materials extant

Project Bibliographic Information:

Name: Harwood, C. Elizabeth
Record Type: Book
Bibliographic Notes: "Times Past: A Gloucester Notebook" - 1992

Bibliographic Information

Bibliography:

No Data

Property Notes:

No Data

Property Information

Property Names

Name Explanation	Name
Historic/Location	Cappahosic Store and Post Office

Property Evaluation Status

Not Evaluated

Property Addresses

Current - 3138 Cappahosic Road (Rt. 618)

County/Independent City(s): Gloucester (County)
Incorporated Town(s): *No Data*
Zip Code(s): *No Data*
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): GRESSITT

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

This building is located on the south side of Cappahosic Road (Rt. 618) at its western terminus along the York River facing north to Cappahosic Road (Rt. 618)

There is a two-story shed located to the east of the main building. It has a cross-gable metal roof and 6/6 double-hung sash windows. It is of frame construction with weatherboard siding and a single leaf entrance. The roof has gable returns and there once was an overhang or porch over the main entrance. There is a small addition on the west side with a gable roof and a multi-light window on the west side.

Surveyor Assessment:

This building is located in Cappahosic on the shores of the York River, west of Gloucester Courthouse. Cappahosic was a stop for the Baltimore Steamer, which delivered goods, mail and passengers. The goods were transported via horse and cart to the villages located between the shores of the York River and Gloucester Courthouse. In 1860, there were only four post offices in Gloucester County, and Cappahosic was the only waterfront one. Cappahosic was an early colonial settlement and was one of the earliest steamship stops in Gloucester County. Coleman Newcomb, who reestablished a post office here in the 1880s, ran the store in the early 1900s. The post office closed in 1888, but reopened in 1890. This was a bustling community during this period.

Surveyor Recommendation: *No Data*

Primary Resource Information

Resource Category: Commerce/Trade
Resource Type: Commercial Building
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1880
Date Source: Site Visit/Written Data
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Commerce/Trade
Other ID Number: *No Data*
Architectural Style: Vernacular
Form: *No Data*
Number of Stories: 2.5
Condition: Good
Threats to Resource: None Known
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

Architecture Summary: This building has two canted corners on the main north facade. Each cant has a single leaf door facing northwest and northeast. The facade has a full front porch which mirrors the canted corners. The porch piers are plain posts supporting a hipped roof. There is a square balustrade and the porch stair is located on the northeast corner. There are paired double-hung sash windows on the first story main facade. On the second story there are two windows on the main facade and on the canted corners. Above the windows on the canted corners, there is the roof gable return. There is a single double-hung sash window in the gable. On the west side facing the York River, there are three gabled dormers with gable returns. Each dormer has a single double-hung sash window. On the first story of the west side, there is a bank of three windows and a sliding glass door leading to a wood deck. There is also a cantilevered wood deck on the second story of the main facade with a sliding glass door.

Exterior Components

Component	Component Type	Material	Material Treatment
Foundation	Solid/Continuous	Brick	Parged
Windows	Sash, Double-Hung	Vinyl	1/1
Structural System and Exterior Treatment	Frame	Vinyl	Other
Porch	1-story	Wood	Other
Chimneys	Exterior End	Brick	Bond, Common
Roof	Gable	Asphalt	Shingle

Secondary Resource Information

Secondary Resource #1

Resource Category: DSS Legacy
Resource Type: Shed
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: *No Data*
Historic Context(s): Commerce/Trade
Architectural Style: *No Data*
Form: *No Data*
Condition: *No Data*
Threats to Resource: *No Data*
Cultural Affiliations: *No Data*
Cultural Affiliation Details:
No Data
Architectural Description:
No Data
Number of Stories: *No Data*

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: David, Kimble
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*

Survey Date: 2/1/1998

Dhr Library Report Number: *No Data*

Project Staff/Notes:

No Data

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Mr. Richard Cazares
Address 1: 3138 Cappahosic Road
City: Gloucester
State: Virginia
ZIP: 23061
Owner Relationship: Owner of property

Snapshot

Date Generated: April 01, 2024

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): 1200 B.C.E - 1606 C.E
Site Type(s): No Data
Other DHR ID: No Data
Temporary Designation: No Data

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: CLAY BANK
County/Independent City: Gloucester (County)
Physiographic Province: No Data
Elevation: No Data
Aspect: No Data
Drainage: No Data
Slope: No Data
Acreage: No Data
Landform: Other
Ownership Status: No Data
Government Entity Name: No Data

Site Components

Component 1

Category: No Data
Site Type: No Data
Cultural Affiliation: Native American
Cultural Affiliation Details: No Data
DHR Time Period: Early Woodland, Late Woodland, Middle Woodland
Start Year: -1200
End Year: 1606
Comments: No Data

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: Other

Project Staff/Notes:
assigned temporal designation based on diagnostic artifacts

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Unknown (DSS)
Investigator: WMCAR
Survey Date: 3/24/1997
Survey Description:
extremely poor visability due to crops

Current Land Use	Date of Use	Comments
Agricultural field	*No Data*	*No Data*

Threats to Resource: No Data
Site Conditions: Unknown Portion of Site Destroyed
Survey Strategies: Surface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: Yes
Artifacts Summary and Diagnostics:
sand and shell tempered sherds, chips
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: Turner, Randolph
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: No Data
Survey Reports: No Data
Survey Report Information:
Turner - Ph.D. dissertation - 1976.
Survey Report Repository: No Data
DHR Library Reference Number: No Data
Significance Statement: No Data
Surveyor's Eligibility Recommendations: No Data
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

Event Type: Survey:Phase I/Reconnaissance

Project Staff/Notes:
No Data
Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Unknown (DSS)
Investigator: Turner, E.R.
Survey Date: 9/1/1974
Survey Description:
No Data

Threats to Resource: No Data

Site Conditions:	No Data
Survey Strategies:	No Data
Specimens Collected:	No Data
Specimens Observed, Not Collected:	No Data

Artifacts Summary and Diagnostics:

No Data

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository:	No Data
Permanent Curation Repository:	No Data
Field Notes:	No Data
Field Notes Repository:	No Data
Photographic Media:	No Data
Survey Reports:	No Data

Survey Report Information:

No Data

Survey Report Repository:	No Data
DHR Library Reference Number:	No Data
Significance Statement:	No Data
Surveyor's Eligibility Recommendations:	No Data
Surveyor's NR Criteria Recommendations, :	No Data
Surveyor's NR Criteria Considerations:	No Data

Snapshot

Date Generated: April 01, 2024

Site Name: Tippecanoe
Site Classification: Terrestrial, open air
Year(s): 1800 - 1899, 1900 - 1949
Site Type(s): Dwelling, single
Other DHR ID: No Data
Temporary Designation: 44GL5000

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: GRESSITT
County/Independent City: Gloucester (County)
Physiographic Province: Coastal Plain
Elevation: 22
Aspect: Flat
Drainage: York River
Slope: 0 - 2
Acreage: 0.500
Landform: Terrace
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: No Data
Site Type: No Data
Cultural Affiliation: Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Antebellum Period, Civil War, Early National Period, Reconstruction and Growth
Start Year: 1800
End Year: 1899
Comments: No Data

Component 2

Category: No Data
Site Type: No Data
Cultural Affiliation: Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: 1900
End Year: 1949
Comments: No Data

Component 3

Category: Domestic
Site Type: Dwelling, single
Cultural Affiliation: No Data
Cultural Affiliation Details: No Data
DHR Time Period: No Data
Start Year: No Data

End Year:	No Data
Comments:	[2004 Harpole] The standing house known as Tippecanoe was built in the early to mid-19th century by members of the Hughes family. The surrounding property formed a small plantation during the 19th century and likely incorporated numerous outbuildings and work areas. The archaeological remains of one outbuilding are located about 50 northeast of the house, consisting of a substantial chimney foundation and mound containing much of the brick from the collapsed chimney. Artifacts from the 19th and 20th centuries are located within this low mound, as well as in the yard areas surrounding the house.

Bibliographic Information

Bibliography:

No Data

Informant Data:

Name: Jean Clarke
City: Gloucester
State: Virginia
ZIP: 23061
Owner Relationship: Owner of property

CRM Events

Event Type: Survey:Volunteer

Project Staff/Notes:

Brief investigation of an intact chimney base, likely to a 19th-century outbuilding, along with photographic documentation of the landscape and 1830s house. Artifacts were observed in several locations, but they were not collected.

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: DATA Investigations (DSS)

Investigator: Harpole, Thane

Survey Date: 10/1/2004

Survey Description:

In October 2004, Thane Harpole of DATA Investigations LLC briefly documented a large chimney base with surrounding rubble mound located about 50 feet north of the standing house. This work included photographing the chimney base, standing house, and landscape, and then cleaning off and mapping the chimney base. Beyond the brick, mortar, and some curious stones, no artifacts were observed around the chimney, but numerous fragments of 19th and 20th-century ceramics and glass were observed littering the surface of the yard around the house.

Current Land Use	Date of Use	Comments
Dwelling, multiple	1/1/2009 12:00:00 AM	The house is currently empty and awaiting restoration. The surrounding yard and fields are in pasture.

Threats to Resource: Deterioration, Development, Neglect

Site Conditions: Surface Deposits Present But Subsurface Not Tested

Survey Strategies: Informant, Observation, Surface Testing

Specimens Collected: No

Specimens Observed, Not Collected: Yes

Artifacts Summary and Diagnostics:

No Data

Summary of Specimens Observed, Not Collected:

[2004 Harpole] Many fragments of various 19th- and 20th-century ceramic, glass, and metal artifacts, including whiteware, bottles, Mason-type jars, etc. None of this material has been collected in a systematic way.

Current Curation Repository: At Tippecanoe, Gloucester VA

Permanent Curation Repository: No Data

Field Notes: Yes

Field Notes Repository: DATA Investigations, LLC, 1759 Tyndall Point Ln., Gloucester Point VA 23062

Photographic Media: No Data

Survey Reports: No

Survey Report Information:

No Data

Survey Report Repository: No Data

DHR Library Reference Number: No Data

Significance Statement: No Data

Surveyor's Eligibility Recommendations: No Data

Surveyor's NR Criteria Recommendations, : No Data

Surveyor's NR Criteria Considerations: No Data

APPENDIX F

FEMA FIRMS

National Flood Hazard Layer FIRMette

FEMA

76°38'6"W 37°22'37"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

76°37'28"W 37°22'8"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

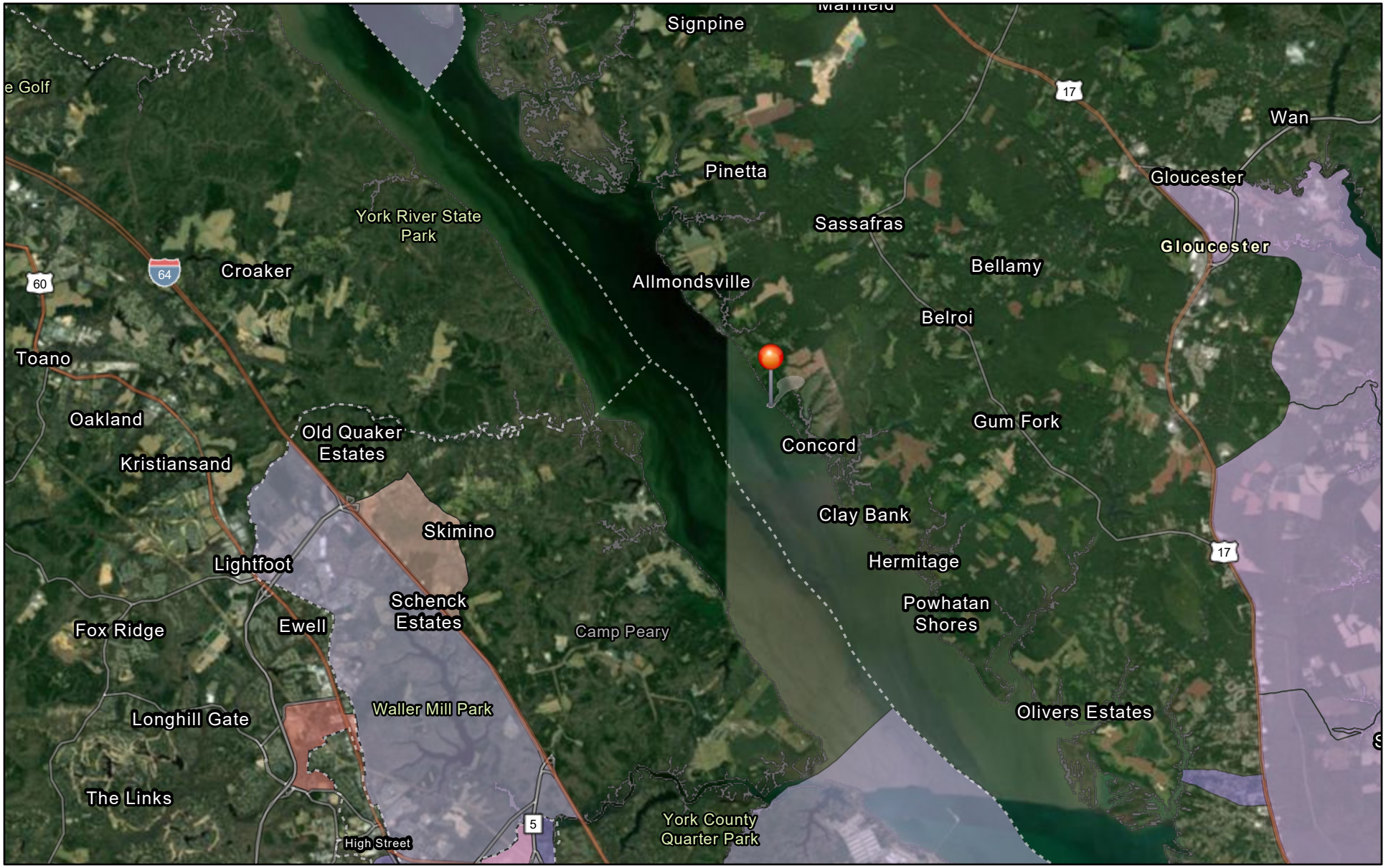
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/25/2024 at 11:25 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX G

ENVIRONMENTAL JUSTICE SCREENING MAP

VA EJScreen+ Web Map



5/10/2024, 12:50:15 PM

1:144,448

Low Income Communities- 30% or More of Population Under HUD 80% AMI and Under Two Times Federal Poverty Level (2011-2018 ACS)

- 0.3 – 0.467
- > 0.467 – 0.61
- > 0.61 – 0.77

Communities of Color - Over Statewide Average (37.8%) (2014-2018 ACS)

- 0.378 – 0.514
- > 0.514 – 0.667
- Virginia County Boundaries

0 1 2 4 mi

0 1.5 3 6 km

VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Virginia Department of Department of Environmental Quality

U.S. Environmental Protection Agency, Headquarters | Virginia Department of Environmental Quality | Data Owners Arianna Johns (Arianna.johns@deq.virginia.gov), Kevin McLean (Kevin.McLean@deq.virginia.gov) | Oak Ridge National Laboratory (ORNL) Geographic