ENVIRONMENTAL APPENDIX

Elizabeth River and Southern Navigation Improvements Draft Integrated General Reevaluation Report and Environmental Assessment

Appendix I – Coordination

12 December 2017

U.S. Army Corps of Engineers
Norfolk District

THE PORT OF VIRGINIA®

PROGRAMMATIC AGREEMENT AMONG THE UNITED STATES ARMY CORPS OF ENGINEERS, THE VIRGINIA STATE HISTORIC PRESERVATION OFFICE, AND THE VIRGINIA PORT AUTHORITY REGARDING ELIZABETH RIVER AND SOUTHERN BRANCH OF THE ELIZABETH RIVER CHANNELS NAVIGATION IMPROVEMENTS, CITIES OF CHESAPEAKE, NORFOLK, AND PORTSMOUTH, VIRGINIA

1. WHEREAS, the U.S. Army Corps of Engineers, Norfolk District (hereinafter USACE) and the Virginia Port Authority (hereinafter VPA) have proposed to make channel modifications on a navigation project, previously authorized by the U.S. Congress, the Elizabeth River and Southern Branch of the Elizabeth River Channels Navigation Improvements project (hereinafter Project), to be partly financed with federal funds and subject to federal permitting; and

2. WHEREAS, the Project involves dredging river bottom materials, to deepen and widen navigation channels, and the subsequent disposal of the resulting dredged material; and

3. WHEREAS, the USACE and the VPA have consulted with the Department of Historic Resources (hereinafter DHR) which serves as the Virginia State Historic Preservation Office (hereinafter SHPO) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) (hereinafter Section 106); and

4. WHEREAS, the USACE, in consultation with the SHPO, has established the Project's direct Area of Potential Effects (hereinafter APE) as the areas where dredging will take place (Attachment A) and the indirect APE as the area within which there may be temporary visual and noise effects during construction; and

5. WHEREAS, the USACE, in consultation with the SHPO, has determined that the historic properties within the indirect APE will not be adversely affected by visual and noise effects of the project and dredged materials would be placed in areas previously established for that purpose where no historic properties would be affected; and

6. WHEREAS, archaeological surveys have been conducted within portions of the Project's direct APE, listed in Attachment A, and have not identified sites eligible for or listed in the National Register of Historic Places (NRHP) within the Project direct APE; and

7. WHEREAS the USACE, in consultation with the SHPO, has determined that the Project has the potential to cause adverse effects to unidentified submerged archaeological sites in areas not included in the surveys listed in Attachment A which may be eligible for listing in the NRHP; and

8. WHEREAS, the USACE and the VPA have consulted with the SHPO and the parties have agreed that after construction of the Project subsequent operations and maintenance undertakings associated with it would be considered separate undertakings with regard to Section 106; and

9. WHEREAS, 36 CFR § 800.14(b)(1)[ii] allows federal agencies to fulfill their obligations under Section 106 through the development and implementation of programmatic agreements when effects on historic properties cannot be determined prior to approval of an undertaking; and

10. WHEREAS, in accordance with 36 CFR § 800.14(b), the USACE has notified the Advisory Council on Historic Preservation (hereinafter ACHP) of its intention to develop this programmatic agreement (hereinafter Agreement) pursuant to 36 CFR § 800.14(b)(1)[ii] (letter dated May 31, 2016), and the ACHP has chosen not to participate in the consultation (letter dated July 25, 2016); and

11. WHEREAS, in accordance with 36 CFR § 800.14(b)(2)(i) the USACE has invited the Catawba Nation, the Delaware Nation, the Delaware Tribe, Narragansett Indian Tribe, the Pamunkey Tribe, and the Shinnecock Indian Nation to consult on and sign this Agreement as concurring parties and they have declined to participate or have not responded; and

12. WHEREAS, in accordance with 36 CFR § 800.2(c)(3) the USACE has invited the cities of Chesapeake, Norfolk, and Portsmouth to consult on and sign this Agreement as concurring parties and they have declined to participate or have not responded; and

12. WHEREAS, in accordance with 36 CFR § 800.2(c)(5) the USACE has invited the Naval History and Heritage Command to consult on and sign this Agreement as a concurring party and they have elected to participate; and

13. WHEREAS, in accordance with 36 CFR § 800.2(d) the USACE has solicited public comment on the Project through a public scoping meeting held September 24, 2016, at the Nauticus Museum in Norfolk, Virginia and no comments were received regarding historic properties; and

NOW, THEREFORE, the USACE**,** the VPA, and the SHPO **(**hereinafter signatories) agree that the undertakings shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

The USACE shall ensure that the following measures are carried out:

I. ARCHAEOLOGICAL HISTORIC PROPERTIES

A. Identification

1. The USACE shall complete efforts to identify archaeological sites eligible for listing on the NRHP within the APE for the Project in accordance with 36 CFR § 800.4(b). The USACE shall conduct these identification efforts pursuant to the requirements of Stipulations V.A and V.B of this Agreement. Pursuant to Stipulation II.B of this Agreement, the USACE shall provide the SHPO theopportunity to review and concur, and the other Consulting Parties the

opportunity to review and comment on a report on its findings.

2. Prior to initiating dredging activities and in an effort to identify historic properties within the direct APE pursuant to 36 CFR § 800.4, the USACE shall have remote sensing surveys conducted in areas of the APE not included in previous surveys listed in Attachment A. These surveys shall employ methods equivalent or superior to those described in Attachment B. The USACE shall conduct any further investigations necessary to evaluate the NRHP-eligibility of any archaeological sites identified as a result of the activities described in Paragraph A.1 of this Stipulation. These evaluations shall be conducted in accordance with 36 CFR § 800.4(c), and pursuant to the requirements of Stipulations V and VI.A of this Agreement. Pursuant to Stipulation VI.B, The USACE shall provide the SHPO the opportunity to review and concur, and the other Consulting Parties the opportunity to review and comment on a report on its findings.

B. Assessment of Effects

If archaeological sites meeting the criteria for listing on the NRHP are identified as a result of the activities described in Paragraphs A.1 and A.2 of this Stipulation, the USACE shall assess the effects of the Project on these properties in a manner consistent with 36 CFR 800.5, and submit its findings to the SHPO for its review and concurrence, and to the other Consulting Parties for review and comment pursuant to Stipulation II.B.

C. Treatment of Archaeological Sites Determined Eligible for Listing on the NRHP

1. If the USACE, in consultation with the SHPO and the Consulting Parties, determines that an archaeological site eligible for listing on the NRHP will be adversely affected by the Project, the USACE in consultation with the SHPO, shall determine whether avoidance or minimization of the adverse effects is practicable. If the adverse effects cannot be practicably avoided, the USACE, in consultation with the SHPO and the other Consulting Parties, shall develop a treatment plan for the archaeological site. In a manner consistent with StipulationII.B of this Agreement, the USACE shall provide the SHPO the opportunity to review and concur with, and the Consulting Parties the opportunity to review and comment on the treatment plan.

2. Any treatment plan the USACE develops for an archaeological property under the terms of this stipulation shall be consistent with the requirements of Stipulation V.A of this Agreement and shall include, at a minimum:

(a) Information on the portion of the property where data recovery or controlled site burial, as appropriate, is to be carried out, and the context in which the property is eligible for the NRHP;

(b) The results of previous research relevant to the project;

(c) Research problems or questions to be addressed, with an explanation of their relevance and importance;

(d) The field and laboratory analysis methods to be used, with a

justification of their cost-effectiveness and how they apply to this particular property and the research needs;
(e) The methods to be used in artifact, data, and other records management;
(f) Explicit provisions for disseminating in a timely manner the research findings to professional peers;
(g) Arrangements for presenting to the public the research findings, focusing particularly on the community or communities that may have interests in the results;
(h) The curation of recovered materials and records resulting from the data recovery in accordance with 36 CFR Part 79; and
(i) Procedures for evaluating and treating discoveries of unexpected remains during the course of the project, including necessary consultation with other parties.

3. The USACE shall ensure the treatment plan is implemented and that any agreed-upon data recovery field operations have been completed before ground-disturbing activities associated with the Project are initiated at or near the affected archaeological historic property. The USACE shall notify the SHPO once data recovery field operations have been completed so that a site visit may be scheduled, if the SHPO finds a visit appropriate. The proposed construction may proceed following this notification while the technical report is in preparation. The USACE shall ensure that the archaeological site form on file in the SHPO's Virginia Cultural Resource Information System (V-CRIS) is updated to reflect the implementation of the treatment plan for each affected site.

II. PREPARATION AND REVIEW OF DOCUMENTS

A. Technical Preparation
All archaeological studies, technical reports, and treatment plans prepared pursuant to this Agreement shall be consistent with the federal standards entitled *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44716-44742, September 29, 1983), the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (October 2011), and the ACHP's *Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites* (1999), or subsequent revisions or replacements to these documents.

B. Review
The Signatories and Consulting Parties agree to provide comments to the USACE on all technical materials, findings, and other documentation arising from this Agreement within thirty (30) calendar days of receipt unless otherwise specified. If no comments are received from the SHPO, another Signatory, or a Consulting Party within the thirty (30)

calendar-days review period, the USACE may assume that the non-responsive party has no comment. The USACE shall take into consideration all comments received in writing from the SHPO, other Signatories, and Consulting Parties within the thirty (30)-calendar-day review period.

C. Physical Documents
The USACE shall provide the SHPO three (3) copies two (2) hard copies on acid-free paper and one (1) in Adobe® Portable Document Format (.pdf) on compact disk of all final reports prepared pursuant to this Agreement. The USACE shall also provide any other Signatory or Consulting Party a copy of any final report (in hard copy or .pdf format, as requested) if so requested by that party. Such requests must be received by the USACE in writing prior to the completion of construction of the Project.

III. CURATION STANDARDS

The USACE shall ensure that all original archaeological records (research notes, field records, maps, drawings, and photographic records) and all archaeological collections recovered from the USACE Project area produced as a result of implementing the Stipulations of this Agreement are provided to the SHPO for permanent curation. In exchange for its standard collections management fee as published in the *Virginia Department of Historic Resources State Collections Management Standards* (June 26, 2009), or subsequent revisions or replacements to that document, the SHPO agrees to maintain such records and collections in accordance with 36 CFR 79, *Curation of Federally Owned and Administered Archaeological Collections.*

IV. CHANGES IN PROJECT SCOPE

In the event of any changes to the Project scope that may alter the APE, the USACE shall consult with SHPO and the other consulting parties pursuant to 36 CFR § 800.2 through § 800.5.

V. STANDARDS

A. Research Standards
All work carried out pursuant to this Agreement shall meet the *Secretary of the Interior's Standards for Archaeology and Historic Preservation* (SOI's Standards; http://www.nps.gov/history/local-law/arch_stnds_9.htm).

B. Professional Standards
The USACE shall ensure that all work carried out pursuant to this Agreement shall be done by or under the direct supervision of marine archaeology professionals who meet the *Secretary of the Interior's Professional Qualifications Standards*. The USACE shall ensure that consultants retained for services pursuant to this Agreement meet these standards.

C. Documentation Standards
All technical reports prepared pursuant to this Agreement shall be consistent with

Secretary of the Interior's *Standards and Guidelines for Archaeological Documentation* (48 FR 44734-37) and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (2011), or any subsequent revisions or replacements of these documents.

VI. TREATMENT OF HUMAN REMAINS

A. Coordination
In the event human skeletal remains or burials are encountered during implementation of the Project, the USACE shall coordinate its compliance with Section 106 with other applicable federal, state, and local laws and reviews as appropriate.

B. Permits
Historic and prehistoric human remains from non-federal, non-tribal lands are subject to protection under Virginia's burial/unmarked grave/cemetery law(s) which require a permit from the Department of Historic Resources before remains are removed. As such, if human remains are discovered during construction, work in that portion of the project shall stop immediately. The remains shall be covered and/or protected in place in such a way that minimizes further exposure of and damage to the remains, and the USACE shall immediately consult with the SHPO. If the remains are found to be Native American, in accordance with applicable law, a treatment plan shall be developed by and SHPO in consultation with appropriate federally recognized Indian tribes. USACE shall ensure that any treatment and reburial plan is fully implemented. If the remains are not Native American, the appropriate local authority shall be consulted to determine final disposition of the remains. Avoidance and preservation in place is the preferred option for treating human remains.

C. Additional Procedures
Additional procedures regarding the treatment of human remains are detailed in Attachment C of this Agreement.

VII. SUNKEN MILITARY CRAFT

If at any point in the Project, USACE discovers or reasonably believes that a Department of Navy sunken military craft or part thereof will be disturbed or otherwise affected in the course of the Project, USACE will immediately notify the Naval History and Heritage Command (NHHC). USACE will provide the NHHC with a reasonable opportunity to accomplish the following:

A. In relation to Stipulation I.A(1), review and provide concurrence on the USACE identification of archaeological sites eligible for listing on the NRHP within the APE of the Project.

B. In relation to Stipulation I.A(2), review and provide concurrence on the evaluation of any such historic property, as opposed to review and comment on a report of the USACE findings.

C. In relation to Stipulation I.B, review and provide concurrence on the USACE assessment of effects of the Project, as opposed to review and comment on the USACE assessment.

D. In relation to Stipulation I.C(1), in consultation with the USACE and with the SHPO, determine whether avoidance or minimization of the adverse effects on an archaeological site eligible for listing on the NRHP that will be adversely affected by the Project is practicable.

E. In relation to Stipulation I.C(2), review and provide concurrence on the treatment plan for archaeological sites that will be impacted by practicably unavoidable adverse effects, as opposed to review and comment on the treatment plan.

F. The USACE further agrees to the following upon discovery or disturbance of Department of the Navy sunken military craft:

1. Any treatment plan developed pursuant to Stipulation I.C(2) for an archaeological property that is also a Department of the Navy sunken military craft will have to take into account the requirements otherwise imposed on permit applicants under 32 CFR § 767.6 (d).

2. In relation to Stipulation I.C(3), the USACE will notify the NHHC once recovery field operations have been completed so that a site-visit may be completed. One or more site visits may also be completed by the NHHC during recovery field operations.

3. In relation to Stipulation II.C, the USACE will provide the NHHC with all final reports prepared pursuant to this Agreement pertaining to Department of the Navy sunken military craft—two (2) copies on acid-free paper and one (1) copy in pdf format on archival compact disc.

4. In relation to Stipulation III, the USACE will transfer all original archaeological records (research notes, field records, maps, drawings, and photographic records) and all archaeological collections recovered and retained from Department of the Navy sunken military craft to the NHHC at the completion of the Project for curation.

5. The USACE and the VPA will fund the professional recovery, documentation, conservation, packaging, and transportation of the associated retained archaeological collections, as well as costs for certifying inert any associated ordnance in consultation with appropriate Department of Navy personnel. The NHHC will be afforded a determinative role should the USACE desire not to retain any part of an associated archaeological collection post-recovery and documentation, and agrees to maintain such records and collections in accordance with 36 CFR § 79, Curation of Federally Owned and Administered Archaeological Collections.

6. In relation to Stipulation VI, the USACE will address the treatment of any human remains associated with Department of the Navy sunken military craft in consultation with the NHHC.

7. The aforementioned clauses supersede Attachment C with respect to Department of the Navy sunken military craft.

VIII. POST-REVIEW DISCOVERIES

If properties are discovered that may be historically significant or unanticipated effects on historic properties found subsequent to the completion of surveys under Stipulations I-II, the USACE shall implement the discovery plan included as Attachment C of this Agreement.

IX. COMMUNICATIONS

Electronic mail (email) may serve as the official correspondence method for all communications regarding this Agreement and its provisions. See Attachment D for a list of contacts and email addresses. Contact information in Attachment D may be updated as needed without an amendment to this Agreement. It is the responsibility of each party to the Agreement to immediately inform the USACE of any change in name, address, email address, or phone number of any point-of-contact. The USACE shall forward this information to all signatories and consulting parties by email.

X. MONITORING AND REPORTING

Each year on the anniversary of the execution of this Agreement until it expires or is terminated, the USACE shall provide all parties to this Agreement a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the USACE's efforts to carry out the terms of this Agreement. The reporting period shall be the fiscal year from October 1 to September 30.

XI. DISPUTE RESOLUTION

Should any party to this Agreement object in writing at any time to any actions proposed under this Agreement, or the manner in which the terms of this Agreement are implemented, the USACE shall consult with the objecting party to resolve the objection. If the USACE determines that such objection cannot be resolved, the USACE will:

A. Documentation
   Forward all documentation relevant to the dispute, including the USACE's proposed resolution, to the ACHP. The ACHP shall provide the USACE with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the USACE shall prepare a written

response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and consulting parties, and provide them with a copy of this written response. The USACE shall then proceed according to its final decision.

B. Resolution
If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the USACE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the USACE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and consulting parties to the Agreement, and provide them and the ACHP with a copy of such written response.

C. Continuity
The USACE's responsibilities to carry out all other actions subject to the terms of this Agreement that are not the subject of the dispute remain unchanged.

XII. ANTI-DEFICIENCY ACT

The USACE's obligations under this Agreement are subject to the availability of appropriated funds, and the stipulations of this Agreement are subject to the provisions of the Anti-Deficiency Act. The USACE shall make reasonable and good faith efforts to secure the necessary funds to implement this Agreement in its entirety. If compliance with the Anti-Deficiency Act alters or impairs the USACE's ability to implement the stipulations of this agreement, the USACE shall consult in accordance with the amendment and termination procedures found at Stipulations XII and XIII of this Agreement.

XIII. AMENDMENTS

This Agreement may be amended when such an amendment is agreed to in writing by all signatories. The amendment shall be effective on the date a copy signed by all of the signatories is filed with the ACHP. Attachment E is a template for amendments.

XIV. TERMINATION

If any signatory to this Agreement determines that its terms are not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation XIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the Agreement upon written notification to the other signatories.

Once the Agreement is terminated, and prior to work continuing on the Project, the USACE must either (a) execute another Agreement pursuant to 36 CFR § 800.14 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7, the USACE shall notify the signatories as to the course of action it will pursue.

XV. DURATION

Subsequent to its execution, this Agreement shall expire if its terms are not carried out within ten (10) years from the date of the Congressional appropriation funding the Project. Six (6) months prior to such time, the USACE shall consult with the other signatories and consulting parties to reconsider the terms of the Agreement and amend it in accordance with Stipulation XIII above, if necessary.

XVI. EXECUTION OF THIS AGREEMENT

This Agreement may be executed in counterparts, with a separate page for each party. The USACE shall ensure that each party is provided with a copy of the fully executed Agreement.

Execution and submission of this Agreement, and implementation of its terms, evidence that the USACE has afforded the ACHP an opportunity to comment on the proposed undertaking and its effect on historic properties, and that the USACE has taken into account the effect of the undertaking on historic properties.

Attachment A – Previous Archaeological Surveys
Attachment B – Marine Archaeological Methods
Attachment C - Procedures for Post-Review Discoveries
Attachment D - Contact Information

SIGNATORY:

USACE, Norfolk District

By: _____ Date: 01 June 2017
Colonel Jason Kelly, *District Engineer*

SIGNATORY:

Virginia Department of Historic Resources

By: _____ Date: 6-7-17
Julie Langan, *State Historic Preservation Officer*

INVITED SIGNATORY:

Virginia Port Authority

By: _____ Date: 7/6/17

John F. Reinhart, *CEO and Executive Director*

CONCURRING PARTY:

Naval History & Heritage Command

By: _____ Date: 8 AUG 17
Samuel J. Cox, *Director*

ATTACHMENT A

Previous Archaeological Surveys and Area of Potential Effects

ELIZABETH RIVER AND SOUTHERN BRANCH OF THE ELIZABETH RIVER NAVIGATION IMPROVEMENTS– Archaeological Reports on file at NAO

Channel areas marked on the maps at the end of this attachment are the authorized federal channels. The Project will impact areas within the authorized federal channels. The report numbers "NAO-#" are used to label the survey areas. Some of these reports are in the DHR V-CRIS database but not all are. The NAO survey reports represent almost all of the past survey in the project area, although minor areas are covered by reports that are only in the V-CRIS database. These are labeled with their DHR number (e.g., NN-11, CS-74). The NAO report numbers are listed sequentially, but are not consecutive because the reports were not inventoried by project.

NAO-10

Watts, Gordon P.

2009 An Archaeological Remote-Sensing Survey of Sections of Paradise Creek, Chesapeake, Virginia. Tidewater Atlantic Research, Inc. Washington, North Carolina

Abstract

The firm of Craney Island Design Partners (CIDP) is working with the United States Army Corps of Engineers, Norfolk District to assess potential sites for sediment restoration in Paradise Creek. In order to identify potentially significant submerged cultural resources, CIDP contracted with Tidewater Atlantic Research, Inc. of Washington, North Carolina to conduct an archaeological remote-sensing survey of portions of the creek. Following an initial reconnaissance survey on 27 February 2009, remote-sensing fieldwork activities associated with the project were conducted on 30 April 2009. Analysis of the remote-sensing data identified seven anomalies within the proposed project site. Six magnetic targets and their associated acoustic signatures have characteristics representative of modern debris such as fish and crab traps, pipe, cable, and tires. An additional acoustic target proved to be pilings from a previous railroad bridge. Based on the data generated by the remote-sensing survey, proposed sediment restoration will not impact any National Register of Historic Places eligible submerged cultural resources and no additional investigation is recommended.

NAO-12 (CS-97)

Watts, Gordon P.

2009 Historical, Cartographic and Photographic Research and a Reconnaissance Survey of Sections of the Southern Branch of the Elizabeth River, Chesapeake and Portsmouth, Virginia. Tidewater Atlantic Research, Inc. Washington, North Carolina

Abstract

The firm of Craney Island Design Partners (CIDP) is working with the United States Army Corps of Engineers, Norfolk District to assess potential sites for sediment restoration in the Southern Branch of the Elizabeth River. In order to assess the need for a remote-sensing survey to identify submerged cultural resources, CIDP contracted with Tidewater Atlantic Research, Inc. (TAR) of Washington, North Carolina to carry out historical, cartographic and aerial photographic research to assess the potential for

submerged cultural resources in a section of the Southern Branch of the Elizabeth River. TAR personnel also conducted a reconnaissance investigation of those sites to identify areas undisturbed by development and to locate any visible cultural resources. Based on the number of documented shipwrecks and derelicts in the Elizabeth River, areas that remain undisturbed by development should be considered as having a high potential for historic vessel remains. The research and reconnaissance confirmed that the proposed Southern Branch sediment restoration area has been extensively disturbed by industrial development. No additional investigation is recommended in conjunction with project activities in that area.

NAO-13 (CS-94)

Watts, Gordon P.

2009 An Archaeological Remote-Sensing Survey of sections of Scuffletown Creek, Chesapeake, Virginia. Tidewater Atlantic Research, Inc. Washington, North Carolina

Abstract

The firm of Craney Island Design Partners (CIDP) is working with the United States Army Corps of Engineers, Norfolk District to assess potential sites for sediment restoration in Scuffletown Creek. In order to identify potentially significant submerged cultural resources, CIDP contracted with Tidewater Atlantic Research, Inc., of Washington, North Carolina to conduct an archaeological remote-sensing survey of portions of the creek. Following an initial reconnaissance survey on 27 February 2009, remote-sensing fieldwork activities associated with the project were conducted on 30 April 2009. Analysis of the remote-sensing data identified a total of seven magnetic and two acoustic targets in the Scuffletown Creek survey area. Four of the magnetic anomalies exhibited signature characteristics indicative of modern debris such as fish and crab traps, pipes, small diameter rods, cable, wire rope, chain, or tires. No additional investigation of these targets is recommended. The signature characteristics of one magnetic target, SC-4, composed of three individual magnetic anomalies, are indicative of potentially significant submerged cultural resources. However, as this target lies outside the Area of Potential Effect (APE) identified in a map of proposed dredging, additional investigation is not recommended to determine the source of this magnetic anomaly and its potential NRHP significance. Although possibly historically significant, the remains of the early-twentieth-century wharf on the north bank of Scuffletown Creek above the railroad bridge do not appear to be in the APE of Area 7 and no additional investigation is recommended. Two acoustic targets located south of the Jordan Bridge appear to be the remains of derelict vessels shown on 1920 and 1930 U.S. Coast and Geodetic Survey charts. On the basis of sonar images, the two vessels appear to be potentially eligible for National Register of Historic Places nomination. Because the vessels lie at least partially within the APE of Area 3, avoidance or additional investigation is recommended.

NAO-15

Watts, Gordon P.

1996 Historical Documentation and Archaeological Remote Sensing Survey of the Elizabeth River and Southern Branch Channels, Norfolk Harbor, Virginia. Tidewater Atlantic Research, Inc. Washington, North Carolina

Abstract

The United States Army Corps of Engineers, Wilmington and Norfolk Districts, are cooperating in the conduct of an archaeological remote sensing survey and documentation of portions of the Norfolk Harbor Channels on the Southern Branch of the Elizabeth River, Virginia. This work is being conducted in anticipation of proposed channel maintenance activities along a section of the river from mile 15 to 17.5. As part of an open-ended agreement with the Army Corps of Engineers, Wilmington District, Tidewater Atlantic Research, Inc. (TAR) of Washington, North Carolina was contracted to provide the historical and archaeological documentation to fulfill the submerged cultural resource requirements of current state and Federal legislation and regulations. A review of previously compiled historical research associated with the Elizabeth River confirmed the nature and extensive scope of historical activities in the project area. The remote sensing survey located a total of 20 targets. Analysis of the data confirmed that 16 of those targets could be associated with potentially significant submerged cultural resources. Because of the level of historical activity and the number and type of historically documented shipwrecks and abandoned vessels within the proposed improvement area, diver reconnaissance and documentation is recommended on those 16 targets to support an assessment of National Register of Historic Places eligibility prior to initiation of site disturbing activities.

NAO-16 (CS-073)

Watts, Gordon P.

1997 Underwater Archaeological Site Documentation at the Southern Branch of the Elizabeth River, Norfolk Harbor, Virginia. Tidewater Atlantic Research, Inc. Washington, North Carolina

Abstract

The United States Army Corps of Engineers, Wilmington and Norfolk Districts, are cooperating in an archaeological survey of portions of the Norfolk Harbor Channels on the Southern Branch of the Elizabeth River, Virginia. This work is being conducted in anticipation of proposed channel maintenance activities along a section of the river from mile 15 to 17.5. As part of an open-ended agreement with the Army Corps of Engineers, Wilmington District, Tidewater Atlantic Research, Inc. (TAR) of Washington, North Carolina was contracted to provide historical and archaeological documentation to fulfill the submerged cultural resource requirements of current state and Federal legislation and regulations. In September 1995, TAR conducted a remote sensing survey of the area of the river to be impacted by the proposed dredging. That work identified a total of 20 remote sensing targets. Sixteen of those targets had signature characteristics which could be associated with potentially significant submerged cultural resources. Because of the level of historical activity and the number and type of historically documented shipwrecks and abandoned vessels in the Southern Branch of the Elizabeth River, TAR was contracted to carry out diver reconnaissance of those 16 remote sensing targets in order to identify their sources and assess their National Register of Historic Places eligibility. TAR archaeologists identified the remains of one historic vessel (44CS234) and an assortment of modern

material. Although the vessel cannot yet be positively identified, construction details suggest that it was built in the mid- to late nineteenth century. Due to the amount of hull structure remaining at this site, these remains should be considered eligible for nomination to the National Register of Historic Places. Additional research at this site is recommended to determine its significance prior to the initiation of site disturbing activities.

Project Area Overview

Report	Title	DHR File #	Author	Year	Pages	Annotation	Org.*	Acreage**
CS-073 (NAO-16)	Underwater Archaeological Site Documentation at the Southern Branch of the Elizabeth River, Norfolk Harbor, Virginia	1991-1267	Gordon P. Watts, Jr.	1997	35pp	Site inferred from map. 20 remote sensing targets were identified, and 16 had potentially significant characteristics. Diver reconnaissance identified on historic vessel (44CS0234) that likely dates from the mid-to-late 19th century. Recommended potentially eligible - the other targets consisted of modern material, no further work.	TAR	12.12
CS-091	Phase I Cultural Resources Survey of the South Norfolk Jordan Bridge Project, Chesapeake and Portsmouth, Virginia	2008-1473	Aaron Levinthal, Dawn Frost, Carol Tyrer	2009	138pp	This survey resulted in the identification of no isolated finds or archaeological sites, and four new architectural resources. 131-5033 (Jordan Bridge) has been determined eligible. The associated buildings identified during this survey include the office building, bridge shop, shed, tollbooth and toll plaza. Although vacant, the office building, maintenance shop, and toll plaza contribute to the Jordan Bridge as they were used as support facilities for the bridge and the toll operations conducted during the bridge's operation. As such, these buildings would be considered potentially eligible as contributing elements of the bridge complex if the bridge were to remain in place. However, because the Jordan bridge is slated for demolition and the center span has been removed, these buildings would not be considered individually eligible. Although the shed is associated with the Jordan Bridge, it does not appear to be potentially contributing to the bridge complex. The tollbooth is a prefabricated structure that has been moved from its original location and is no longer used as a support facility for the bridge, so it is recommended non-contributing element of the complex. 131-5384 (Standard Auto); 124-5133 (Weeks Marina) and 124-5134 (Abandoned Creosote Factory) are recommended not eligble. 131-5383 is located to north of project area (Norfolk and Portsmouth Belt Line Railroad Bridge); it is potentially eligible, but will not be impacted by proposed new bridge construction project.	CIRCA	ua
CS-094 (NAO-13)	An Archaeological Remote-Sensing Survey of Sections of Scuffletown Creek, Chesapeake, Virginia	2004-1428	Gordon Watts	2009	80pp	Remote-sensing fieldwork identified a total of 7 magnetic and 2 acoustic targets in the Scuffletown Creek survey area. Four exhibit characteristics of modern debris. Three targets are possibly historically significant: the remains of an early 20th century wharf (outside project area) and remains of two derelict vessels south of the Jordan Bridge (avoidance or additional investigation)	TAR	9
CS-097 (NAO-12)	Historical, Cartographic and Photographic Research and a Reconnaissance Survey of Sections of the Southern Branch of the Elizabeth River, Chesapeake and Portsmouth, Virginia	2004-1428	Gordon Watts	2009	40pp	A survey for submerged cultural resources in a section of the Southern Branch of the Elizabeth River found that the area has been extensively disturbed by industrial development. No additional investigation is recommended.	TAR	48

Report	Title	DHR File #	Author	Year	Pages	Annotation	Org.*	Acreage**
CS-099	Archaeological Phase I Survey and Characterization Study at St. Juliens Creek Annex, Chesapeake, Virginia	2009-1303	Greg Hendryx, Christopher Schaeffer, Nicholas Linville	2010	156pp	The current survey resulted in the recordation of four new archaeological sites (44CS0288/44CS0291) and the documentation of two isolated finds. Site 44CS0288 is a historic and prehistoric artifact scatter within a pine plantation area that had historically been used as an agricultural field. Historic artifacts date to the 19th and 20th centuries, and those from the 19th century were likely deposited by members of the J. Owens family. The sparse prehistoric assemblage includes pottery sherds assigned to the Middle Woodland Varina Phase. Site 44CS0289 is an ephemeral mid-20th-century artifact scatter from a disturbed zone within a recreational field. These deposits were recovered in proximity to 1940s enlisted barracks and officers quarters and were likely associated with activities from that era. Site 44CS0290 is a sparse 19th-to-20th-century artifact scatter in a pine plantation, and 44CS0291 is a vast historic artifact scatter along the bank of St. Juliens Creek, in an area where recent structural demolition had occurred. None of the newly recorded resources is considered eligible for inclusion in the NRHP. Three previously recorded sites (44PM0048, 44PM0049, 44PM0050) also were revisited for a brief inspection and limited shovel testing; each of these three sites has formerly been deemed potentially eligible for listing in the NRHP. Draft had been recorded as CS-095.	SEARCH	0
PM-009	Craney Island Survey "The Search for the CSS Virginia."			1982	38pp	Based upon investigations of a 800 by 500 yard area there are no concentrated or scattered debris associated with the CSS Virginia (Merrimack)	UAJV	45
PM-011	A Phase I Cultural Resources Survey for the Proposed Route 58 Midtown Tunnel, Portsmouth and Norfolk, Virginia		Charles D. Cheek, et al.	1988	126pp	Archaeological, architectural, and historical survey found 2 prehistoric sites, high probability for underwater cultural resources, and historic districts all likely to be impacted by this proposed construction. Recommendations included	JMA	37
PM-040	A Submerged Cultural Resource Reconnaissance Within the Elizabeth River in the Vicinity of Craney Island, West Norfolk, Portsmouth, Virginia		Gordon B. Watts Jr.	1983	50pp	Reconnaisance produced a total of ninety-one targets or target clusters. While most can be reliably dismissed as modern debris or small isolated objects, sixteen are considered to be high-probability targets.	TAR	236
PM-048	An Archaeological and Historical Survey of the Atlantic Wood Industries, Inc., Superfund Site, Portsmouth County, Virginia	2007-1083	Ramie Gougeon	2008	100pp	Survey of 48-acre ""superfund"" Atlantic Woods Industries property resulted in documentation of office building, three associated structures and associated tank farm (124-5132). Complex recommended not eligible. Little potential for archaeological sites due to contaminated nature of site and amount and depth of fill material. No magnetic anomalies and six sidescan sonar targets were identified within maritime survey area, with two presumed to be wooden barges which may be potentially significant.	PCI	105

*Organization Abbreviation

CIRCA	Circa-Cultural Resource Management, LLC
JMA	John Milner Associates
PCI	Panamerican Consultants, Inc.
SEARCH	Southeastern Archaeological Research, Inc.
TAR	Tidewater Atlantic Research
UAJV	Underwater Archaeological Joint Ventures

** Computed from GIS digitized from reports or V-CRIS, includes both marine arnd terrestrial areas,

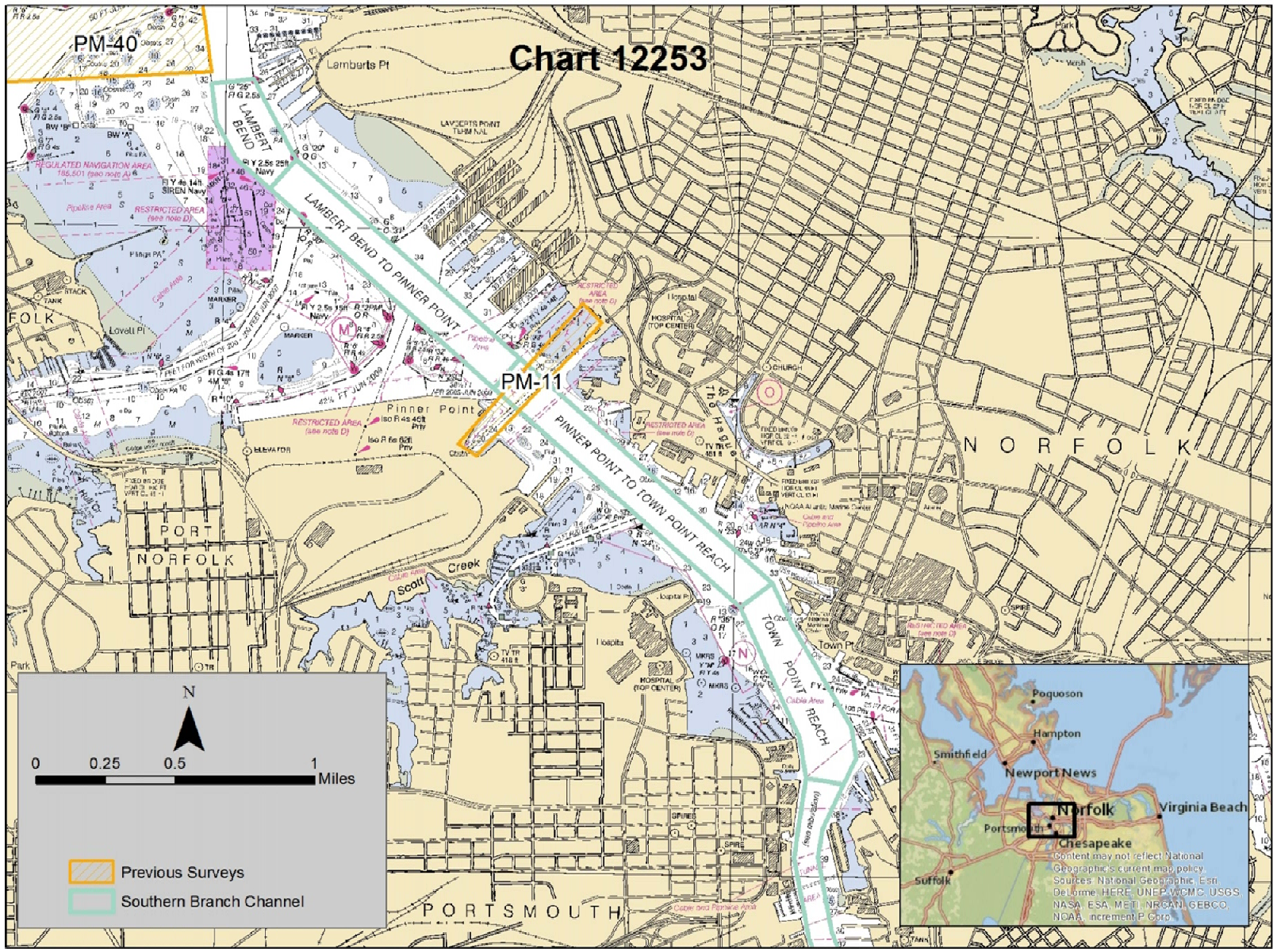
Chart 12253
PM-40
PM-11
Lamberts Pt
LAMBERT BEND
LAMBERT BEND TO PINNER POINT
PINNER POINT TO TOWN POINT REACH
TOWN POINT REACH
Pinner Point
Town Pt
Lovell Pl
Scott Creek
NORFOLK
PORT NORFOLK
PORTSMOUTH
FOLK
N
0 0.25 0.5 1 Miles
Previous Surveys
Southern Branch Channel
Poquoson
Hampton
Smithfield
Newport News
Norfolk
Virginia Beach
Portsmouth
Chesapeake
Suffolk
Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.


Chart 12253
NAO-13
PM-48
NAO-12
NAO-10
NAO-16
NAO-15
CHESAPEAKE
Paradise Cr
Jones Cr
Gilligan Cr
Blows Cr
Cradock
Bentwood
Gilmerton
RESTRICTED AREA 334.280 (see note A)
REGULATED NAVIGATION AREA 165.501 (see note A)
Poquoson
Hampton
Newport News
Norfolk
Virginia Beach
Smithfield
Portsmouth
Chesapeake
Suffolk
Previous Surveys
Southern Branch Channel
N
0
0.25
0.5
1
Miles

ATTACHMENT B

MARINE ARCHAEOLOGICAL METHODS

Marine or underwater archaeological survey methods rely on electronic remote sensing. These technologies evolve rapidly. There are no marine archaeology standards for Virginia, and while some state have published standards in the past, they are likely to be out of date in terms of equipment standards. Excerpts from a publication developed for the Bureau of Ocean Energy Management gives an overview of marine archaeological methods in a somewhat recent (2012) time frame. Although focusing on deeper waters of the outer continental shelf than those areas with survey needs for this project, it presents a useful general overview of techniques. A more specific methodology, citing specific equipment, from a recent survey is excerpted from a 2016 survey by Tidewater Atlantic Research in the relatively shallow waters of the James River. From the review of these methodologies, contractors can propose appropriate methodologies for this project, and reviewers can evaluate the appropriateness of proposals and resulting survey reports.

TRC Environmental Corporation
2012 Inventory and Analysis of Archaeological Site Occurrence on the Atlantic Outer Continental Shelf. U.S. Department of the Interior, Bureau of Ocean Energy Management, New Orleans, LA. (pp. 147-151)

(The original chapter and section numbering has been retained, figures are not included and those references have been removed.)

10. RECOMMENDED FIELD SURVEY METHODS

10.1. INTRODUCTION

Early prehistoric archaeological resources are virtually invisible to remote sensing equipment available today. However, the association of Paleoindian and Archaic sites with relic landforms appears to be the key to locating and identifying areas of high potential. There have been few systematic surveys conducted specifically to locate submerged prehistoric sites in the Atlantic to date. A notable exception is Robinson et al.'s recent study in Nantucket Sound for an offshore wind power project (Robinson et al. 2004). Studies carried out elsewhere have illustrated the value of correlating potential site locations with submerged landscape features. The Sabine River study carried out by Pearson et al. (1986) over two decades ago and current research carried out by Faught (2003, 2004) off the Gulf coast of northern Florida provide the most convincing evidence of the value of that correlation. Likewise, a team from Parks Canada has explored the continental shelf in the Hecate Strait off British Columbia, where ancient human occupation sites may rest in as much as 150 m of water. The Canadian team has employed high-resolution multibeam sonar, remotely operated vehicles (ROVs), and manned submersibles to image the sea floor, and coring and grab methods to sample it (Carper 2007). In conducting surveys designed to identify relic landforms and prehistoric archaeological sites, acoustic instruments appear to be the most effective (Faught 2003; Hoyt et al. 1990; Research Planning et al. 2004).

The three instruments that generate the most useful data are multibeam echo sounders, side scan sonar, and subbottom profilers. The side scan sonar and multibeam echo sounders generate high-resolution data that can be used to reconstruct and map surface geological features that reflect paleotopography. Used in conjunction with highly sophisticated terrain modeling programs, acoustic data from those instruments can be turned into highly detailed bottom surface maps that cover broad areas. Characteristics of the bottom surface can be associated with buried geomorphological features using high-resolution subbottom profilers. With sufficient data, sophisticated computer modeling programs can be used to develop three-dimensional, geo- referenced models of relic landforms that could be associated with areas that have prehistoric archaeological site potential. Using GIS software to store, analyze, and project the data, archaeologists and submerged cultural resource managers can identify high priority areas for research or protection. Areas of high potential where sea floor disturbances are proposed can then be surveyed using higher resolution geophysical techniques (like seismic reflection profiling studies), coring, and direct observation of the sea floor using remotely operated vehicles (ROV) or direct submersible investigation. Intensive studies of submerged cultural resources will be expensive, and developers may choose to avoid areas of high potential, rather than carry out costly investigations.

Each of the methods available to characterize the sea floor and identify areas of high potential for cultural resources are described below, along with methods for sampling and investigating such areas. There is also a brief discussion of planning considerations related to the cost and logistics of conducting such studies.

10.2. UNDERWATER SURVEY METHODS

10.2.1. Multibeam Bathymetry and Backscatter Intensity Data

One remote sensing method relevant to detecting areas of high sensitivity for prehistoric sites is high-resolution multibeam swath bathymetry (where the data set consists of both depth and backscatter/reflectivity information) to image surficial features on the sea floor. This method allows the identification of relict landscape features such as stream channels along which prehistoric sites would have been concentrated. Multibeam bathymetry and backscatter intensity data provide information on water depth, sea floor morphology, and sediment types. Multibeam systems are so-named because they consist of a group of sonar beams directed at and reflected back from the ocean floor, as opposed to earlier, single beam systems. Bathymetric data and sea floor composition are interpreted from the speed and intensity of the reflection of the acoustic signals, which are collected simultaneously and then processed. Multibeam systems collect data in a swath that typically extends beyond either side of the host vessel along the ship‘s track to a distance of five to seven times the depth. Ship tracks are designed to overlap and provide 150 percent coverage of the study area. These tracks are then combined to form a seamless image of the morphology of the ocean floor, as well as detailed bathymetric data. Because wider swaths are gathered in deeper water, surveys are much faster in greater depths.

Multibeam bathymetry and backscatter intensity data is the first information that should be collected during a survey for submerged cultural resources. The bathymetric data provides a detailed image of sea floor morphology, allowing identification of landforms and an

accurate assessment of depths within the study area. Backscatter data can provide generalized information on sea floor bottom types, based on the intensity of acoustic returns. When combined, these two data sets establish the basis for more detailed studies of the sea floor and underlying stratigraphy.

10.2.2. Side Scan Sonar

Side scan sonar is also an acoustic technique, but is focused on a detailed image of sea bed characteristics rather than bathymetry. This technique also can be used to identify shipwrecks, but in the context of prehistoric site survey, it can serve to characterize the sea floor with greater resolution than multibeam bathymetry. Side scan sonar is accomplished using a towfish that both sends and receives acoustic signals and reflections from the sea floor. As in multibeam surveys, side scan sonar surveys image swaths of the sea floor several times the water depth. Ship tracks are designed to overlap and provide 150 percent coverage of the study area, allowing production of maps showing sea floor characteristics. When combined with multibeam bathymetric data, a great deal of information on the morphology and composition of the sea floor is obtained. This information is critical to identifying geomorphological settings of high archaeological potential.

10.2.3. Seismic Reflection Profiling

Seismic profiling is a geophysical technique used to gather information about sea floor subsurface data. This technique also employs acoustic energy, but rather than receiving and processing returns strictly from the ocean floor, the signals are designed to penetrate subsurface sediments. Reflections from interfaces between layers of varying acoustic properties are recorded and used to create a seismic-stratigraphic profile of the material beneath the ocean floor. The depth of penetration into seafloor sediments is determined by the frequency of the acoustic signal and the sediment characteristics. Higher frequency (CHIRP) systems provide greater resolution, but less depth penetration, and provide excellent results in settings with fine-grained sediments. Lower frequency (Boomer) systems produce greater penetration of thick sediment sequences, but generally with less resolution.

Seismic reflection data is produced as a series of 2-dimensional profiles along the research vessel‘s tracks, unlike the 100 percent coverage that can be achieved with multibeam bathymetric studies and side scan sonar investigation. Thus, the spacing of seismic reflection profiles is important if the study area‘s stratigraphy is to be adequately investigated. Seismic reflection profiles are frequently collected using gridded cruise tracks (lines oriented at right angles), with the spacing between lines determined by the approximate size of landforms or buried features to be imaged. Data from multibeam bathymetric studies, as well as any previous work in the study area can be used to guide this decision. More closely spaced data collection, with a maximum lane spacing of 15 m, may be used to further refine interpretations in areas identified as having a high potential for cultural resources. Prominent acoustic reflections that occur throughout a study area can be selected in some processing systems and a surface of that reflector can be interpolated and the thickness of overlying sediment mapped.

The complementary properties of these two seismic reflection techniques indicate that both should be used in a survey for submerged prehistoric cultural resources. The higher frequency data will provide higher resolution data of near bottom stratigraphy, while the lower frequency technique will investigate more of the subsurface stratigraphic package. While most culturally sensitive areas may be concentrated in the upper portion of the subsurface sediments, it is difficult to understand the geologic history and setting of the study area without seeing as much of the section as possible. In addition, this information is routinely collected for engineering studies for offshore projects. With advance planning, survey for culturally sensitive areas can be accomplished at the same time geotechnical and engineering information is collected, reducing costs.

10.2.4. Vibracoring

Vibracoring may be required for the analysis of high potential geomorphic settings, to allow further analysis of the seabed subsurface geology. While it is highly unlikely that artifacts will be recovered by vibracoring, the sediments and faunal and floral remains obtained provide information about the physical setting and age of the area. A geotechnical program of vibracoring also can determine the presence or absence of paleosols likely associated with prehistoric occupation. This information can then be used to further assess a study area‘s cultural resource potential. Vibracores previously taken in portions of the Atlantic sea floor suggest that the top 1 m (and sometimes deeper) of sediments are recent and/or reworked (LaPorta et al. 1999; Schuldenrein et al. 2000). However, it is possible that intact former land surfaces that may contain prehistoric archaeological deposits are buried beneath the sea floor. If proposed seafloor impacts will disturb more than the top meter of sediment, it is recommended that vibracoring (or similar method of coring) be undertaken in areas of moderate to high potential for the presence of prehistoric sites. The goal of vibracoring would be to determine if there are intact Late Pleistocene and Holocene strata in areas slated for impact. Analysis of the vibracore samples would consist of lithostratigraphic evaluation, dating of any organic material, and identification of any pollen, macrofloral, and/or foraminiferal samples recovered. If intact strata are identified, then it is recommended that those areas be avoided. If avoidance is not possible, then more subsurface testing and/or monitoring to determine if prehistoric materials are present may be recommended.

10.2.1. Remotely Operated Vehicles (ROVs), Autonomous Underwater Vehicles (AUVs), Video Surveys and Submersibles

Ground-truthing of high sensitivity areas identified by remote sensing that lie within an area of proposed impact is typically done by vibracoring, although in cases where surficial deposits are suspected (e.g., around rock outcrops), then it may be accomplished by direct visualization by scuba divers or by ROVs, depending on the bottom conditions (e.g., depth, currents, visibility). These methods are also used to investigate areas once cultural resources have been identified at the seabed surface. ROVs act as the eyes, and sometimes hands, of the investigators. They are, however, limited to material exposed at the seafloor. The equipment is operated tethered from a vessel. A ROV will allow investigation of seabed conditions, visual analysis of features (like rock outcrops, shipwrecks, etc.), and inspection of exposed artifacts. Use of ROVs is restricted by water clarity. Fine-grained bottom sediments can create turbid conditions that greatly reduce visibility. AUVs are programmed to fly over

the bottom and can be equipped with cameras and a variety of geophysical sensors. In locations like the Gulf of Maine, with a large lobstering industry, lobster buoys may preclude use of AUVs.

Video surveys with a towed camera can provide detailed color images of the seabed capable of imaging artifacts and seafloor sediment. These surveys acquire a series of overlapping images along a transect of the seabed. Since it is difficult to know the precise position of the camera for every frame, transects are often short.

Submersible vehicles provide a way for scientists to make direct observations at the seafloor, and in some situations, collect samples. As with ROV's, water clarity can create visibility issues for studies employing submersibles. Submersible vehicles are expensive to build, maintain, and operate, so costs associated with this type of investigation are high.

10.2.2. Geophysical Survey Planning

Initial survey to identify high potential areas for submerged cultural resources requires some of the same information and employs many of the same techniques as those used by the offshore development applicant. Thus, the multibeam bathymetry and backscatter intensity data, side scan sonar, and high resolution (CHIRP) and deep penetration (Boomer) seismic reflection profiling, as well as precision mapping carried out for other aspects of project planning can also serve the needs of cultural resource assessment, with data collected simultaneously that will serve a variety of needs. Depending on the size of the research vessel and project budget, seismic reflection, multibeam and side scan sonar profiles can usually be collected simultaneously. Generally, multibeam data can be gathered at a higher vessel speed than the other techniques, and if such a system is leased, it is sometimes more cost effective to collect bathymetric data first and use it to plan seismic and side scan sonar lines. Interferometric side scan sonar methods additionally provide good quality side scan images and bathymetric data, especially in shallow water. More cultural resources, such as shipwrecks and areas of high prehistoric archaeological potential.

Even when investigations are carried out in cooperation with project engineers, the work should be performed under the supervision of a marine archaeologist, with marine archaeological staff on board the survey vessel for the duration of the survey to monitor data as it is acquired. This arrangement should allow the archaeologist to generate a preliminary real-time inventory of acoustic reflectors with moderate to high potential for representing archaeologically sensitive inundated paleosoils. Upon completion of the field investigation and post-processing and plotting of the survey data, acoustic reflectors identified by the field archaeologist as having moderate to high potential for representing archaeologically sensitive areas should be reevaluated by the archaeologist using the post-processed data in combination with core logs and photographs from any geotechnical coring/boring performed as part of the project. The results of these combined analyses should then be used to generate a final list of archaeologically sensitive areas recommended for avoidance or further investigation and National Register evaluation.

Specific guidelines for remote sensing surveys updating current BOEM protocols are provided in Research Planning, Inc. et al. (2004:35–39, 53). They recommend the use of

sub- meter differential global positioning systems for navigational accuracy, acoustic positioning systems that track towed sensor position, a track line spacing no greater than 30 m, and lines for anomaly definition spaced 10 m on either side of initial contact.

Following these updated guidelines is likely to result in the discovery of more archaeological sites (both prehistoric and historic period) than would have been identified under the old standards, thus possibly preventing future incidents of accidental site disturbance during construction.

10.3. SUMMARY

Investigation of the Douglass Beach Site (8FL17) in Florida state waters illustrates the types of analyses possible in the context of underwater prehistoric sites, analyses that are commonly employed at terrestrial sites (Murphy 1990). In addition to radiocarbon dating of organic materials recovered, sedimentary and geochemical analyses can be employed to understand taphonomy and identify the signatures of human occupation in sea floor sediments (to help refine expectations about evidence of archaeological deposits elsewhere), palynological analysis can be conducted to assist in environmental reconstruction, ethnobotanical and faunal analyses can be carried out on materials whose preservation state may be enhanced by submersion, and artifacts and their provenience can be analyzed as is done for terrestrial sites, although stratigraphic recovery is limited to approximate strata through propeller wash deflector modifications, and small samples obtained through coring. The information potential of submerged sites is comparable to those on land, and could be key to our understanding of the peopling of North America and coastal adaptations in the early millennia of human occupation. The Douglass Beach Site was preserved in a back barrier setting, where it was buried by overwash sediments during transgression, protecting it from high-energy shoreface erosion (Murphy 1990:52). Sites in comparable settings likely exist throughout the Atlantic OCS, and await discovery through the survey methods discussed here.

Watts, Gordon P

2016 Phase I Remote-Sensing Archaeological Survey of Three Proposed Overhead Transmission Line Corridors Crossing the James River From Gravel Neck in Surry County To Skiffes Creek in James City County, Virginia, Revised to Include: Variation Four Alignment Survey and Analysis in 2014 Remote-Sensing Survey of Fender Sites in 2016 Phase II Assessment of Buffer NS WN1 and Cluster EC EF Anomalies in 2016. Tidewater Atlantic Research, Inc., Washington, North Carolina (excerpts from pages 8-13)

(The original chapter and section numbering has been retained, figures are not included and those references have been removed.)

Remote-Sensing Research Methodology

To reliably identify submerged cultural resources, TAR conducted a systematic remote-sensing survey of each of the three proposed overhead transmission line corridors identified in the *Scope of Work (SOW)*. In order to fulfill the requirements stated in the *SOW*, TAR employed both magnetic and acoustic remote-sensing equipment. A combination of magnetic and acoustic remote-sensing equipment represent the state of the art in submerged cultural resource location technology and offers the most reliable and cost effective method of locating and identifying potentially significant targets. TAR personnel utilized the 25-foot vessel Tidewater *Surveyor* to conduct the survey in the central corridor segments and fender locations where the magnetometer, sidescan sonar and sub-bottom profiler could be deployed. A 20-foot Privateer was used to carry a bow-mounted magnetometer in the shallow corridor segments adjacent to the west and east shorelines. Data collection on each vessel was controlled using a differential global positioning system (DGPS). The DGPS produces the highly accurate coordinates necessary to support a sophisticated navigation program and assure reliable target location.

Magnetic Remote Sensing

To identify anomalies associated with submerged cultural resources in the survey area, an EG&G Geometrics G-881 marine cesium magnetometer was employed to collect magnetic data in the survey areas. The EG&G Geometrics G-882 magnetometer is capable of plus or minus 0.001 gamma resolution. The cesium magnetometer provides a scalar measurement of the earth's magnetic field intensity expressed in gammas. To produce the most comprehensive magnetic record, data were collected at 10 samples per second. Due to shallow water in the survey area, the magnetometer sensor was floated on the water surface at a speed of approximately three to four knots. Background noise level did not exceed a total of 1 gamma peak to peak. Magnetic data were monitored on a 100-gamma scale chart as they were recorded as a HYPACK * .RAW file on the navigation computer system.

Acoustic Remote Sensing

A KLEIN 3900 450/900 kHz high-resolution digital sidescan sonar was employed to collect acoustic data in the survey area. During the survey, the sidescan sonar transducer was deployed and maintained at approximately 5 feet below the water surface during data acquisition. Acoustic data was collected along transects spaced on 50-foot intervals to insure 200% coverage. Additional lanes were run in the vicinity of potentially significant targets to enhance target signature definition. Sonar range scales were selected to provide a minimum of 200% coverage of the survey area and high target signature definition. Sonar data was recorded and tied to the magnetic data by regular DGPS annotations.

Acoustic sub-bottom data were collected using an EDGETECH 3100P portable sub-bottom profile with an SB-216S tow vehicle. The SB-216S provides three frequency spectrums between 2 and 15 kHz with a pulse length of 20 msec. Penetration in coarse and calcareous sand is factory rated at 6 meters with from 2 to 10cm of vertical resolution. During the survey the sub- bottom transducer was deployed and maintained between 4 to 6 feet below the water surface unless shallow water dictated otherwise. To facilitate target identification, sub-bottom sonar records were electronically tied to DGPS coordinates. Sub-

bottom data was recorded as a digital file using EDGETECH's Discover software and DGPS provided record positioning.

Positioning System

The remote-sensing survey was run on a helm computer with a digitized navigation chart of the project area. A Trimble DGPS was used to control navigation and data collection in the survey area. The DGPS system has sub-meter accuracy and can be used to generate precise coordinates for the computer navigation system. The DGPS was operated in conjunction with an onboard laptop loaded with HYPACK navigation and data collection software. All magnetic and acoustic records were tied to positioning events generated by HYPACK and magnetic data was stored in the computer in conjunction with DGPS generated positioning coordinates.

Data Analysis

Analysis of the magnetic and acoustic data was carried out as it was generated to ensure reliable target identification and assessment. Using QUICKSURF contouring software, magnetic data generated during the survey was contour plotted at five-gamma intervals for analysis and accurate location of the material generating each magnetic anomaly. Magnetic targets were isolated and analyzed in accordance with intensity, duration, areal extent and signature characteristics. Sonar signatures associated with magnetic targets were analyzed on the basis of configuration, areal extent, target intensity and contrast with background, elevation and shadow image.

Data generated by the remote-sensing equipment was developed to support an assessment of each magnetic and acoustic signature. Analysis of each target signature included consideration of magnetic and sonar signature characteristics previously demonstrated to be reliable indicators of historically significant submerged cultural resources. Assessment of each target included recommendations for additional investigation to determine the exact nature of the cultural material generating the signature and its potential NRHP significance. Historical evidence was developed into a background and shipwreck inventory to facilitate identification of possible correlations with magnetic anomalies and acoustic targets. A magnetic contour map of each survey corridor segment and fender location was produced to aid in the analysis of each target. All targets were listed and described and a map produced that showed their location within the project area.

ATTACHMENT C
Procedures for Post Review Discoveries

PROCEDURES FOR POST REVIEW DISCOVERIES

Post Review Discoveries

The VPA and the USACE will ensure that construction documents contain the following provisions for the treatment of unanticipated discoveries:

"If previously unidentified historic properties or unanticipated effects to historic properties are discovered during contract activities, the contractor shall immediately halt all activity within a one hundred (100) foot radius of the discovery, notify the USACE Project Manager, the VPA Project Manager and the USACE Archaeologist of the discovery and implement interim measures to protect the discovery from looting and vandalism. Work in all other areas not the subject of the discovery may continue without interruption."

Immediately upon receipt of the notification from the construction contractor (see subparagraph immediately above), the USACE Archaeologist shall:

1. Inspect the construction site to determine the extent of the discovery and ensure that the Undertaking in that area has halted;

2. Clearly mark the area of the discovery;

3. Implement additional measures, as appropriate, to protect the discovery from looting and vandalism;

4. Determine the extent of the discovery and provide recommendations regarding its National Register of Historic Places (NRHP) eligibility and treatment; and

5. Notify the USACE Project Manager, the VPA Project Manager, the SHPO and other consulting parties of the discovery describing the measures that have been implemented to comply with this Stipulation.

Upon receipt of the information required in subparagraphs 1-5 above, the USACE and the VPA shall provide the SHPO and other consulting parties with an assessment of the NRHP eligibility of the discovery and the measures proposed to resolve adverse effects. In making the evaluation, the USACE and the VPA, in consultation with the SHPO, may assume the discovery to be eligible for the NRHP for the purposes of Section 106 pursuant to 36 CFR Part 800.13(c). The SHPO and other consulting parties shall respond to the USACE's and the VPA's assessment within forty-eight (48) hours of receipt**.**

The USACE and the VPA shall take into account the SHPO and other consulting parties' recommendations on eligibility and treatment of the discovery and shall provide the SHPO and other consulting parties with a report on the actions when implemented. The Undertaking may proceed in the area of the discovery, once the USACE and the VPA have determined that the actions undertaken to address the discovery pursuant to this Stipulation are complete.

Treatment of Human Remains

The USACE and the VPA shall make all reasonable efforts to avoid disturbing gravesites, including those containing Native American human remains and associated funerary objects. If human remains and/or associated funerary objects are encountered during the course of the Undertaking, the VPA and USACE

shall immediately halt the Undertaking in the area and contact the USACE Archaeologist and the appropriate city Police Department.

The USACE and the VPA shall treat all human remains in a manner consistent with the ACHP's Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects (February 23, 2007; http://www.achp.gov/docs/hrpolicy0207.pdf).

The USACE and the VPA shall make a good faith effort to ensure that the general public is excluded from viewing any Native American burial site or associated funerary objects. The consulting parties to this PA agree to release no photographs of any Native American burial site or associated funerary objects to the press or general public. The USACE shall notify the Delaware Nation, the Delaware Tribe of Indians, and other appropriate federally recognized Tribe(s) if their interest(s) have been established, when Native American burials, human skeletal remains, or funerary objects are encountered during the Undertaking. Following consultation by the USACE, the VPA, the SHPO and identified Tribes with cultural affiliation, the USACE and the VPA shall ensure that proper steps are taken regarding the remains. This could include the delivery of any Native American human skeletal remains and associated funerary objects recovered pursuant to this PA to the appropriate Tribe.

If the remains are determined to be historic and not Native American, USACE and the VPA shall consult with the SHPO and other appropriate consulting parties prior to any excavation by providing a treatment plan including the following information:

- The name of the property or archaeological site and specific location from which the recovery is proposed. If the recovery is from a known archaeological site, a state-issued site number must be included.
- Indication of whether a waiver of public notice is requested and why. If a waiver is not requested, a copy of the public notice to be published in a newspaper having general circulation in the Hampton Roads area for a minimum of four weeks prior to recovery.
- A copy of the curriculum vitae of the skeletal biologist who will perform the analysis of the remains.
- A statement that the treatment of human skeletal remains and associated artifacts will be respectful.
- An expected timetable for excavation, osteological analysis, preparation of final report, and final disposition of remains.
- A statement of the goals and objectives of the removal of human remains (to include both excavation and osteological analysis).
- If a disposition other than reburial is proposed, a statement of justification for that decision.

The USACE Archaeologist shall submit the draft treatment plan to the USACE, the VPA, the SHPO and appropriate consulting parties for review and comment. All comments received within thirty (30) calendar days shall be addressed in the final treatment plan. Upon receipt of final approval in writing from the USACE Archaeologist, the treatment plan shall be implemented prior to those Undertaking activities that could affect the burial(s).

The USACE Archaeologist shall notify the USACE Project Manager, the VPA Project Manager, and the SHPO, and the other consulting parties in writing once the fieldwork portion of the removal of human remains is complete. The Undertaking in the area may proceed following this notification while the technical report is in preparation. The USACE Archaeologist may approve implementation of Undertaking-related ground disturbing activities in the area of the discovery while the technical report is in preparation.

The USACE Archaeologist shall ensure that a draft report of the results of the recovery is prepared within one (1) year of the notification that archaeological fieldwork has been completed and submitted to the USACE, the VPA, the SHPO and the other consulting parties for review and comment. All comments received within thirty (30) calendar days of receipt shall be addressed in the final treatment plan. When the final report has been approved by the USACE Archaeologist, two (2) copies of the document, bound and on acid-free paper and one (1) electronic copy in Adobe® Portable Document Format (.pdf) shall be provided to the SHPO; and one (1) copy in an agreed upon format to each of the other consulting parties.

The USACE Archaeologist shall notify the USACE Project Manager, the VPA Project Manager, the SHPO and other appropriate consulting parties within fifteen (15) calendar days of final disposition of the human remains.

ATTACHMENT D

Contact Information

CONTACT INFORMATION

U.S. Army Corps of Engineers, Norfolk District

Robert N. Pretlow
Civil Engineer, Project Manager
US Army Corps of Engineers
Norfolk District (NAO)
803 Front Street
Norfolk, VA 23510
Office: 757-201-7385
Robert.N.Pretlow@usace.army.mil

John H. Haynes, RPA
Archaeologist & Tribal Liaison
US Army Corps of Engineers
Norfolk District (NAO)
803 Front Street
Norfolk, VA 23510
Office: 757-201-7008
fax 757-201-7646
john.h.haynes@usace.army.mil

Virginia Port Authority

Jeff Florin
Senior Director, Port Development
Virginia Port Authority
600 World Trade Center Norfolk, VA
23510
Office: 757-683-2150
Cell: 757-374-3212
jflorin@PortofVirginia.com

Virginia Department of Historic Resources

Greg LaBudde
Archaeologist
Department of Historic Resources
Review and Compliance Division
2801 Kensington Avenue
Richmond, VA 23221
Office: 804-482-6103
fax: 804-367-2391
gregory.labudde@dhr.virginia.gov

Naval History & Heritage Command

Robert S. Neyland, PhD
Branch Head
Naval History & Heritage Command
Underwater Archaeology Branch
Washington Navy Yard
805 Kidder Breese St., SE
Washington DC, 20374-5060
Office: (202) 685-0897
Robert.Neyland@navy.mil

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

August 8, 2016

Susan McBride
Principal Planner- Historic
City of Norfolk
Department of Planning and Community Development
810 Union Street, Suite 508
Norfolk, Virginia 23510

Dear Ms. McBride,

The US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA) are proposing navigation projects to deepen ship channels in southeastern Virginia (see the enclosed map). The projects are the Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements. Location of the channels and dredged materials placement sites are shown in the enclosure. The two projects together total 47.9 miles in length. Where the project only deepens the dredged channels, dredging would be expanded only slightly. In some reaches of the Norfolk Harbor Channels Deepening project the channel will be widened to allow in-bound an out bound shipping to meet and pass. Expanded dredging for turning areas may be included in the Southern Branch of the Elizabeth River. Dredged material would be placed in existing dredged material management sites, in ocean areas and landfills or for beneficial use in existing beach nourishment projects (see the enclosed map).

About half of each of the projects has been surveyed for underwater archaeological sites. No sites have been found in the area of potential effect of the projects. USACE and VPA have proposed a programmatic agreement with the Virginia State Historic Preservation Officer to defer completion of underwater archaeology surveys to the Preliminary Engineering and Design stage of the project when the potential effects are more accurately known and more funding will be available. USACE invites the City of Norfolk to consult and concur in this programmatic agreement for compliance with Section 106 of the National Historic Preservation Act. Please contact me at (757) 201-7008, john.h.haynes@usace.army.mil, or the address above.

Respectfully,

John H. Haynes
Archaeologist
U.S. Army Corps of Engineers, Norfolk District

THE CITY OF NORFOLK
CITY PLANNING

August 9, 2016

Mr. John H. Hayes, Archaeologist
U.S. Army Corps of Engineers, Norfolk District
Fort Norfolk 803 Front Street
Norfolk, Virginia 23510-1096

RE: Norfolk Harbor Channels Deepening

Dear Mr. Hayes:

Thank you for the invitation to comment on the proposed dredging as it relates to Section 106 of the National Historic Preservation Act for the above referenced project. Per the information supplied in the packet, this proposal as described in your letter will not impact any known historic resources within the city of Norfolk.

I appreciate the opportunity to comment on this proposal. Should you have any questions that I could be of assistance with, I can be reached directly by phone at 757/823-1451 or email: susan.mcbride@norfolk.gov.

Sincerely,

Susan M. McBride

Susan M. McBride,
Principal Planner—Historic

Cc: Mr. Chuck Joyner, Assistant City Engineer, Public Works Department, City of Norfolk

Preserving America's Heritage

July 25, 2016

Mr. John Haynes
Norfolk District
U.S. Army Corps of Engineers
803 Front Street
Norfolk, VA 23510

Ref: *Proposed Elizabeth River and South Branch Channels Project*
Norfolk, Virginia

Dear Mr. Haynes:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Virginia State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Mr. Brian Lusher at 202-517-0221 or via e-mail at blusher@achp.gov.

Sincerely,

Artisha Thompson
Historic Preservation Technician
Office of Federal Agency Programs

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

May 31, 2016

Planning and Policy Branch

Brian Lusher
Advisory Council on Historic Preservation
Office of Federal Agency Programs
Federal Property Management Section
401 F Street NW, Suite 308
Washington, DC 20001-2637

Dear Mr. Lusher,

The U.S. Army Corps of Engineers, Norfolk District (USACE) and the Virginia Department of Historic Resources (DHR) are developing Programmatic Agreements (PA's) for compliance with Section 106 of the National Historic Preservation Act, with regards to two navigation projects which will deepen and widen channels in eastern Virginia.

The two projects are the Norfolk Harbor Channels project and the Elizabeth River and Southern Branch Channels project which the U.S. Army Corps of Engineers Norfolk District is developing with the Virginia Ports Authority as the non-federal sponsor. Although marine archaeology survey has been conducted over substantial portions of the area of potential effects for both of these projects with no significant finds, project managers have determined that it is not feasible to complete archaeological surveys for the projects during the Feasibility Study stage. The PA's, one for each project in accordance to DHR's request, will allow USACE to defer completion of archaeological surveys to the Preliminary Engineering and Design stage while completing NEPA in the Feasibility Study stage, as allowed under 36 CFR § 800.14(b)(1)(ii).

We invite the Advisory Council on Historic Preservation to participate in the development of these PA's in accordance with 36 CFR § 800.14(b).

Please address your response, questions, or comments to me at john.h.haynes@usace.army.mil , 757-201-7008, or the address above.

Sincerely,

John H. Haynes
Archaeologist
Planning and Policy Branch,
Environmental Analysis Section

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

August 8, 2016

Nekole Alligood
Cultural Preservation Department Director
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Dear Director Alligood,

The US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA) are proposing navigation projects to deepen ship channels in southeastern Virginia (see the enclosed map). The projects are the Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements. Location of the channels and dredged materials placement sites are shown in the enclosure. The two projects together total 47.9 miles in length. Where the project only deepens the dredged channels, dredging would be expanded only slightly. In some reaches of the Norfolk Harbor Channels Deepening project the channel will be widened to allow in-bound an out bound shipping to meet and pass. Expanded dredging for turning areas may be included in the Southern Branch of the Elizabeth River. Dredged material would be placed in existing dredged material management sites, in ocean areas and landfills or for beneficial use in existing beach nourishment projects (see the enclosed map).

About half of each of the projects has been surveyed for underwater archaeological sites. No sites have been found in the area of potential effect of the projects. USACE and VPA have proposed a programmatic agreement with the Virginia State Historic Preservation Officer to defer completion of underwater archaeology surveys to the Preliminary Engineering and Design stage of the project when the potential effects are more accurately known and more funding will be available. USACE invites the Delaware Nation to consult and concur in this programmatic agreement for compliance with Section 106 of the National Historic Preservation Act. Please contact me at (757) 201-7008, john.h.haynes@usace.army.mil, or the address above.

Respectfully,

John H. Haynes
Archaeologist
U.S. Army Corps of Engineers, Norfolk District

The Delaware Nation
NAGPRA/106 Department
31064 State Highway 281
Anadarko, OK 73005
Phone (405)247-2448 Fax (405) 247-8905

NAGPRA ext. 1182
Museum/106 ext. 1181
Library ext. 1196
Director ext. 1180

8 August 2016

To Whom It May Concern:

The Delaware Nation Cultural Preservation Department received correspondence regarding the following referenced project(s).

> **Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements; USACE – Norfolk District and the Virginia Port Authority. Southeastern Virginia.**

Our office is committed to protecting tribal heritage, culture and religion with particular concern for archaeological sites potentially containing burials and associated funerary objects.

The Lenape people occupied the area indicated in your letter during, or prior to, European contact until their eventual removal to our present locations. According to our files, the location of the proposed project does not endanger cultural or religious sites of interest to the Delaware Nation. **Please continue with the project as planned** keeping in mind during construction should an archaeological site or artifacts inadvertently be uncovered, all construction and ground disturbing activities should immediately be halted until the appropriate state agencies, as well as this office, are notified (within 24 hours), and a proper archaeological assessment can be made.

Please note the Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Band of Mohican Indians are the only Federally Recognized Delaware/Lenape entities in the United States and consultation must be made only with designated staff of these three tribes. We appreciate your cooperation in contacting the Delaware Nation Cultural Preservation Office to conduct proper Section 106 consultation. Should you have any questions, feel free to contact our offices at 405/247-8903 or by email: nalligood@delawarenation.com, or jross@delawarenation.com.

Nekole Alligood
NAGPRA/106 Director
The Delaware Nation
31064 State Highway 281
Anadarko, OK 73005

From:	Neyland, Robert UA Branch Head, NHHC
To:	Haynes, John H. NAO
Cc:	Atcheson, Blair B CIV NHHC, UAB; Catsambis, Alexis CIV NHHC
Subject:	RE: Programmatic Agreement for Norfolk Navigation Projects (UNCLASSIFIED)
Date:	Tuesday, August 30, 2016 10:37:56 AM

Dear John

Thank you for your letter of 8 August 2016 regarding the US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA)
proposed navigation projects to deepen and in some instances widen ship channels in the Norfolk Harbor channels, the Elizabeth River, and Elizabeth River Southern Branch. This is a large area that might contain historically significant sunken military craft. Therefore, the Naval History and Heritage Command (NHHC) would be interested in consulting in regards to this activity and being a party to the programmatic agreement developed for compliance with Section 106 of the National Historic Preservation Act.

NHHC would be interested in reviewing some of the remote sensing data as it is acquired and reviewing any reports generated by the surveys in preparation for the dredging activities.

Please let me know if you need a written letter from NHHC confirming our interest in being a consulting party to the programmatic agreement or if this email suffices.

Very Best Regards

Robert S. Neyland, PhD
Branch Head
Underwater Archaeology Branch
Naval History & Heritage Command
Washington Navy Yard
805 Kidder Breese St., SE
Washington DC, 20374-5060
Tel: (202) 685-0897
Email: Robert.Neyland@navy.mil

-----Original Message-----
From: Haynes, John H. NAO [mailto:John.H.Haynes@usace.army.mil]
Sent: Friday, August 12, 2016 1:27 PM
To: Neyland, Robert UA Branch Head, NHHC
Subject: Programmatic Agreement for Norfolk Navigation Projects (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Please see the attached letter.

V/r

John H. Haynes, RPA
Archaeologist & Tribal Liaison
US Army Corps of Engineers,
Norfolk District (NAO)
803 Front Street
Norfolk, VA 23510
757-201-7008
fax 757-201-7646
john.h.haynes@usace.army.mil

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

August 8, 2016

Chesapeake Planning Department
City of Chesapeake Planning Department
306 Cedar Road
2nd Floor
Chesapeake, VA 23322

To Whom It May Concern,

The US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA) are proposing navigation projects to deepen ship channels in southeastern Virginia (see the enclosed map). The projects are the Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements. Location of the channels and dredged materials placement sites are shown in the enclosure. The two projects together total 47.9 miles in length. Where the project only deepens the dredged channels, dredging would be expanded only slightly. In some reaches of the Norfolk Harbor Channels Deepening project the channel will be widened to allow in-bound an out bound shipping to meet and pass. Expanded dredging for turning areas may be included in the Southern Branch of the Elizabeth River. Dredged material would be placed in existing dredged material management sites, in ocean areas and landfills or for beneficial use in existing beach nourishment projects (see the enclosed map).

About half of each of the projects has been surveyed for underwater archaeological sites. No sites have been found in the area of potential effect of the projects. USACE and VPA have proposed a programmatic agreement with the Virginia State Historic Preservation Officer to defer completion of underwater archaeology surveys to the Preliminary Engineering and Design stage of the project when the potential effects are more accurately known and more funding will be available. USACE invites the City of Chesapeake Planning Department to consult and concur in this programmatic agreement for compliance with Section 106 of the National Historic Preservation Act. Please contact me at (757) 201-7008, john.h.haynes@usace.army.mil, or the address above.

Respectfully,

John H. Haynes
Archaeologist
U.S. Army Corps of Engineers, Norfolk District

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

August 8, 2016

Robert Baldwin
Director
City of Portsmouth Planning Department
801 Crawford Street
4th Floor
Portsmouth, VA 23704

Dear Mr. Baldwin,

The US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA) are proposing navigation projects to deepen ship channels in southeastern Virginia (see the enclosed map). The projects are the Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements. Location of the channels and dredged materials placement sites are shown in the enclosure. The two projects together total 47.9 miles in length. Where the project only deepens the dredged channels, dredging would be expanded only slightly. In some reaches of the Norfolk Harbor Channels Deepening project the channel will be widened to allow in-bound an out bound shipping to meet and pass. Expanded dredging for turning areas may be included in the Southern Branch of the Elizabeth River. Dredged material would be placed in existing dredged material management sites, in ocean areas and landfills or for beneficial use in existing beach nourishment projects (see the enclosed map).

About half of each of the projects has been surveyed for underwater archaeological sites. No sites have been found in the area of potential effect of the projects. USACE and VPA have proposed a programmatic agreement with the Virginia State Historic Preservation Officer to defer completion of underwater archaeology surveys to the Preliminary Engineering and Design stage of the project when the potential effects are more accurately known and more funding will be available. USACE invites the City of Portsmouth Planning Department to consult and concur in this programmatic agreement for compliance with Section 106 of the National Historic Preservation Act. Please contact me at (757) 201-7008, john.h.haynes@usace.army.mil, or the address above.

Respectfully,

John H. Haynes
Archaeologist
U.S. Army Corps of Engineers, Norfolk District

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

August 8, 2016

Bryan Polite
Trustee
Shinnecock Indian Nation
P.O. Box 5006
Southampton, NY 11969-5006

Dear Trustee Polite,

The US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA) are proposing navigation projects to deepen ship channels in southeastern Virginia (see the enclosed map). The projects are the Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements. Location of the channels and dredged materials placement sites are shown in the enclosure. The two projects together total 47.9 miles in length. Where the project only deepens the dredged channels, dredging would be expanded only slightly. In some reaches of the Norfolk Harbor Channels Deepening project the channel will be widened to allow in-bound an out bound shipping to meet and pass. Expanded dredging for turning areas may be included in the Southern Branch of the Elizabeth River. Dredged material would be placed in existing dredged material management sites, in ocean areas and landfills or for beneficial use in existing beach nourishment projects (see the enclosed map).

About half of each of the projects has been surveyed for underwater archaeological sites. No sites have been found in the area of potential effect of the projects. USACE and VPA have proposed a programmatic agreement with the Virginia State Historic Preservation Officer to defer completion of underwater archaeology surveys to the Preliminary Engineering and Design stage of the project when the potential effects are more accurately known and more funding will be available. USACE invites the Shinnecock Indian Nation to consult and concur in this programmatic agreement for compliance with Section 106 of the National Historic Preservation Act. Please contact me at (757) 201-7008, john.h.haynes@usace.army.mil, or the address above.

Respectfully,

John H. Haynes
Archaeologist
U.S. Army Corps of Engineers, Norfolk District

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

August 8, 2016

Wenonah Haire
Tribal Historic Preservation Officer
Catawba Indian Nation
1536 Tom Steven Road
Rock Hill, SC 29730

Dear Dr. Haire,

The US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA) are proposing navigation projects to deepen ship channels in southeastern Virginia (see the enclosed map). The projects are the Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements. Location of the channels and dredged materials placement sites are shown in the enclosure. The two projects together total 47.9 miles in length. Where the project only deepens the dredged channels, dredging would be expanded only slightly. In some reaches of the Norfolk Harbor Channels Deepening project the channel will be widened to allow in-bound an out bound shipping to meet and pass. Expanded dredging for turning areas may be included in the Southern Branch of the Elizabeth River. Dredged material would be placed in existing dredged material management sites, in ocean areas and landfills or for beneficial use in existing beach nourishment projects (see the enclosed map).

About half of each of the projects has been surveyed for underwater archaeological sites. No sites have been found in the area of potential effect of the projects. USACE and VPA have proposed a programmatic agreement with the Virginia State Historic Preservation Officer to defer completion of underwater archaeology surveys to the Preliminary Engineering and Design stage of the project when the potential effects are more accurately known and more funding will be available. USACE invites the Catawba Indian Nation to consult and concur in this programmatic agreement for compliance with Section 106 of the National Historic Preservation Act. Please contact me at (757) 201-7008, john.h.haynes@usace.army.mil, or the address above.

Respectfully,

John H. Haynes
Archaeologist
U.S. Army Corps of Engineers, Norfolk District

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

August 8, 2016

Matthew Thomas
Chief Sachem
Narragansett Indian Tribe
P.O. Box 268
Charlestown, RI 02813

Dear Chief Sachem Thomas,

The US Army Corps of Engineers, Norfolk District (USACE) and the Virginia Port Authority (VPA) are proposing navigation projects to deepen ship channels in southeastern Virginia (see the enclosed map). The projects are the Norfolk Harbor Channels Deepening and the Elizabeth River and Elizabeth River Southern Branch Navigation Improvements. Location of the channels and dredged materials placement sites are shown in the enclosure. The two projects together total 47.9 miles in length. Where the project only deepens the dredged channels, dredging would be expanded only slightly. In some reaches of the Norfolk Harbor Channels Deepening project the channel will be widened to allow in-bound an out bound shipping to meet and pass. Expanded dredging for turning areas may be included in the Southern Branch of the Elizabeth River. Dredged material would be placed in existing dredged material management sites, in ocean areas and landfills or for beneficial use in existing beach nourishment projects (see the enclosed map).

About half of each of the projects has been surveyed for underwater archaeological sites. No sites have been found in the area of potential effect of the projects. USACE and VPA have proposed a programmatic agreement with the Virginia State Historic Preservation Officer to defer completion of underwater archaeology surveys to the Preliminary Engineering and Design stage of the project when the potential effects are more accurately known and more funding will be available. USACE invites the Narragansett Indian Tribe to consult and concur in this programmatic agreement for compliance with Section 106 of the National Historic Preservation Act. Please contact me at (757) 201-7008, john.h.haynes@usace.army.mil, or the address above.

Respectfully,

John H. Haynes
Archaeologist
U.S. Army Corps of Engineers, Norfolk District

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1096

Reply to
Attention of

May 22, 2017

Planning and Policy Branch

Ms. Christine Vaccaro
NOAA Fisheries, Greater Atlantic Region Fisheries Office
Protected Resources Division
55 Great Republic Drive
Gloucester, MA 01930

Dear Ms. Vaccaro:

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA, Title 40 of the Code of Federal Regulations, part 1501.6), we would like to invite the National Oceanic and Atmospheric Administration Protected Resources Divison (NOAA PRD) to participate as a cooperating agency in the development of an Environmental Assessment (EA), for the Elizabeth River Southern Branch (ERSB) deepening study. The study is being undertaken as a General Reevaluation Report (GRR), with the Port of Virginia (VPA) as our nonfederal sponsor.

The existing ERSB navigation channels were originally authorized as part of the Norfolk Harbor and Channels, Virginia, Project, which is a single purpose deep draft navigation project located in Hampton Roads. The Hampton Roads Harbor is a 25-square-mile natural harbor serving the port facilities in the cities of Norfolk, Newport News, Portsmouth, Chesapeake, and Hampton in southeastern Virginia. Since its authorization in 1986, the project has been constructed in separable elements based on the needs of the port community and the financial capability of the non-federal sponsor, the VPA, agent of the Commonwealth of Virginia. The ERSB components of the Norfolk Harbor and Channels authorized project are authorized to depths ranging from 45 to 40 feet and have maintained to depths ranging from 40 to 35 feet.

The purpose of this study is to identify whether the authorized plan is still in the federal interest and to evaluate measures which would improve the operational efficiency of commercial vessels currently using the federal navigation channel at the Elizabeth River and Southern Branch of the Elizabeth River and commercial vessels projected to use the federal navigation channel in the future. The need for this project arises from inefficiencies currently experienced by commercial vessels in Norfolk Harbor and Channels. These inefficiencies are projected to continue in the future as vessel sizes are expected to increase.

The ERSB study is divided into two segments: the Elizabeth River Segment and the Southern Branch Segment, as shown on the maps that follow. The dredge disposal area will be Craney Island Dredged Material Management Area (CIDMMA) for both; however, if any unsuitable material is encountered, it will be disposed of in an approved upland landfill facility.

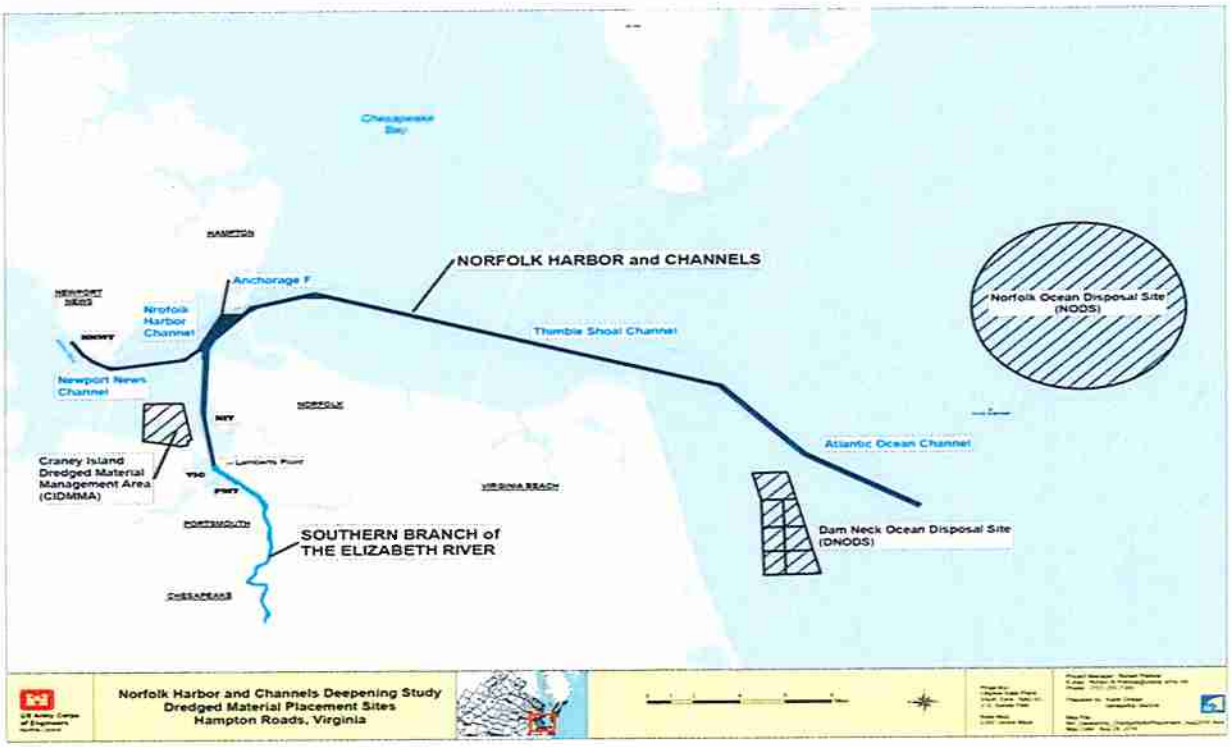

Figure 1. Location of Elizabeth River and Southern Branch Channels is in light blue. The location of the Norfolk Harbor and Channels (not part of this project) is shown in navy blue.

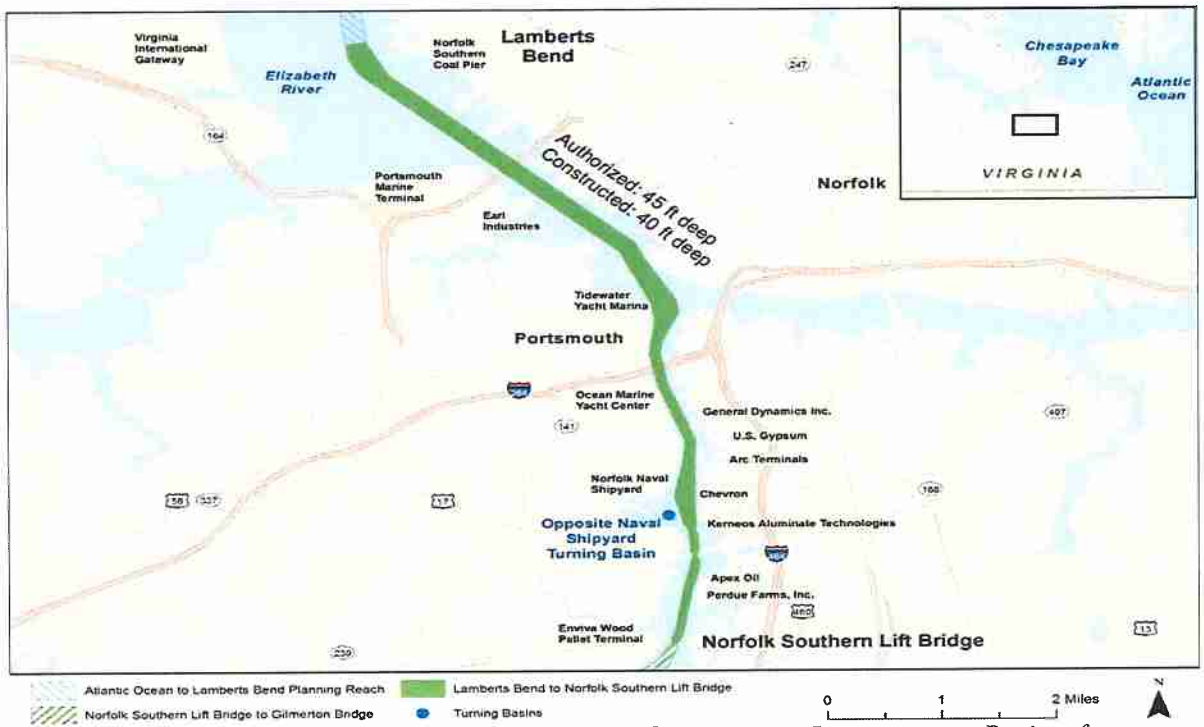

Figure 2. Segment 1. Elizabeth River and Southern Branch Navigation Improvements Project from Lamberts Bend to the Norfolk Southern Lift Bridge.

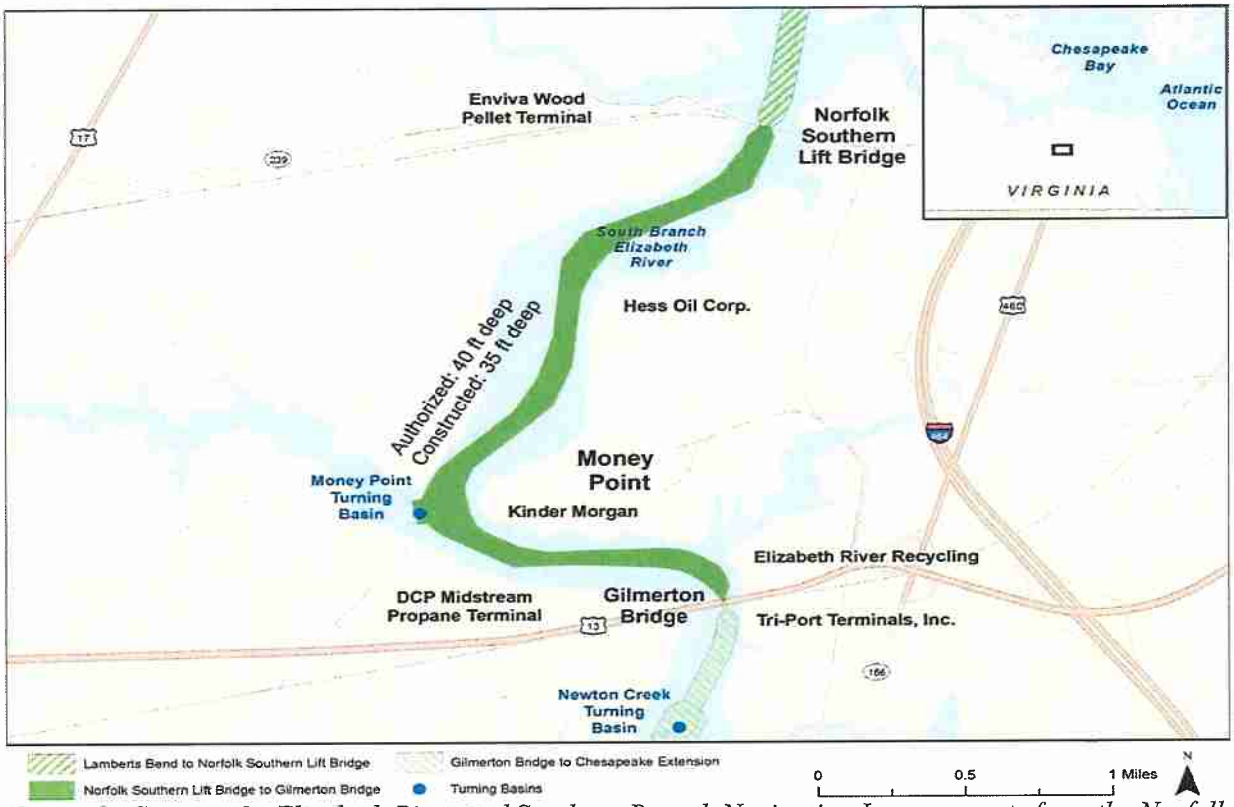

Figure 3. Segment 2. Elizabeth River and Southern Branch Navigation Improvements from the Norfolk Southern Lift Bridge to the Gilmerton Bridge

A Notice of Intent to prepare an EA was posted in the Federal Register on September 22, 2015; and a public scoping meeting was held on September 24, 2015, for the current study.

Through designation as a cooperating agency, the USFWS will be able to play an integral role in shaping the issues related to these proposed actions. We request that you indicate your interest in becoming a cooperating agency within 15 days of receipt of this letter. Details will follow regarding further coordination on this project.

Thank you for your consideration of our invitation. If you have any questions or would like to discuss in more detail our agencies' respective roles and responsibilities, you may contact Ms. Kathy Perdue at (757) 201-7218.

Sincerely,

Kathy Perdue

Kathy Perdue
Biologist, Environmental Analysis Section

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

AUG 18 2016

Kathy Perdue
Department of the Army
Norfolk District, US Army Corps of Engineers
Fort Norfolk
803 Front Street
Norfolk, VA 23510-1011

Re: General Reevaluation Report for the Norfolk Harbor and Channels deepening project

Dear Ms. Perdue,

We received your letter on August 16, 2016, regarding the Norfolk Harbor and Channels deepening project, for which you request information about threatened and endangered species and critical habitat under the jurisdiction of NOAA's National Marine Fisheries Service (NMFS).

Species Presence

Sea Turtles
Several species of threatened and endangered sea turtles occur seasonally in the Chesapeake Bay and its tributaries and coastal Virginia waters, during the warmer months, typically from late April through mid-November. The Western North Atlantic Distinct Population Segment (DPS) of loggerhead sea turtles (*Caretta caretta*), as well as Kemp's ridley (*Lepidochelys kempi*), and green sea turtles (*Chelonia mydas*) are present in these waters mainly during late spring, summer and early fall when water temperatures are relatively warm.

Atlantic Sturgeon
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) occur in estuarine and marine waters along the U.S. Atlantic coast and may be present in the vicinity of project area. The New York Bight, Chesapeake Bay, South Atlantic, and Carolina DPSs of Atlantic sturgeon are endangered; the Gulf of Maine DPS is threatened. Individuals originating from any of these DPSs could occur in the project areas. Juvenile and early life stages of Atlantic sturgeon will not be present as they are not able to tolerate the high salinity of marine and coastal waters.

Proposed Atlantic Sturgeon Critical Habitat

On June 3, 2016, NMFS issued two proposed rules to designate critical habitat for the five listed distinct population segments (DPSs) of Atlantic sturgeon found in U.S. waters (Gulf of Maine, New York Bight, and Chesapeake Bay DPSs: 81 FR 35701; Carolina and South Atlantic DPSs: 81 FR 36078). Federal agencies are required to confer with NFMS on any action that is likely to jeopardize the continued existence of any species proposed for listing or result in destruction or adverse

modification of proposed critical habitat (50 CFR §402.10). "Destruction or adverse modification" is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species (50 CFR § 402.02). The proposed rules identified the following four essential physical and biological features (PBFs) necessary for the conservation of the species. The term "physical or biological features" is defined as the features that support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species or other features.

1) Hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0 to 0.5 parts per thousand range) for settlement of fertilized eggs, refuge, growth, and development of early life stages;

2) Aquatic habitat with a gradual downstream salinity gradient of 0.5 to 30 parts per thousand and soft substrate (e.g., sand, mud) downstream of spawning sites for juvenile foraging and physiological development;

3) Water of appropriate depth and absent physical barriers to passage (e.g., locks, dams, reservoirs, gear, etc.) between the river mouth and spawning sites necessary to support: (1) Unimpeded movement of adults to and from spawning sites; (2) seasonal and physiologically dependent movement of juvenile Atlantic sturgeon to appropriate salinity zones within the river estuary; and (3) staging, resting, or holding of subadults or spawning condition adults. Water depths in main river channels must also be deep enough (e.g., >1.2 m) to ensure continuous flow in the main channel at all times when any sturgeon life stage would be in the river; and

4) Water, especially in the bottom meter of the water column, with the temperature, salinity, and oxygen values that, combined, support: (1) spawning; (2) annual and interannual adult, subadult, larval, and juvenile survival; and (3) larval, juvenile, and subadult growth, development, and recruitment (e.g., 13°C to 26°C for spawning habitat and no more than 30°C for juvenile rearing habitat, and 6 mg/L dissolved oxygen for juvenile rearing habitat).

NFMS has proposed to designate Atlantic sturgeon critical habitat for the Chesapeake Bay DPS in the James River from Boshers Dam downstream for 160 river kilometers to where the main stem river discharges at its mouth into the Chesapeake Bay at Hampton Roads. The Newport News Channel overlaps with this proposed critical habitat, as does project related vessel traffic to the Elizabeth River, including trips to Craney Island Dredged Material Management Area. For additional details, please see: www.greateratlantic.fisheries.noaa.gov/protected/section7/guidance/maps/index.html.

As project plans develop, we recommend you consider the following project best management practices and avoidance / minimization measures for all of the proposed project's activities that might affect sea turtles and sturgeon.

• For activities that increase levels of suspended sediment, consider the use of silt management and / or soil erosion best practices (i.e., silt curtains and / or cofferdams).

• For any impacts to habitat or conditions that temporarily render affected water bodies unsuitable for the above-mentioned species, consider the use of timing restrictions for in-water work.

• For work that will increase vessel traffic, consider restricting the number of trips taken by each vessel and restricting the speed at which the vessel can travel.

For additional guidance on the section 7 consultation process, technical resources and species information, please visit our website:
http://www.greateratlantic.fisheries.noaa.gov/protected/section7/.

You will be responsible for determining whether the proposed action may affect listed species. If you determine that the proposed action may affect a listed species, you should submit your determination of effects, along with justification and a request for concurrence to the attention of the Section 7 Coordinator, NMFS, Greater Atlantic Regional Fisheries Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930. After reviewing this information, we would then be able to conduct a consultation under section 7 of the ESA. If you have any questions regarding these comments, please contact Ms. Ainsley Smith (978-281-9291; Ainsley.Smith@noaa.gov)

Per your request, we have provided reinitation guidance. Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; (c) If a new species is listed or critical habitat designated that may be affected by the identified action; or (d) If the amount or extent of taking specified in the incidental take statement is exceeded. Trigger (d) only applies for formal consultations that include an Incidental Take Statement within a Biological Opinion. No take is exempted in informal consultation. If there is any incidental take of a listed species, reinitiation would be required immediately.

Magnuson-Stevens Fishery Conservation and Management Act
Essential fish habitat (EFH) may be present within the Elizabeth River and coastal Virginia. Further EFH consultation by the lead federal action agency may be required as part of the federal permit process. For a listing of EFH and further information, please visit our website, www.greateratlantic.fisheries.noaa.gov/habitat. If you have any questions regarding EFH, please contact David O'Brien (david.l.o'brien@noaa.gov, 804-684-7828).

Sincerely,

Mark Murray-Brown
Section 7 Coordinator
for Protected Resources

File H:\Section 7 Team\Section 7\Non-Fisheries\ACOE\Technical Assistance\2016\Norfolk and VPA
EC: NMFS Smith, O'Brien

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

AUG 18 2016

Kathy Perdue
Department of the Army
Norfolk District, US Army Corps of Engineers
Fort Norfolk
803 Front Street
Norfolk, VA 23510-1011

Re: General Reevaluation Reports for the Southern Branch of the Elizabeth River Deepening project

Dear Ms. Perdue,

We received your letter on August 16, 2016, regarding the Southern Branch of the Elizabeth River deepening project, for which you request information about threatened and endangered species and critical habitat under the jurisdiction of NOAA's National Marine Fisheries Service (NMFS).

Species Presence

Sea Turtles
Several species of threatened and endangered sea turtles occur seasonally in the Chesapeake Bay and its tributaries and coastal Virginia waters, during the warmer months, typically from late April through mid-November. The Western North Atlantic Distinct Population Segment (DPS) of loggerhead sea turtles (*Caretta caretta*), as well as Kemp's ridley (*Lepidochelys kempi*), and green sea turtles (*Chelonia mydas*) are present in these waters mainly during late spring, summer and early fall when water temperatures are relatively warm.

Atlantic Sturgeon
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) occur in estuarine and marine waters along the U.S. Atlantic coast and may be present in the vicinity of project area. The New York Bight, Chesapeake Bay, South Atlantic, and Carolina DPSs of Atlantic sturgeon are endangered; the Gulf of Maine DPS is threatened. Individuals originating from any of these DPSs could occur in the project areas. Juvenile and early life stages of Atlantic sturgeon will not be present as they are not able to tolerate the high salinity of marine and coastal waters.

Proposed Atlantic Sturgeon Critical Habitat

On June 3, 2016, NMFS issued two proposed rules to designate critical habitat for the five listed distinct population segments (DPSs) of Atlantic sturgeon found in U.S. waters (Gulf of Maine, New York Bight, and Chesapeake Bay DPSs: 81 FR 35701; Carolina and South Atlantic DPSs: 81 FR 36078). Federal agencies are required to confer with NFMS on any action that is likely to jeopardize the continued existence of any species proposed for listing or result in destruction or adverse

modification of proposed critical habitat (50 CFR §402.10). "Destruction or adverse modification" is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species (50 CFR § 402.02). The proposed rules identified the following four essential physical and biological features (PBFs) necessary for the conservation of the species. The term "physical or biological features" is defined as the features that support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species or other features.

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4) Water, especially in the bottom meter of the water column, with the temperature, salinity, and oxygen values that, combined, support: (1) spawning; (2) annual and interannual adult, subadult, larval, and juvenile survival; and (3) larval, juvenile, and subadult growth, development, and recruitment (e.g., 13°C to 26°C for spawning habitat and no more than 30°C for juvenile rearing habitat, and 6 mg/L dissolved oxygen for juvenile rearing habitat).

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Per your request, we have provided reinitation guidance. Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; (c) If a new species is listed or critical habitat designated that may be affected by the identified action; or (d) If the amount or extent of taking specified in the incidental take statement is exceeded. Trigger (d) only applies for formal consultations that include an Incidental Take Statement within a Biological Opinion. No take is exempted in informal consultation. If there is any incidental take of a listed species, reinitiation would be required immediately.

Magnuson-Stevens Fishery Conservation and Management Act

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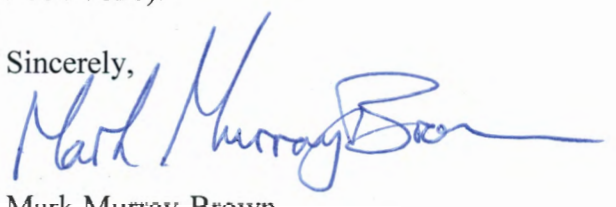
Sincerely,



Mark Murray-Brown
Section 7 Coordinator
for Protected Resources

File H:\Section 7 Team\Section 7\Non-Fisheries\ACOE\Technical Assistance\2016\Norfolk and VPA
EC: NMFS Smith, O'Brien

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

JUN 21 2017

Kathy Perdue
Biologist, Environmental Analysis Section
U.S. Army Corps of Engineers, Norfolk District
803 Front Street
Norfolk, VA 23510-1096

Re: Elizabeth River Southern Branch deepening study; Cooperating Agency Request

Dear Ms. Perdue:

Your letter dated May 22, 2015, requested that we participate as a cooperating agency in the development of an Environmental Assessment (EA) for the Elizabeth River Southern Branch (ERSB) deepening study being prepared by your agency and the Virginia Port Authority (VPA). The EA is being prepared in accordance with the National Environmental Policy Act (NEPA) to evaluate measures that would improve the operational efficiency of commercial vessels using ERSB. We agree to participate as a cooperating agency to help foster a collaborative process and interagency coordination on this project.

Because our role and degree of involvement as a cooperating agency is dependent on existing staff and fiscal resources, our contribution to the process will be limited to participating in project meetings and providing written comments in response to your documents prepared as part of the NEPA process. We will provide technical information identifying aquatic species and habitats of concern, identification of issues to be considered and evaluated during the NEPA process and guidance on evaluating, avoiding and minimizing project effects to our trust resources. At this time we are unable to undertake any data collection, conduct analyses or to prepare any sections of the EA as our staff and resources are fully committed to other obligatory programs of NOAA Fisheries.

Please note that our participation as a cooperating agency does not constitute an endorsement of this project, nor does it obviate the need for consultations required under the Magnuson-Stevens Fishery Conservation and Management Act, Fish and Wildlife Coordination Act, and the Endangered Species Act.

Thank you for the opportunity to participate as a cooperating agency on this project. We look forward to working with VPA and your staff as the EA is prepared. If you have any questions regarding this matter, please contact David O'Brien in our Virginia Field Office at 804-684-7828 or david.l.o'brien@noaa.gov. For information regarding essential fish habitat and other

trust resources contact Ms. Chris Vaccaro at 978-281-9167 or christine.vaccaro@noaa.gov for information regarding threatened and endangered species.

Sincerely,

Louis A. Chiarella,
Assistant Regional Administrator
for Habitat Conservation

Ec: O'Brien -NMFS/HCD
B. Hopper, C. Vaccaro - NMFS/PRD

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1096

Reply to
Attention of

May 22, 2017

Planning and Policy Branch

Ms. Barbara Rudnick, P.G.
NEPA Team Leader
Environmental Protection Agency, Region III
1650 Arch Street (3EA30)
Philadelphia, PA 19103

Dear Ms. Rudnick:

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA, Title 40 of the Code of Federal Regulations, part 1501.6), we would like to invite the U.S. Environmental Protection Agency (EPA) to participate as a cooperating agency in the development of an Environmental Assessment (EA), for the Elizabeth River Southern Branch (ERSB) deepening study. The study is being undertaken as a General Reevaluation Report (GRR), with the Port of Virginia (VPA) as our nonfederal sponsor.

The existing ERSB navigation channels were originally authorized as part of the Norfolk Harbor and Channels, Virginia, Project, which is a single purpose deep draft navigation project located in Hampton Roads. The Hampton Roads Harbor is a 25-square-mile natural harbor serving the port facilities in the cities of Norfolk, Newport News, Portsmouth, Chesapeake, and Hampton in southeastern Virginia. Since its authorization in 1986, the project has been constructed in separable elements based on the needs of the port community and the financial capability of the non-federal sponsor, the VPA, agent of the Commonwealth of Virginia. The ERSB components of the Norfolk Harbor and Channels authorized project are authorized to depths ranging from 45 to 40 feet and have maintained to depths ranging from 40 to 35 feet.

The purpose of this study is to identify whether the authorized plan is still in the federal interest and to evaluate measures which would improve the operational efficiency of commercial vessels currently using the federal navigation channel at the Elizabeth River and Southern Branch of the Elizabeth River and commercial vessels projected to use the federal navigation channel in the future. The need for this project arises from inefficiencies currently experienced by commercial vessels in Norfolk Harbor and Channels. These inefficiencies are projected to continue in the future as vessel sizes are expected to increase.

The ERSB study is divided into two segments: the Elizabeth River Segment and the Southern Branch Segment, as shown on the maps that follow. The dredge disposal area will be Craney Island Dredged Material Management Area (CIDMMA) for both; however, if any unsuitable material is encountered, it will be disposed of in an approved upland landfill facility.

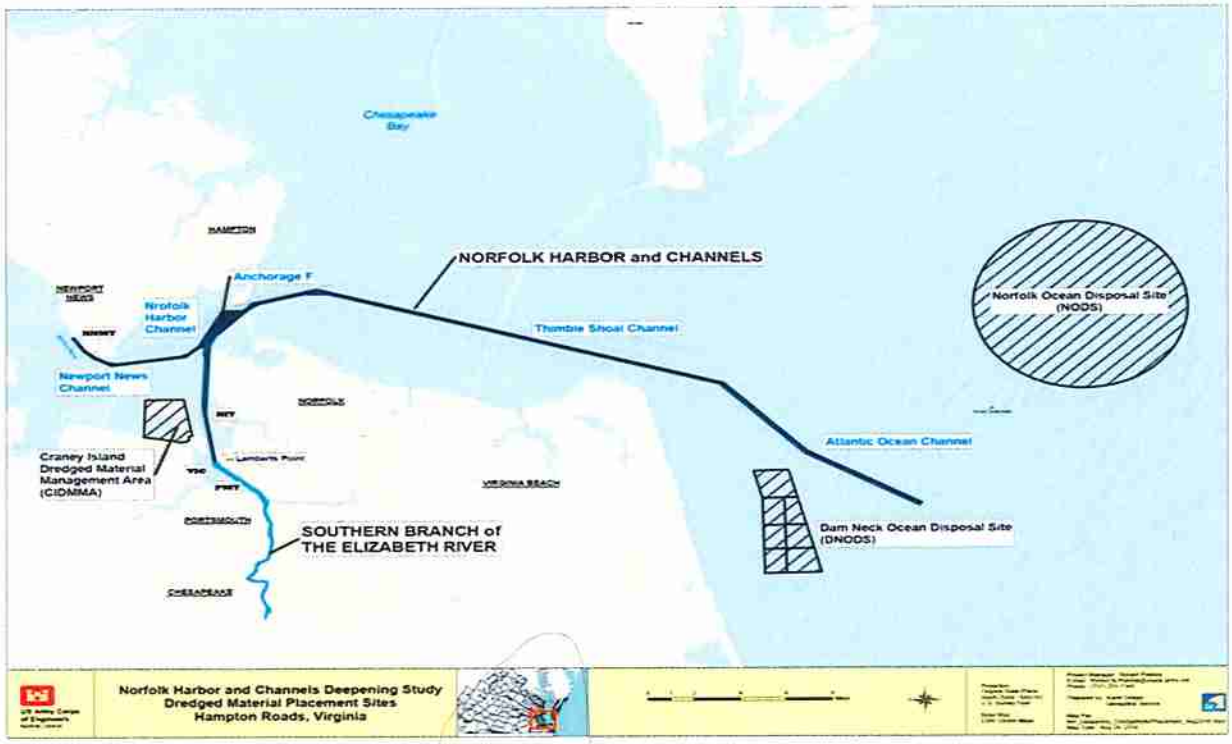


Figure 1. Location of Elizabeth River and Southern Branch Channels is in light blue. The location of the Norfolk Harbor and Channels (not part of this project) is shown in navy blue.

Figure 2. Segment 1. Elizabeth River and Southern Branch Navigation Improvements Project from Lamberts Bend to the Norfolk Southern Lift Bridge.

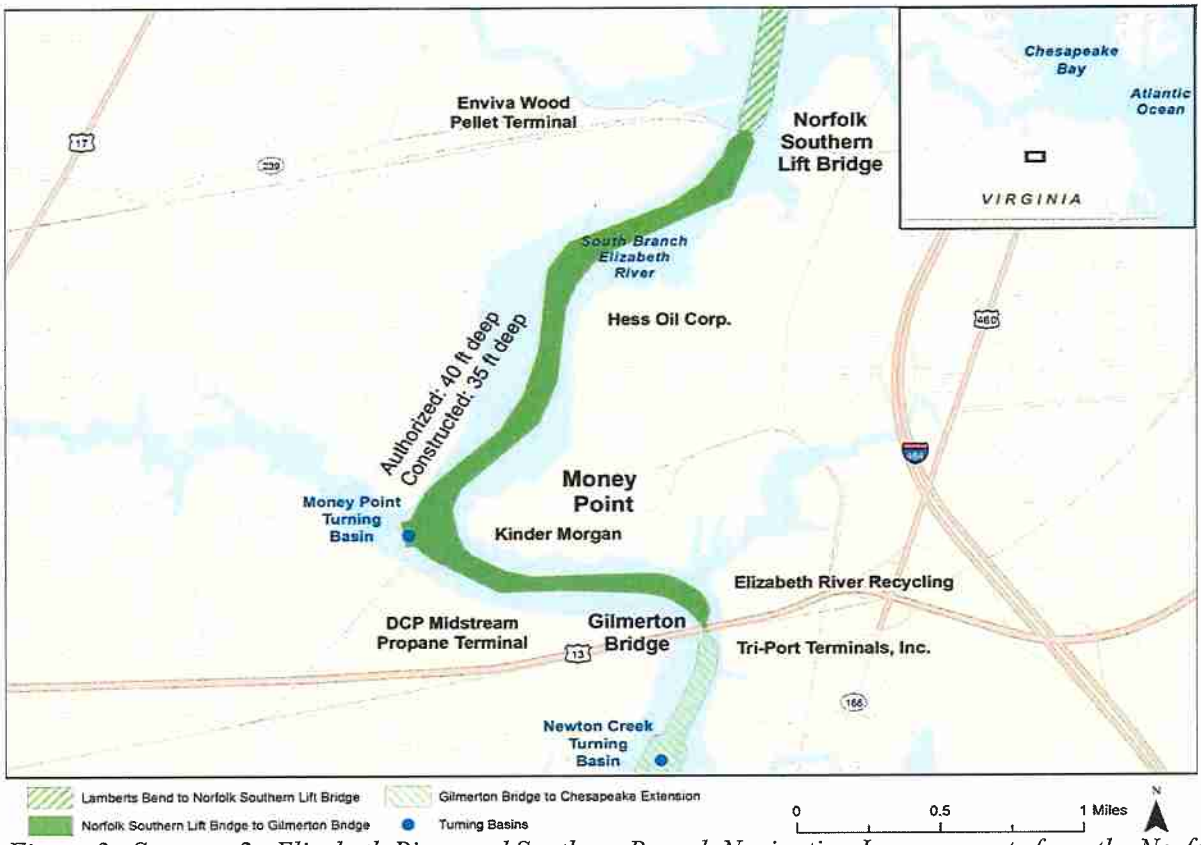


Figure 3. Segment 2. Elizabeth River and Southern Branch Navigation Improvements from the Norfolk Southern Lift Bridge to the Gilmerton Bridge

A Notice of Intent to prepare an EA was posted in the Federal Register on September 22, 2015; and a public scoping meeting was held on September 24, 2015, for the current study.

Through designation as a cooperating agency, the U.S. Coast Guard will be able to play an integral role in shaping the issues related to these proposed actions. We request that you indicate your interest in becoming a cooperating agency within 15 days of receipt of this letter. Details will follow regarding further coordination on this project.

Thank you for your consideration of our invitation. If you have any questions or would like to discuss in more detail our agencies' respective roles and responsibilities, you may contact Ms. Kathy Perdue at (757) 201-7218.

Sincerely,

Kathy Perdue

Kathy Perdue
Biologist, Environmental Analysis Section

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1096

Reply to
Attention of

May 22, 2017

Planning and Policy Branch

Mr. Chris Guy
Chesapeake Bay Field Office
U.S. Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. Troy Andersen
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

Dear Mr. Guy and Mr. Andersen:

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA, Title 40 of the Code of Federal Regulations, part 1501.6), we would like to invite the U.S. Fish and Wildlife Service (USFWS) to participate as a cooperating agency in the development of an Environmental Assessment (EA), for the Elizabeth River Southern Branch (ERSB) deepening study. The study is being undertaken as a General Reevaluation Report (GRR), with the Port of Virginia (VPA) as our nonfederal sponsor.

The existing ERSB navigation channels were originally authorized as part of the Norfolk Harbor and Channels, Virginia, Project, which is a single purpose deep draft navigation project located in Hampton Roads. The Hampton Roads Harbor is a 25-square-mile natural harbor serving the port facilities in the cities of Norfolk, Newport News, Portsmouth, Chesapeake, and Hampton in southeastern Virginia. Since its authorization in 1986, the project has been constructed in separable elements based on the needs of the port community and the financial capability of the non-federal sponsor, the VPA, agent of the Commonwealth of Virginia. The ERSB components of the Norfolk Harbor and Channels authorized project are authorized to depths ranging from 45 to 40 feet and have maintained to depths ranging from 40 to 35 feet.

The purpose of this study is to identify whether the authorized plan is still in the federal interest and to evaluate measures which would improve the operational efficiency of commercial vessels currently using the federal navigation channel at the Elizabeth River and Southern Branch of the Elizabeth River and commercial vessels projected to use the federal navigation channel in the future. The need for this project arises from inefficiencies currently experienced by commercial vessels in Norfolk Harbor and Channels. These inefficiencies are projected to continue in the future as vessel sizes are expected to increase. The ERSB study is divided into two segments: the Elizabeth River Segment and the Southern Branch Segment, as shown on the maps that follow. The dredge disposal area will be Craney Island Dredged Material Management Area (CIDMMA) for both; however, if any unsuitable material is encountered, it will be disposed of in an approved upland landfill facility.

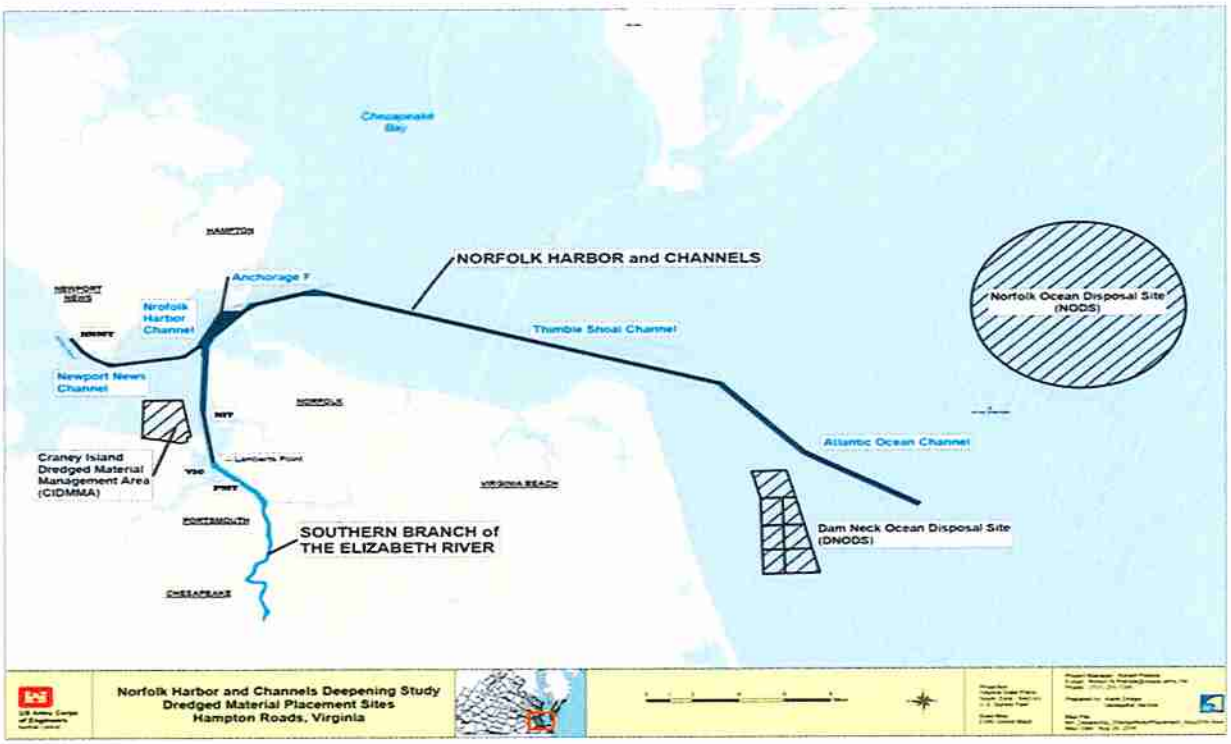


Figure 1. Location of Elizabeth River and Southern Branch Channels is in light blue. The location of the Norfolk Harbor and Channels (not part of this project) is shown in navy blue.

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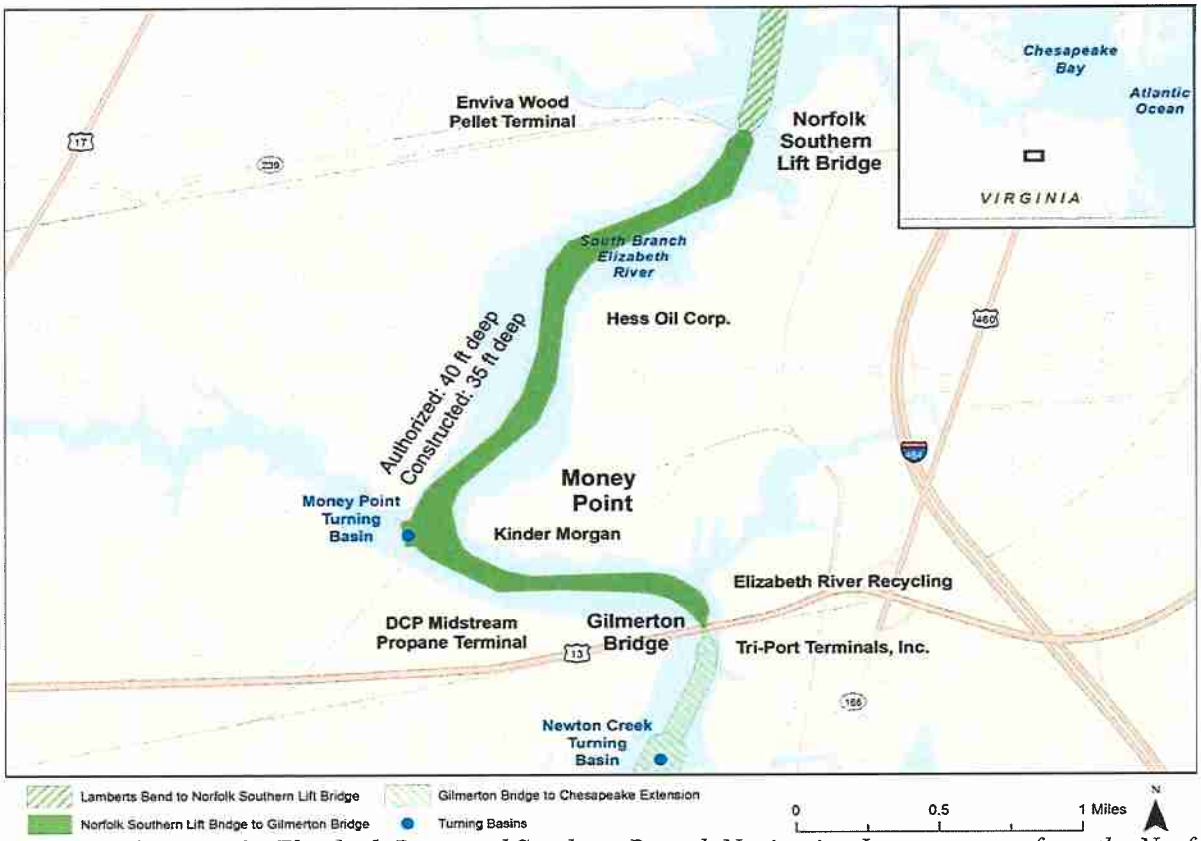

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A Notice of Intent to prepare an EA was posted in the Federal Register on September 22, 2015; and a public scoping meeting was held on September 24, 2015, for the current study.

Through designation as a cooperating agency, the NOAA PRD will be able to play an integral role in shaping the issues related to these proposed actions. We request that you indicate your interest in becoming a cooperating agency within 15 days of receipt of this letter. Details will follow regarding further coordination on this project.

Thank you for your consideration of our invitation. If you have any questions or would like to discuss in more detail our agencies' respective roles and responsibilities, you may contact Ms. Kathy Perdue at (757) 201-7218.

Sincerely,

Kathy Perdue

Kathy Perdue
Biologist, Environmental Analysis Section

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

May 31, 2017

Kathy Perdue
Biologist, Environmental Analysis Section
U.S. Army Corps of Engineers
Norfolk District
Fort Norfolk
803 Front Street
Norfolk, Virginia 23510-1096

Re: Cooperating Agency Role for the Development of an Environmental Assessment for the Elizabeth River Southern Branch deepening study

Dear Ms. Perdue:

The U.S. Environmental Protection Agency (EPA) is responding to your letter of May 22, 2017 in which you requested our participation as a cooperating agency in the development of an Environmental Assessment (EA) for the Elizabeth River Southern Branch (ERSB) deepening study. EPA is pleased reply that we are committed to playing an active role as a cooperating agency for the subject project.

The Council of Environmental Quality (CEQ) has determined that a cooperating agency has the responsibility to assist the lead agency by participating in the National Environmental Policy Act (NEPA) process at the earliest possible time. This participation includes engaging in the scoping process; in developing information and preparing environmental analyses including portions of the environmental assessment where the cooperating agency has special technical expertise; and in making available staff support at the lead agency's request to enhance the lead agency's interdisciplinary capabilities. Our role as a cooperating agency in support of the subject EA will consist of providing comments on general NEPA compliance and Clean Water Act (CWA), Section 404 as well as providing technical support in the development of the EA.

The many benefits of enhanced cooperating agency participation in the preparation of NEPA analyses include: disclosing relevant information early in the analytical process; applying available technical expertise and staff support; and establishing a mechanism for addressing intergovernmental issues. Other benefits of enhanced cooperating agency participation include fostering intra- and intergovernmental trust (e.g., partnerships at the community level) and a

common understanding and appreciation for various governmental roles in the NEPA process, as well as enhancing agencies ability to adopt environmental documents.

Due to resource constraints, we may limit our attendance of project meetings and hope that video or telephone conference opportunities may be made available. Given reasonable time frames, we would be pleased to review preliminary project documentation including preliminary draft versions of the EA. CEQ guidance recognizes that, while the lead agency has overall responsibility for the content of the EA, status as a cooperating agency should not be construed as expressing agreement with the lead agency regarding the conclusions to be drawn from the EA or selection of the preferred alternative. In addition, EPA has a number of independent responsibilities related to the proposed project and we retain our independent obligations and responsibilities pursuant to Section 309 of the Clean Air Act (CAA), Sections 402(d) and 404(b), (c), and (q) of the CWA.

Thank you for the opportunity to be a cooperating agency on this project. We look forward to working with you to ensure that a scientifically sound and sufficient EA is developed for this project. If you need additional assistance, the staff contact for this project is Nora Theodore; she can be reached at theodore.nora@epa.gov or 215-814-2728.

Sincerely,

Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1096

Reply to
Attention of

May 22, 2017

Planning and Policy Branch

Mr. Ken Kostecki
U.S. Coast Guard, Fifth District
431 Crawford Street
Portsmouth, VA 23704

Dear Mr. Kostecki:

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA, Title 40 of the Code of Federal Regulations, part 1501.6), we would like to invite the U.S. Coast Guard to participate as a cooperating agency in the development of an Environmental Assessment (EA), for the Elizabeth River Southern Branch (ERSB) deepening study. The study is being undertaken as a General Reevaluation Report (GRR), with the Port of Virginia (VPA) as our nonfederal sponsor.

The existing ERSB navigation channels were originally authorized as part of the Norfolk Harbor and Channels, Virginia, Project, which is a single purpose deep draft navigation project located in Hampton Roads. The Hampton Roads Harbor is a 25-square-mile natural harbor serving the port facilities in the cities of Norfolk, Newport News, Portsmouth, Chesapeake, and Hampton in southeastern Virginia. Since its authorization in 1986, the project has been constructed in separable elements based on the needs of the port community and the financial capability of the non-federal sponsor, the VPA, agent of the Commonwealth of Virginia. The ERSB components of the Norfolk Harbor and Channels authorized project are authorized to depths ranging from 45 to 40 feet and have maintained to depths ranging from 40 to 35 feet.

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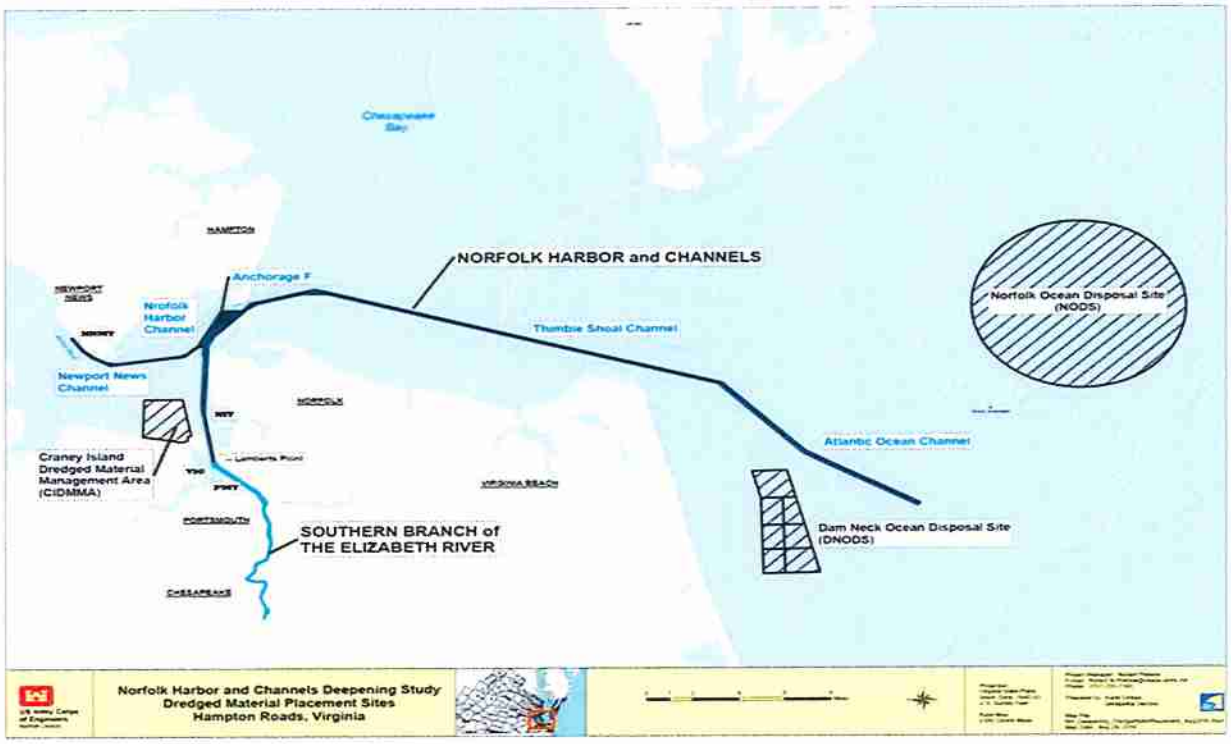

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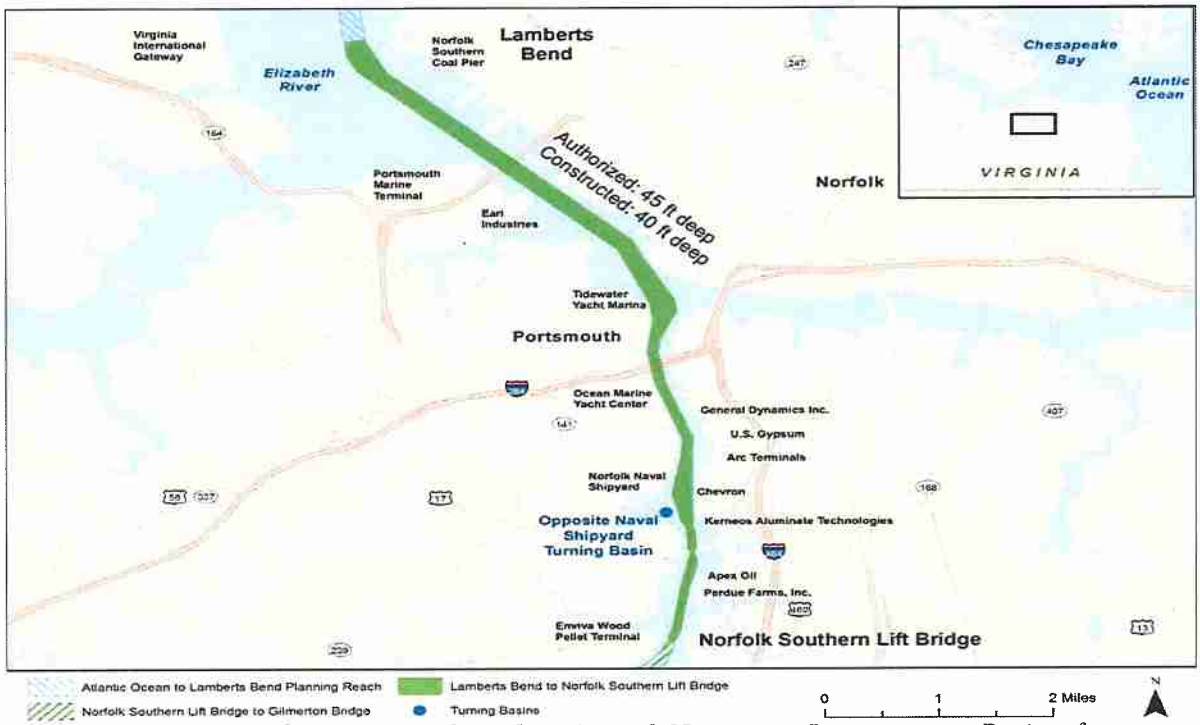

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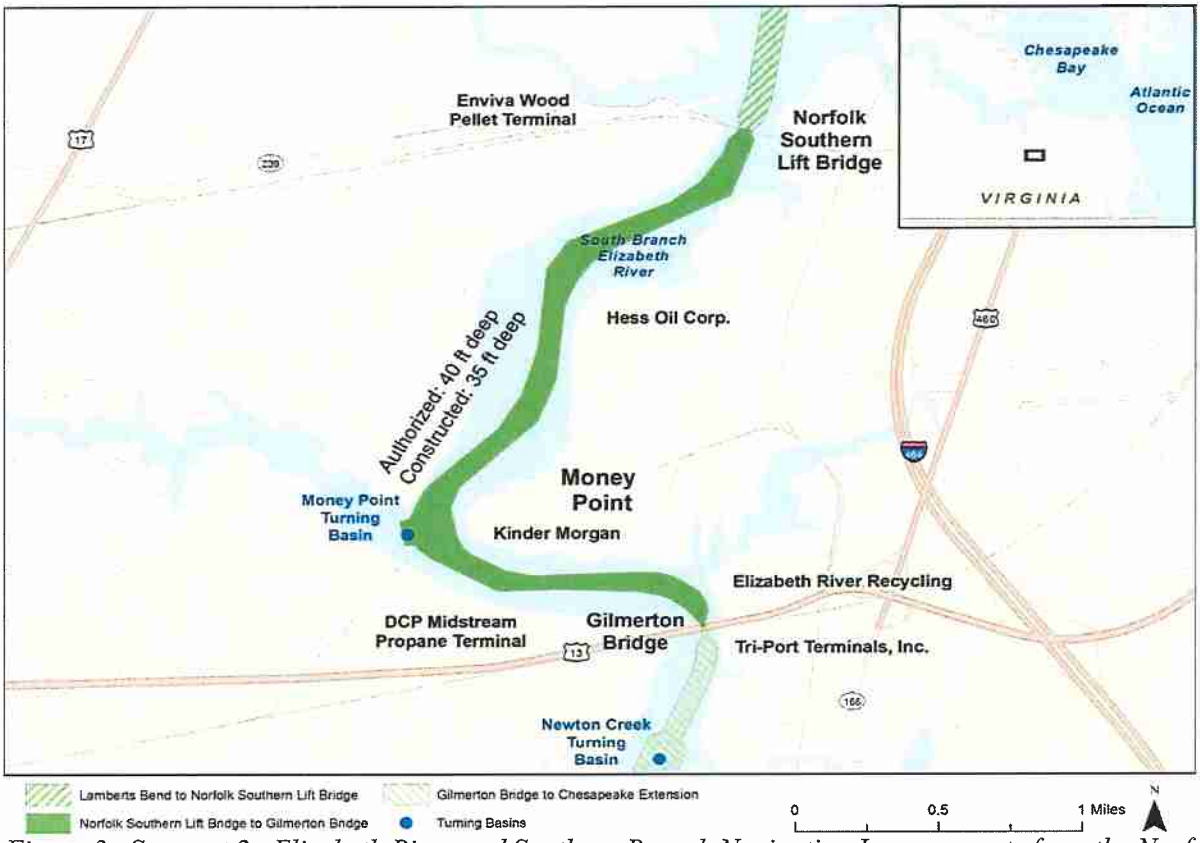


Figure 3. Segment 2. Elizabeth River and Southern Branch Navigation Improvements from the Norfolk Southern Lift Bridge to the Gilmerton Bridge

A Notice of Intent to prepare an EA was posted in the Federal Register on September 22, 2015; and a public scoping meeting was held on September 24, 2015, for the current study.

Through designation as a cooperating agency, the EPA will be able to play an integral role in shaping the issues related to these proposed actions. We request that you indicate your interest in becoming a cooperating agency within 15 days of receipt of this letter. Details will follow regarding further coordination on this project.

Thank you for your consideration of our invitation. If you have any questions or would like to discuss in more detail our agencies' respective roles and responsibilities, you may contact Ms. Kathy Perdue at (757) 201-7218.

Sincerely,

Kathy Perdue

Kathy Perdue
Biologist, Environmental Analysis Section

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1096

Reply to
Attention of

May 22, 2017

Planning and Policy Branch

Ms. Mercedes Holland
U.S. Navy
Community Plans and Liaison Officer (CPLO)
Joint Expeditionary Base Little Creek-Fort Story
Norfolk, Virginia

Dear Ms. Holland:

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA, Title 40 of the Code of Federal Regulations, part 1501.6), we would like to invite the U.S. Navy to participate as a cooperating agency in the development of an Environmental Assessment (EA), for the Elizabeth River Southern Branch (ERSB) deepening study. The study is being undertaken as a General Reevaluation Report (GRR), with the Port of Virginia (VPA) as our nonfederal sponsor.

The existing ERSB navigation channels were originally authorized as part of the Norfolk Harbor and Channels, Virginia, Project, which is a single purpose deep draft navigation project located in Hampton Roads. The Hampton Roads Harbor is a 25-square-mile natural harbor serving the port facilities in the cities of Norfolk, Newport News, Portsmouth, Chesapeake, and Hampton in southeastern Virginia. Since its authorization in 1986, the project has been constructed in separable elements based on the needs of the port community and the financial capability of the non-federal sponsor, the VPA, agent of the Commonwealth of Virginia. The ERSB components of the Norfolk Harbor and Channels authorized project are authorized to depths ranging from 45 to 40 feet and have maintained to depths ranging from 40 to 35 feet.

The purpose of this study is to identify whether the authorized plan is still in the federal interest and to evaluate measures which would improve the operational efficiency of commercial vessels currently using the federal navigation channel at the Elizabeth River and Southern Branch of the Elizabeth River and commercial vessels projected to use the federal navigation channel in the future. The need for this project arises from inefficiencies currently experienced by commercial vessels in Norfolk Harbor and Channels. These inefficiencies are projected to continue in the future as vessel sizes are expected to increase.

The ERSB study is divided into two segments: the Elizabeth River Segment and the Southern Branch Segment, as shown on the maps that follow. The dredge disposal area will be Craney Island Dredged Material Management Area (CIDMMA) for both; however, if any unsuitable material is encountered, it will be disposed of in an approved upland landfill facility.

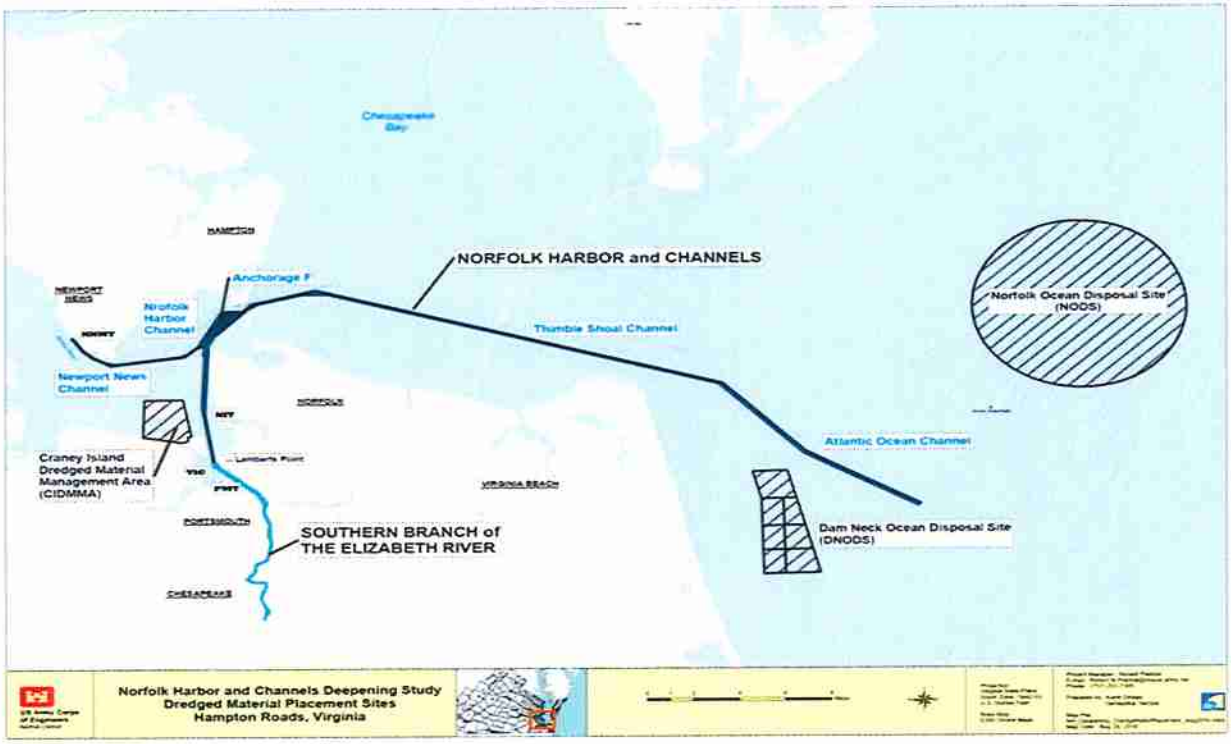
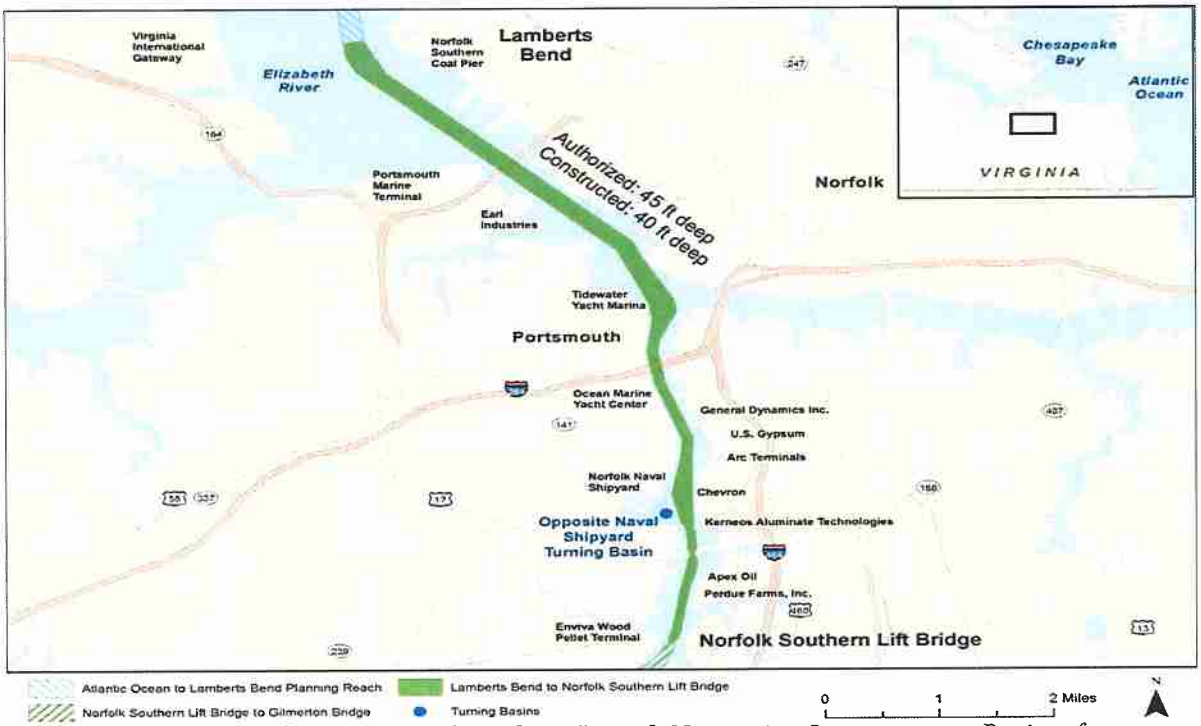


Figure 1. Location of Elizabeth River and Southern Branch Channels is in light blue. The location of the Norfolk Harbor and Channels (not part of this project) is shown in navy blue.



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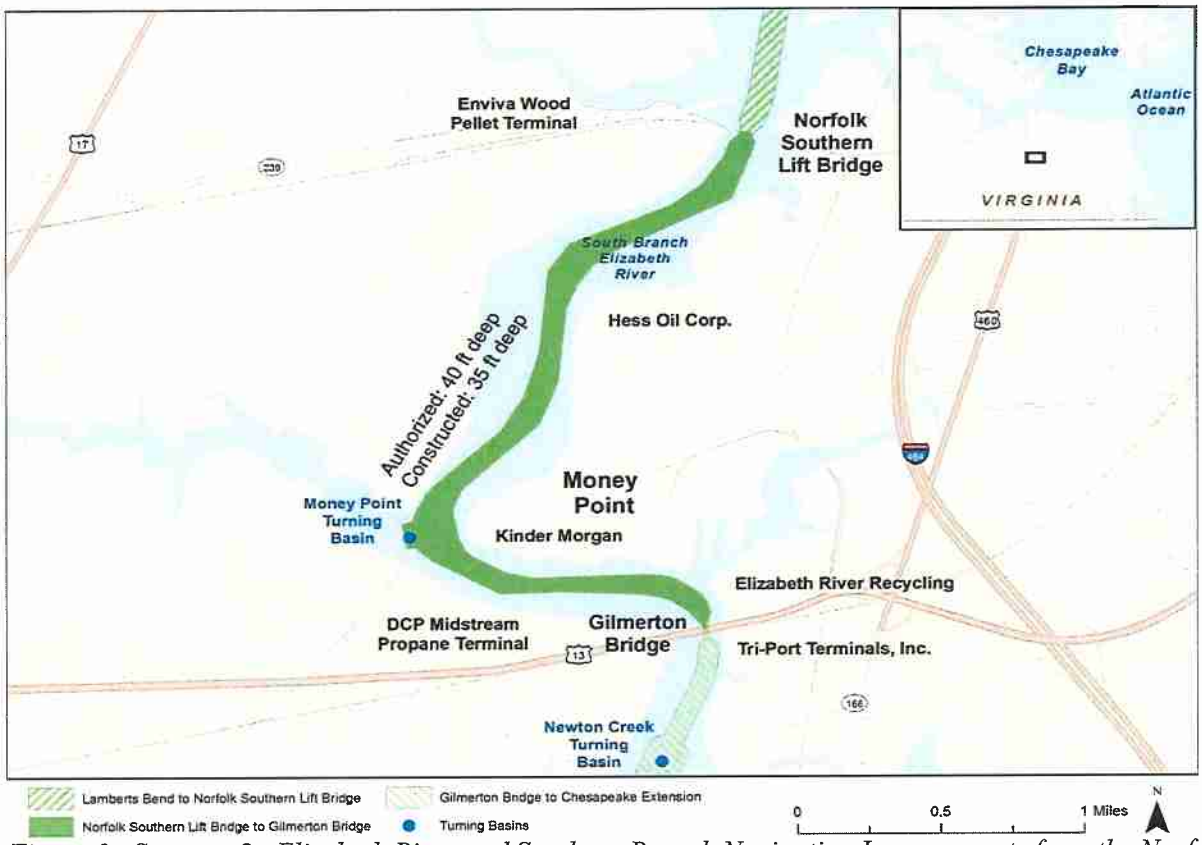

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NORFOLK VA 23510-1096

Reply to
Attention of

May 22, 2017

Planning and Policy Branch

Mr. Brian Ballard
Regional Community Plans & Liaison Officer - Navy Region Mid-Atlantic
Intergovernmental Branch Manager - NAVFAC Mid-Atlantic
Naval Station Norfolk
Norfolk, Virginia

Dear Mr. Ballard:

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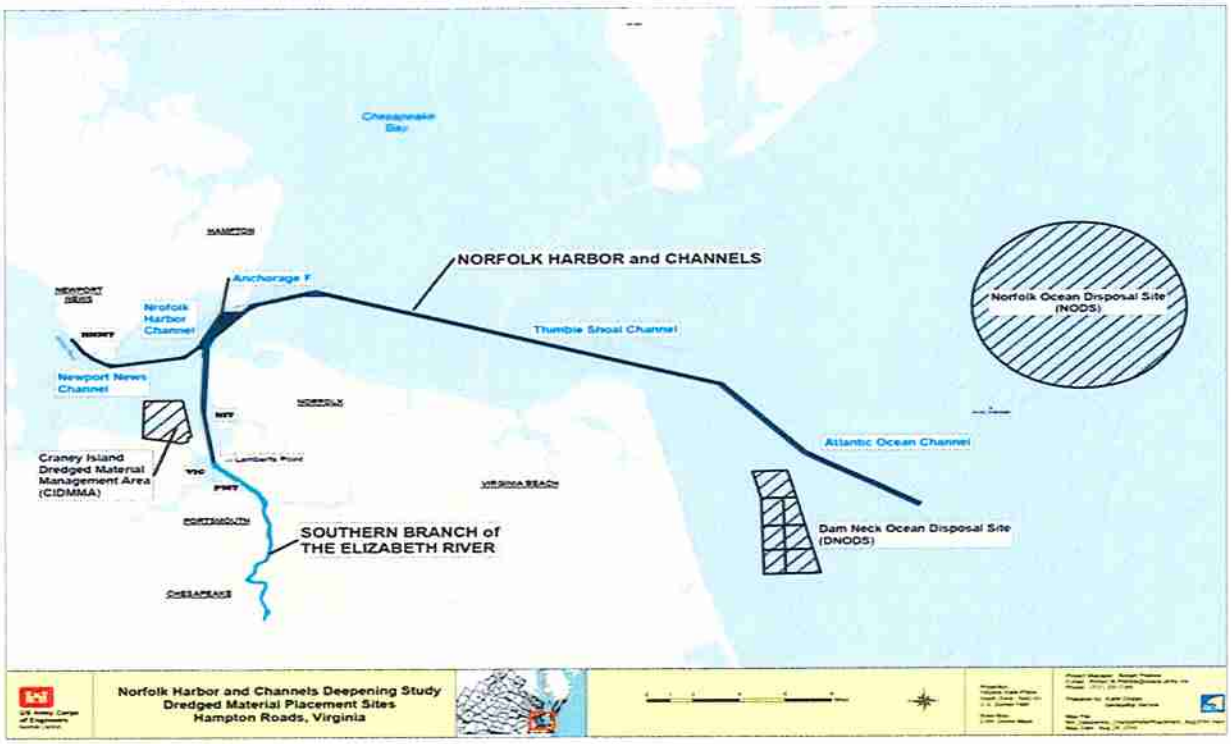

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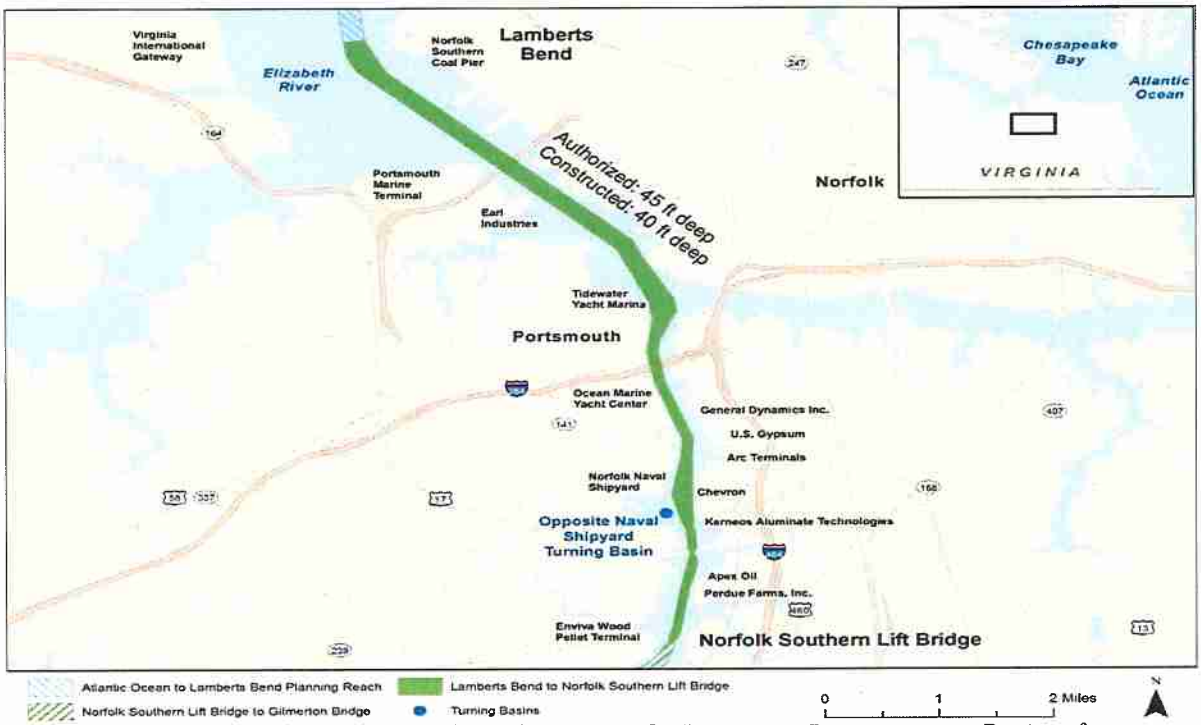

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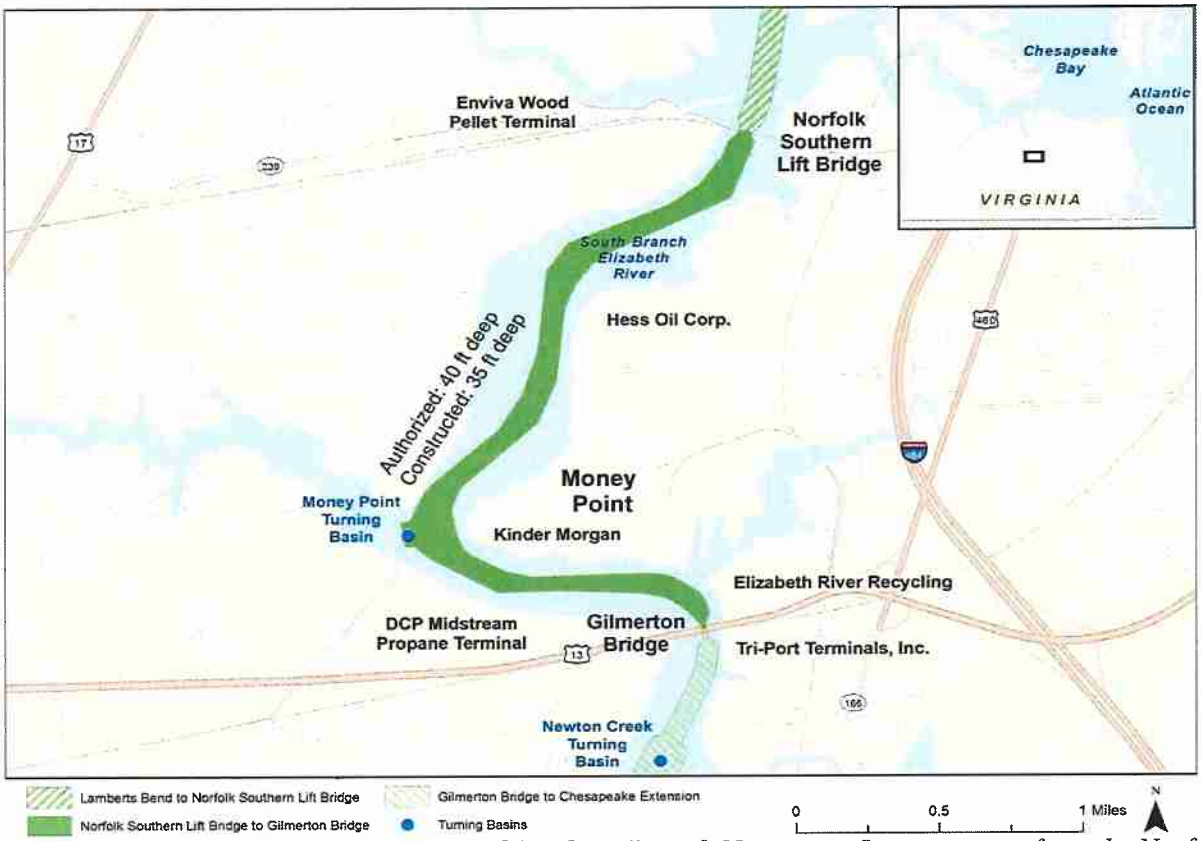

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A Notice of Intent to prepare an EA was posted in the Federal Register on September 22, 2015; and a public scoping meeting was held on September 24, 2015, for the current study.

Through designation as a cooperating agency, the NOAA Fisheries will be able to play an integral role in shaping the issues related to these proposed actions. We request that you indicate your interest in becoming a cooperating agency within 15 days of receipt of this letter. Details will follow regarding further coordination on this project.

Thank you for your consideration of our invitation. If you have any questions or would like to discuss in more detail our agencies' respective roles and responsibilities, you may contact Ms. Kathy Perdue at (757) 201-7218.

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