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Draft Environmental Assessment SWIFT Full Scale Implementation - Boat Harbor Treatment Plant Transmission Force Main Section 2 – Land Portion (BH015720)

Prepared for:
Hampton Roads Sanitation District



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Acronyms and Abbreviations

ADT	Average Daily Traffic	HRSD	Hampton Road Sanitation District
APE	Area of Potential Effects	HUD	U.S. Department of Housing and Urban Development
BCC	Birds of Conservation Concern	IDA	Intensely Developed Area
BGEPA	Bald and Golden Eagle Protection Act	IPaC	Information for Planning and Consultation
BMP	Best Management Practice	LOD	Limits of Disturbance
CAA	Clean Air Act	MBTA	Migratory Bird Treaty Act
CBPA	Chesapeake Bay Preservation Area	MCF	One Thousand Cubic Feet per Day
CBRS	Coastal Barrier Resources System	MGD	Million Gallons per Day
CCB	Center for Conservation Biology	MMPA	Marine Mammal Protection Act
CFR	Code of Federal Regulations	MS4	Multiple Separate Storm Sewer System
CO	Carbon monoxide	MSA	Magnuson-Stevens Fishery Conservation and Management Act
CWA	Clean Water Act	NAAQS	National Ambient Air Quality Standards
CWRLF	Clean Water Revolving Loan Fund	NEPA	National Environmental Policy Act
CZMA	Coastal Zone Management Act	NFIP	National Flood Insurance Program
CZMP	Coastal Zone Management Program	NHPA	National Historic Preservation Act
dB	Decibels	NLEB	Northern Long-Eared Bat
dba	A-weighted Decibels	NMFS	National Marine Fisheries Service
DCR	Department of Conservation and Recreation	NO ₂	Nitrogen Dioxide
DHR	Virginia Department of Historic Resources	NOAA	National Oceanic and Atmospheric Administration
DNL	Day-Night Average Sound Level	NPDES	National Pollution Discharge Elimination System
E&S	Erosion and Sediment	NPS	National Park Service
EA	Environmental Assessment	NRCS	Natural Resources Conservation Service
EDA	Economic Development Authority	NRHP	National Register of Historic Places
EFH	Essential Fish Habitat	NWSRS	National Wild and Scenic Rivers System
EJSCREEN	Environmental Justice Screening and Mapping tool	O ₃	Ozone
EO	Executive Order	Pb	Lead
EPA	Environmental Protection Agency	PEA	Programmatic Environmental Assessment
ESA	Endangered Species Act	PM	Particulate Matter
FEMA	Federal Emergency Management Agency	PM _{2.5}	Particulate Matter 2.5 Microns or Smaller
FIRM	Flood Insurance Rate Map	PM ₁₀	Particulate Matter 10 Microns or smaller
FNOD	Former Nansemond Ordnance Depot		
FONSI	Finding of No Significant Impact		
FSIP	Full Scale Implementation Program		
HDD	Horizontal Directional Drilling		
HDPE	High-Density Polyethylene		

ROW	Right of Way	USFWS	U.S. Fish and Wildlife Service
RMA	Resource Management Area	VaFWIS	Virginia Fish and Wildlife Information System
RPA	Resource Protection Area	VDEQ	Virginia Department of Environmental Quality
SIP	State Implementation Plan	VDGIF	Virginia Department of Game and Inland Fisheries
SHPO	State Historic Preservation Office	VDOT	Virginia Department of Transportation
SO ₂	Sulfur Dioxide	VFRIS	Virginia Flood Risk Information System
SPCCP	Spill Prevention Control and Countermeasure Plan	VIMS	Virginia Institute of Marine Science
SSA	Sole Source Aquifer	VMRC	Virginia Marine Resources Commission
SWIFT	Sustainable Water Initiative for Tomorrow	VPDES	Virginia Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan	VSMP	Virginia Stormwater Management Program
TCC	Tidewater Community College	WOTUS	Waters of the U.S.
TMDLs	Total Maximum Daily Loads		
TP	Treatment Plant		
U.S.	United States		
USACE	U.S. Army Corps of Engineers		
USDA	United States Department of Agriculture		

1. Introduction

Hampton Roads Sanitation District (HRSD) has been approved for programmatic financing through the Virginia Clean Water Revolving Loan Fund (CWRLF) Program of the Virginia Department of Environmental Quality (VDEQ) for funding of the Boat Harbor Treatment Plant Pump Station Conversion (BH015700), the Boat Harbor Treatment Plant Transmission Force Main Section 1 - Subaqueous (BH015710), and the Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720), collectively referred to herein as “the Project” due to their coordinated delivery and shared programmatic funding approach. The Project is located within the cities of Newport News and Suffolk, Virginia (Appendix A, Figure 1) and is being carried out as part of HRSD’s Sustainable Water Initiative for Tomorrow (SWIFT).

VDEQ requires an environmental review and evaluation of a project’s potential environmental impacts. The purpose of this Environmental Assessment (EA) is to analyze the potential environmental impacts of the proposed Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720) (FM2), the land portion of the Project in Suffolk, Virginia. VDEQ will use the findings in this EA to determine whether an Environmental Impact Statement or a Finding of No Significant Impact should be prepared. HRSD is concurrently pursuing a Categorical Exclusion for the Boat Harbor Treatment Plant Pump Station Conversion (BH015700). A separate EA will be prepared for the Boat Harbor Treatment Plant Transmission Force Main Section 1 - Subaqueous (BH015710).

The U.S. Environmental Protection Agency (EPA) selected HRSD to submit an application for credit assistance for the SWIFT Program under EPA’s Water Infrastructure Finance and Innovation Act (WIFIA) program, a federal credit program for eligible water and wastewater infrastructure projects. EPA developed a Programmatic Environmental Assessment (PEA) for the WIFIA program, and the PEA received a Finding of No Significant Impact (FONSI) on April 26, 2018. On behalf of EPA, HRSD prepared a supplemental National Environmental Policy Act (NEPA) document (i.e., WIFIA Environmental Questionnaire) for a larger subset of SWIFT projects, the Boat Harbor/Nansemond SWIFT Projects, which include the Boat Harbor FM2 project as well as the other Boat Harbor and Nansemond SWIFT projects that may be included in future VDEQ loan requests. The environmental analyses presented in the WIFIA Environmental Questionnaire has been reformatted to meet VDEQ’s EA guidelines, and is the analysis that follows in Section 5. EPA issued a FONSI Adequacy Memorandum for the HRSD Boat Harbor/Nansemond SWIFT Projects on August 31, 2021 (Appendix B). The Boat Harbor/Nansemond SWIFT Projects also received a Federal Consistency Determination from VDEQ (Appendix B).

2. Purpose and Need

The Project is a critical part of the SWIFT Full Scale Implementation Program (FSIP). The planned closure of the Boat Harbor TP by the end of 2025 is an essential component of HRSD's strategy to cost-effectively comply with the legislatively required nutrient reductions imposed on HRSD's James River aggregate nutrient allocation. The purpose of HRSD SWIFT is to support restoration of the Chesapeake Bay by reducing surface water discharge of treated effluent; provide a sustainable source of groundwater to the Potomac Aquifer; and increase the hydrostatic pressure within the aquifer to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia.

The SWIFT FSIP includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The resulting SWIFT Water™ will subsequently be used to recharge the Potomac Aquifer via managed aquifer recharge wells (Exhibit 1).

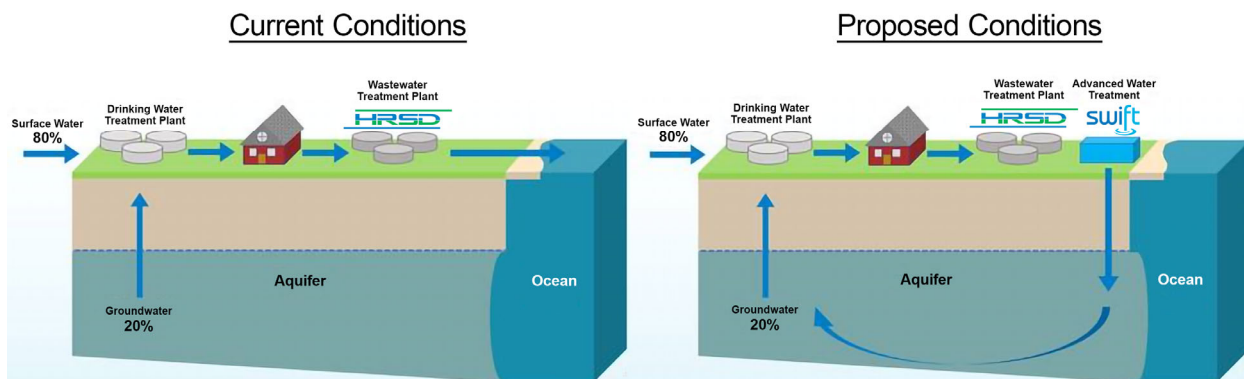


Exhibit 1: Conceptual Drawing Depicting Pre- and Post-SWIFT Project Water Treatment

The need for the Project is to provide the infrastructure necessary to allow for the closure of the Boat Harbor TP and the conveyance of wastewater effluent from the new Boat Harbor pump station to the Nansemond TP facility to support the SWIFT FSIP. Portions of the existing Boat Harbor Treatment Plant currently lie within the 100-year floodplain and are subject to regular flooding. The SWIFT master planning effort has determined that advanced water treatment and recharge at the existing Boat Harbor TP has significant physical limitations, including site availability and resiliency to sea level rise. In addition, a financial analysis indicates there is significant long-term cost savings associated with closure of the Boat Harbor TP and construction of the Project.

3. Description of the Proposed Action

The Proposed Action is the construction of Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720) (FM2), the on-land portion of the Project proposed on the Suffolk side of the James River. The infrastructure is necessary to complete the overall Project, which ultimately would include a new 36.5-million gallons per day (MGD) pump station and new underwater transmission force main beneath the James River. This infrastructure would connect to FM2 and convey flow from the pump station to new advanced treatment facilities at HRSD's existing Nansemond TP (Appendix A, Figure 2). Construction of FM2 is scheduled to begin prior to construction of the pump station and the underwater force main (FM1).

The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. FM2 would begin at the future connection with FM1 approximately 398 feet south of the James River shoreline in Suffolk, then continue south, generally paralleling Jamestown Road, Park Drive, and College Drive, and terminate at the Nansemond TP (Appendix A, Figure 2).

4. Alternatives

In accordance with VDEQ CWRLF regulations, the EA process for a proposed action that does not fall into a category for potential exclusion must include an evaluation of alternatives and a discussion of the potential environmental impacts. This section describes the alternatives that were considered in addressing the purpose and need stated in Section 2 above. Three alternatives are summarized in this EA: the No Action Alternative (Alternative A), the Proposed Action Alternative (Alternative B), which is the construction of FM2, and the Alternate Alignment (Alternative C), which is a variation of Alternative B in which FM2 takes a more westerly route on the Suffolk side of the study area.

Several alternative alignments for FM2 were evaluated and ultimately dismissed in favor of the Proposed Action Alternative, as shown on Figure 3 in Appendix A. Those alternatives were considered and dismissed and therefore are not discussed in detail in this document. The Proposed Action Alternative was selected in consideration of both environmental and cultural resources.

4.1 Alternative A: No Action Alternative

The No Action Alternative is defined as maintaining the status quo (baseline conditions). The No Action Alternative is used to provide a benchmark against which other alternatives may be evaluated. Under the No Action Alternative, FM2 would not be installed no modifications would be made to the existing wastewater treatment system, and portions of the existing Boat Harbor TP that lie within the 100-year floodplain would be subject to continued regular flooding. The Project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure; saltwater intrusion and land subsidence would continue. The existing Boat Harbor TP incinerator would continue to be used, requiring approximately 67,000 MCF (one thousand cubic feet) of natural gas per year to remain operational, and it would continue to release carbon dioxide, sulfur dioxide, and nitrogen oxides into the air, at levels within regulatory requirements. HRSD would not meet its goal of closing the Boat Harbor TP. The Boat Harbor TP would remain in operation and HRSD would be required to keep the TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply and other ancillary benefits of SWIFT. The No Action Alternative does not meet the purpose and need for the Proposed Action.

4.2 Alternative B: Construction of Boat Harbor Transmission Force Main 2 (Proposed Action Alternative)

Under the Proposed Action Alternative, HRSD proposes to construct the FM2 portion of the Project. HRSD has been involved in active stakeholder engagement throughout the preliminary engineering phase of work, including coordinating with the Gee's Group (land developer / property owner), Tidewater Community College (TCC) (landowner), City of Suffolk, BCP Suffolk LLC (land developer / property owner), the U.S. Army Corps of Engineers (USACE), and the Virginia Department of Transportation (VDOT). The routing alternatives also considered the

site's historical significance as well as the recent residential, educational, and commercial development (Appendix A, Figure 3).

The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. Construction of FM2 would begin approximately 398 feet south of the James River shoreline, then continue south, and terminate at the Nansemond TP (Appendix C). From the point of the future connection with FM1, FM2 would follow the proposed TCC right-of-way along Jamestown Road, continue south through TCC's future access road to Wellner/Park Drive and extend southeasterly to College Drive. From there, it would be routed on the eastern side of the traffic roundabout and cross Armstead Road before transitioning onto College Drive. From College Drive, the pipeline would continue east through the Gee's Group property easement, beneath I-664, and terminate at the Nansemond TP.

Under Proposed Action Alternative, construction would be along existing corridors and would require limited clearing or access within undeveloped upland areas; it would avoid impacts to tidal and non-tidal wetlands. This alternative would minimize conflicts with future TCC development plans. Moreover, this alignment limits the FM2 easement within the Former Nansemond Ordnance Depot (FNOD) property, a listed Superfund site, which would minimize safety concerns related to the potential to encounter unexploded ordnance (UXO) during construction activities. FM2 does traverse an FNOD area scheduled for USACE remediation by the end of 2022.

HRSD would acquire easements for some areas along the FM2 alignment and property condemnations would not be required. Much of the proposed FM2 alignment is within existing road rights-of-way (ROWs).

Construction of FM2 is anticipated to begin in March 2023 and last through July 2024. Construction in any given location would be substantially shorter and would occur linearly, with construction lasting only a few weeks to months along each segment, depending on installation method and substrate. Schedule details will be finalized by the design-build team.

4.3 Alternative C: Construction of Boat Harbor Force Main 2 (Alternate Westerly Route of FM2)

Alternative C is identical to Alternative B except that the FM2 alignment takes a more westerly route. Alternative C is included as a contingency, should the FNOD areas through which FM2 traverses under Alternative B not be remediated prior to the start of construction. To avoid the FNOD areas, FM2 would follow the same route as Alternative B until a point approximately 500 feet south along Jamestown Road, where FM2 would turn to the west, along a future roadway to be built by TCC. FM2 would proceed west for approximately 1,500 feet then turn south along another future TCC roadway. From there, FM2 would turn back east along Park Drive, and at Wellner Drive it would coincide with the Alternative B alignment to Nansemond TP (Appendix A, Figure 2). The total limit of disturbance would include approximately 25 acres.

5. Affected Environment and Potential Impacts

5.1 Wildlife and Marine Life

5.1.1 Affected Environment

5.1.1.1 Federally Listed Threatened and Endangered Species – USFWS

The Endangered Species Act (ESA) establishes a federal program to conserve, protect, and restore threatened and endangered plants and animals and their habitats. Section 7 of the ESA states that any project authorized, funded, or conducted by any Federal agency should not "... jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ... to be critical." The lead federal agency (for this Project, EPA) is required to "informally" consult with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitats occur near the Proposed Action study area (study area). Section 6 of the ESA mandates that all state agencies must ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction of critical habitat for these species. State agencies have the authority to enact their own programs for protecting threatened or endangered species as long as it meets the threshold of significance set by the ESA.

On March 12, 2021, the USFWS Information for Planning and Consultation (IPaC) online system was used to identify two federally listed species as having the potential to occur in the study area vicinity: the threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) and the threatened red-cockaded woodpecker (*Picooides borealis*). In May, June, August, and October 2020, AECOM performed site reconnaissance to field-verify areas identified via desktop analyses as potentially suitable or marginal habitats for threatened or endangered species. An on-site, reconnaissance-level habitat assessment was performed for the red-cockaded woodpecker and NLEB. Neither species was observed within the study area. According to the Virginia Fish and Wildlife Information System (VaFWIS) NLEB Winter Habitat and Roost Tree Application, the nearest known maternity roost for the NLEB is approximately 35 miles to the southeast (VDGIF 2021a, 2021b; Appendix C). There are no documented maternity roosts or hibernacula within 150 feet and 0.25 mile of the study area, respectively.

USFWS is expected to issue a new final rule regarding NLEB protections on November 22, 2022. To ensure compliance with the new rule, HRSD would conduct additional consultation with USFWS regarding NLEB prior to commencement of construction of FM2.

5.1.1.2 Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668–668C) and Migratory Bird Treaty Act

The Bald and Golden Eagle Protection Act (BGEPA) makes it unlawful to take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald or golden eagle, alive or dead, or any part, nest, or egg thereof without a

permit. Since delisting of the Bald Eagle under ESA in 2007, bald eagles are now protected solely by the BGEPA along with the Migratory Bird Treaty Act (MBTA). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of Federal Regulations (CFR) 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandoning eggs or young) may be considered a take and is potentially punishable by fines and/or imprisonment. If an action is determined to cause a potential take of migratory birds, as described above, then consultation with the USFWS needs to be initiated to determine measures to minimize or avoid these impacts.

The state of Virginia is located within the Atlantic Flyway where forested and agricultural lands may provide resting, feeding, and breeding grounds for migratory birds and the bald eagle (*Haliaeetus leucocephalus*). No bald eagles were observed flying over the study area, and no in-use bald eagle nests were observed during the onsite investigations. The Center for Conservation Biology (CCB) Mapping Portal identified one nest, SU2003, on the Suffolk side of the James River (Appendix D). The USFWS Virginia Field Office's Bald Eagle Map Tool identified the nearest bald eagle concentration area approximately 4.2 miles northwest of the study area (Appendix D). The study area does not intersect with any bald eagle concentration areas identified by the USFWS Virginia Field Office's Bald Eagle Map Tool. Given the distance from the proposed construction activities (i.e., greater than 660 feet from the documented nest), impacts to the bald eagle concentration area or bald eagle nests are not anticipated.

The study area is a combination of industrial areas, mixed development, and mixed forested land, which has the potential to support habitat for many migratory species of birds of conservation concern (BCC). Most of the USFWS-listed BCCs with potential to occur breed between the months of May and August. However, much of the construction would occur within existing developed areas and road ROWs, which are disturbed habitats that provide marginal habitat for these species.

5.1.1.3 Special-Status Species Under State Jurisdiction

The Virginia Department of Wildlife Resources maintains records of species known to occur or likely to occur throughout the Commonwealth of Virginia in the VaFWIS database. Review of this database identified several state-listed species with the potential to occur within a 2-mile radius of the study area (Appendix D). Of these species, there are two species with documented occurrences within 2 miles of the study area—the loggerhead sea turtle (federally and state listed as threatened) and the peregrine falcon (*Falco peregrinus*, state listed as threatened).

The loggerhead sea turtle is a marine species under NMFS jurisdiction for which suitable habitat does not occur within the Proposed Action study area. The VAFWIS-documented occurrence of the peregrine falcon is mapped off-site and east of the Proposed Action location. Potentially suitable nesting and foraging habitats for the peregrine falcon are present within the study area.

The VaFWIS habitat prediction model also identified four species without recorded occurrences but with the potential to occur within a 2-mile radius of the area: the piping plover (*Charadrius melodus*; federally and state listed as threatened); the Wilson's plover (*Charadrius wilsonia*;

state listed as threatened), the canebrake rattlesnake (*Crotalus horridus*; state listed as endangered); and the Mabee's salamander (*Ambystoma mabeii*; state listed as threatened).

5.1.2 Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. No modifications would be made to the existing wastewater treatment system. The Boat Harbor/Nansemond SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure; saltwater intrusion and land subsidence would continue; and increased capital investment would be needed for ongoing wastewater treatment plant upgrades. The existing treatment facilities would continue to be used and HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply and other ancillary benefits of SWIFT. The Boat Harbor TP would be at risk from regular flooding, potentially jeopardizing aquatic and marine life as a result of water quality impacts or debris carried downstream during storm events.

Alternative B – Under the Proposed Action Alternative, FM2 would be constructed predominantly along existing road ROWs and previously disturbed areas. Limited tree clearing would be required during construction activities, as the area is already largely cleared of large trees. As a result, minimal upland habitat disturbance would occur, having a negligible adverse impact on migratory birds and general wildlife species present in or surrounding the study area. Potential impacts to aquatic species, marine life, and special-status species as a result of the Proposed Action Alternative are discussed below.

5.1.2.1 Federally Listed Threatened and Endangered Species – USFWS

On April 27, 2021, EPA initiated informal consultation with USFWS with a no effect determination for the red-cockaded woodpecker, as well as a no effect to the West Indian manatee (*Trichechus manatus latirostris*) (Appendix D). EPA's letter also included the USFWS self-certification letter for the NLEB noting a may affect, not likely to adversely affect determination. The Proposed Action would comply with the USFWS NLEB 4(d) rule, and voluntary conservation measures, such as a time-of-year restrictions on tree removal (June 1 – July 31) and minimizing light pollution through downward adjusted light angles, would be implemented where practical. After 60 days, no objection was received from USFWS.

USFWS is expected to issue a new final rule regarding NLEB protections on November 22, 2022. To ensure compliance with the new rule, HRSD would conduct additional consultation with USFWS regarding NLEB prior to commencement of construction of FM2.

5.1.2.2 Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668–668C)

Given the distance from the FM2 construction activities (i.e., greater than 660 feet from the documented nest), impacts to the bald eagle concentration area or bald eagle nests are not anticipated.

5.1.2.3 Special-Status Species Under State Jurisdiction

The documented occurrence of the peregrine falcon is mapped off-site and east of the Proposed Action location. Potentially suitable nesting and foraging habitats for the peregrine falcon are present within the study area, but by abiding a tree-clearing restriction from 15 February through 15 July, construction activities are not likely to adversely affect the peregrine falcon.

Piping plover habitat consists of sparsely vegetated, ocean-facing beaches, sandflats, and washovers. There are no sandy beaches within the action area and no positive observations have occurred within a 2-mile radius; therefore, the Proposed Action would have no effect on the piping plover. Wilson's plover habitat is open areas, including sandy beaches, estuaries, and tidal mudflats. A 100-foot resource protection area (RPA) buffer has been placed on the estuarine emergent wetlands mapped along the eastern boundary of the study area, and no positive observations for Wilson's plover have been made within a 2-mile radius of the study area. Therefore, the Proposed Action would have no effect on Wilson's plover.

Canebrake rattlesnake habitat consists of mature hardwood, mixed hardwood-pine forests, forested cane thickets, and ridges adjacent to swampy areas. The forested areas throughout the study area adjacent to delineated wetland features may provide suitable habitat for the canebrake rattlesnake. No positive observations have occurred within a 2-mile radius of the Proposed Action location. Given the species' mobility and the availability of suitable adjacent habitat that would not be impacted, the Proposed Action is not likely to adversely affect the canebrake rattlesnake.

Habitat for Mabee's salamander is described as savannas on the edges of bogs or ponds, low wet woods and swamps, and adjacent to ditches and pools. The study area includes several wetland features that are free of fish with adjacent uplands that may provide suitable habitat. Given the avoidance of wetlands and the availability of suitable adjacent habitat that would not be impacted, the Proposed Action is not likely to adversely affect Mabee's salamander.

Alternative C – Under the Alternate Westerly Route of FM2, environmental consequences related to Wildlife and Marine Life would be very similar to those of the Proposed Action Alternative. The FM2 route would follow road ROWs that will have been recently constructed by TCC so impacts to wildlife would be minor and temporary.

Mitigation Measures

As discussed above in Section 4.2, the preliminary planning and design process evaluated several options for the FM2 route alignments.

The proposed FM2 route would avoid all impacts to tidal and non-tidal wetlands. FM2 would be constructed in accordance with Virginia Erosion and Sediment Control Regulations, and Virginia Stormwater Management Program Regulations. Appropriate erosion and sediment (E&S) controls and BMPs would be implemented (e.g., super silt fence, sediment basins, inlet protection, outlet protection, etc.) during construction and operations to further minimize potential direct and indirect impacts to resources on- and off-site. All E&S controls would be consistent with the Virginia Erosion and Sediment Control Handbook.

A spill prevention plan is a required submittal for the design-builder and would be carefully considered by HRSD prior to approving the start of work.

Since the Proposed Action Alternative is expected to have no effect on the federally listed NLEB or on state listed species, no mitigation measures are currently required for these species. However, appropriate BMPs would be utilized to minimize habitat disturbance, including avoiding tree clearance during the breeding season for migratory BCCs potentially present in the proposed project area. Additional consultation with USFWS regarding NLEB will be conducted and the Proposed Action will be in compliance with the new rule regarding NLEB.

5.2 Marshland And Wetlands

Section 404 of the Clean Water Act regulates the discharges of dredged or fill material into all “waters of the U.S.,” including wetlands. Authorization to fill wetlands and waters are granted from the USACE. A permit through the USACE is necessary for any work in Waters of the U.S. (WOTUS) and the type of permit required is based on the proposed project’s level of impact.

Affected Environment

On behalf of HRSD, a wetlands delineation was conducted by AECOM environmental scientists in May, June, August, October 2020 and January 2022 to determine the extent of jurisdictional WOTUS within the Proposed Action study area (Appendix A, Figure 4). Portions of the study area were not available for field surveys because of a lack of access permissions. However, within these areas that were not field delineated, no wetlands are anticipated considering past and ongoing development, including the construction activities for the mixed-use *The Point at Harbour View* development. The wetland field investigations identified several aquatic features within the study area. Potential jurisdictional features include five non-tidal vegetated wetlands and one non-tidal open water depression. A request for jurisdictional determination from the USACE has been submitted.

Three forested wetland depressions (identified as WA, WCCC, and WEEE) and two emergent wetland depressions (identified as WAA and WDDD) were identified within the aquatic resource review area. These five wetland areas are within proximity of the proposed FM2 alignment but all impacts to these features would be avoided. No impacts to wetlands or waters are proposed. The aquatic resources are depicted on the Aquatic Resources Map (Appendix A, Figure 4).

One open water feature (POW-A) was identified within the study area. POW-A is a 0.38-acre open water depression. This feature appears to be used as a stormwater detention basin currently but may have been a natural feature prior to development within the area. No outlet was observed and no wetland fringe was observed. Impacts to this feature would be avoided either by locating FM2 to the northeast along Wellner Drive or by using boring construction techniques. Two other non-jurisdictional, man-made stormwater basins located within uplands were also identified within the study area. The approximate location and extent of the wetlands and other water features identified are depicted on the Aquatic Resources Map (Appendix A, Figure 4).

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. Alternative A could result in long term adverse effects on water quality of marshlands and wetlands because the Boat Harbor/Nansemond SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure and saltwater intrusion and land subsidence would continue. The existing treatment facilities would continue to be used; HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply and other ancillary benefits of SWIFT. Under Alternative A, marshlands and wetlands would not benefit from pollutant reductions proposed under the SWIFT project.

Alternative B – Under the Proposed Action Alternative, no direct adverse impacts to vegetated wetlands from the installation of FM2 are anticipated. The use of applicable BMPs would eliminate or minimize the potential for indirect impacts from runoff and sedimentation from the construction area.

Alternative C – Under Alternative C, impacts to marshlands and wetlands would be the same as those of Alternative B, since the portion of the force main along the westerly alignment of FM2 that deviates from Alternative B would avoid all impacts to wetlands, just as would be the case with Alternative C.

Mitigation Measures

Many of the mitigation measures for marshlands and wetlands impacts are discussed above in Section 5.1.2, including avoidance and minimization measures taken during the project design phase, inadvertent release contingency plan, and E&S controls and BMPs.

HRSD anticipates no permanent impacts to the landside as the FM2 pipeline would be buried. The disturbed areas would be backfilled using excavated material and restored to pre-construction conditions.

The project would be in compliance with all federal, state, and local wetland regulations. HRSD would develop a Stormwater Pollution Prevention Plan (SWPPP) and implement standard erosion and sediment control devices (e.g., sediment traps) to avoid or minimize off-site runoff of stormwater and sediment into nearby wetlands or marshlands.

5.3 Displacement of Households, Businesses, or Services

Displacement refers to the dislocation of people, businesses, institutions, or community facilities as a result of a project. Direct displacement is involuntary displacement of an occupant due to development of a project. Indirect displacement is a result of environmental, geographical, or socio-political consequences of project development.

Affected Environment

The Proposed Action area is surrounded primarily by industrial and developed land and undeveloped mixed forest. There are no residences in the immediate vicinity of the area, although residential areas are located to the southwest. The Proposed Action would occur

primarily along existing ROWs. HRSD would negotiate with property owners, whose land the Project crosses, to acquire easements along the alignment as necessary. These property owners include the Gee's Group (land developer / property owner), TCC (landowner), City of Suffolk, BCP Suffolk LLC (land developer / property owner), the USACE, and VDOT.

Environmental Consequences

Alternative A – Under the No Action Alternative, no households, businesses, or services would be displaced.

Alternative B – Under the Proposed Action Alternative, HRSD would acquire easements along the proposed FM2 alignment. No households, businesses, or services would be displaced during construction or operation.

Alternative C– Under Alternative C, HRSD would require a similar set of landowner agreements as with the Proposed Action Alternative. Most of the alternate westerly route traverses property owned by TCC.

Mitigation Measures

The proposed Project is not expected to displace any households, businesses, or services. Therefore, no mitigation would be required.

5.4 Land Use Issues

The Farmland Protection Policy Act is in place to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of prime and other farmlands of statewide or local importance to non-agricultural uses.

Formally Classified Lands are parcels that have been given special protections through federal, state, or local agencies. They include, but are not limited to, national parks and monuments; national natural landmarks; national battlefield park sites; national historic sites and parks; wilderness areas; national seashores, lakes, and trails; wildlife refuges; national conservation areas; wild and scenic rivers; state parks; Bureau of Land Management administered lands; and national forests and grasslands.

Affected Environment

In the City of Suffolk, approximately 20 acres of land are within the Limits of Disturbance (LOD) for the Proposed Action. The surrounding area includes a combination of land use types. As detailed in **Error! Reference source not found.**, the Virginia Land Cover Dataset classifies the area as a combination of impervious surfaces, forested land, trees, and turf grass areas (Appendix A, Figure 6).

Table 1: Land Use / Land Cover Types within the LOD

Alternative B: Proposed Action Alternative	
Land Use Class	Acres
Impervious	5.55
Forest	4.18

Tree	2.72
Turf Grass	7.34
Alternative C: Alternate Westerly Alignment of FM2	
Land Use Class	Acres
Impervious	9.01
Forest	4.14
Tree	3.73
Turf Grass	8.01

According to the City of Suffolk 2035 Comprehensive Plan (City of Suffolk 2015), the study area is mapped as “Mixed Use Core District.” The Proposed Action would be consistent with the City of Suffolk future land use plans and mapping. The Proposed Action would primarily occur along existing road ROWs and industrial areas.

The US Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS) maintains a database of soils throughout the country. NRCS soil data was reviewed for soil and prime/unique farmland information: 15.5 acres of prime farmland occurs within the LOD for the Proposed Action. Soil units present are described in Table 2. The NRCS web soil survey map is included as Appendix A, Figure 7.

Table 2: Soil Types for the LOD

Alternative B: Proposed Action Alternative				
Map Unit Symbol	Soil Type	Prime Farmland?	Farmland of Statewide Importance?	Acres
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	Yes	No	10.34
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	Yes	No	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	No	No	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	Yes	No	0.56
29	Weston fine sandy loam	Yes*	No	0.09
6	Dragston fine sandy loam	Yes*	No	2.63
Alternative C: Alternate Westerly Alignment of FM2				
Map Unit Symbol	Soil Type	Prime Farmland?	Farmland of Statewide Importance?	Acres
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	Yes	No	12.10
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	Yes	No	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	No	No	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	Yes	No	0.53
26	Udorthents-Dumps complex	No	No	3.63
27	Urban land	No	No	3.39

29	Weston fine sandy loam	Yes*	No	0.10
6	Dragston fine sandy loam	Yes*	No	2.62
*prime farmland if drained				

The Suffolk area includes the FNOD. As a result, there are numerous hazardous and toxic waste issues associated with the study area. The FNOD historically consisted of approximately 975 acres and was acquired by the Department of the Army between 1917 and 1928 and used primarily as an ammunition depot. FNOD was deactivated in 1960 and, in 1968, most of the property was bequeathed to the Commonwealth of Virginia (later TCC). TCC now occupies approximately 389 acres of FNOD. FNOD is currently owned by several property owners including the Suffolk Economic Development Authority (EDA), VDOT, and HRSD, among others (USACE 2018).

In 1984, the discovery of bulk explosives, small arms munitions, and other ordnance items, both spent and unexploded, and a several ton slab of crystalline 2,4,6-trinitrotoluene (TNT) prompted a remedial investigation and regulatory oversight by EPA (USACE 2016). In 1999, the EPA placed FNOD on the National Priorities List for private sites (64 Federal Register No. 140, 39878) and FNOD was listed as a non-federal facility Superfund site since the federal government no longer owned or operated any part of FNOD (USACE 2018). The initiation of the physical removal of identified munitions, explosives, and contaminants began in 1988 and was completed in 2004. The site is subject to activity and use limitations set by EPA that are aimed at reducing exposure to potential residual contamination (EPA 2020b). The Proposed Action proponents will coordinate with EPA to ensure compliance with use limitations and to ensure hazardous and toxic materials are not exposed nor introduced as a result of the construction of FM2.

Based on a review of the National Parks Service (NPS) list of National Battlefields, National Parks, National Parkways, National Lakeshores, and other Formally Classified Lands, there are no designated lands in the proposed study area.

5.4.1 General Land Use

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no impacts to the land use in the Proposed Action area and adjacent properties.

Alternative B – Under the Proposed Action Alternative, the installation of FM2 could result in minor impacts to land use or zoning on the Suffolk side. However, any effects to land use or zoning would be minor relative to the larger development projects occurring in the Project vicinity (i.e., Suffolk EDA, Gee Group, and TCC developments). The Proposed Action is expected to be substantially compatible with land use regulations, as it would not significantly change existing zoning classifications and would also support the surrounding land uses by eventually providing a net benefit in wastewater treatment services to residences and businesses. As a result, the Proposed Action is anticipated to benefit residents in and adjacent to the area.

HRSD will coordinate with USACE and VDEQ as necessary in order to identify any locations where hazardous materials or contamination may still be present, and to determine appropriate control measures. While soils excavated during proposed construction activities are not anticipated to be contaminated, should any suspected contaminated soils be uncovered, they would be tested and disposed of in accordance with applicable federal, state, and local regulations.

Alternative C – Alternative C would have similar effects on land use and zoning as the Proposed Action Alternative. If the FNOD areas scheduled for remediation by the end of 2022 are not completed, HRSD would select Alternative C, where the potential for encountering contaminated soils associated with FNOD would be decreased. HRSD would coordinate with USACE and VDEQ regarding potential contamination concerns regardless of which FM2 alignment is selected.

Mitigation Measures

The Proposed Action is expected to be compatible with existing land use regulations; therefore, no mitigation measures are required. Should potentially contaminated soils be excavated, they would be tested and disposed of properly.

5.4.2 Important Farmland and Open Space

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to important farmland or open space.

Alternative B – Under the Proposed Action Alternative, approximately 15.4 acres of disturbance would be located on prime farmland, most of which is within existing ROWs. Many of these soils are already disturbed due to prior ROW construction (i.e., for the roads/railroad), but would undergo further disturbance during the proposed construction activities, resulting in a permanent loss of prime farmland. However, the location of the disturbance within an existing ROW and industrial/developed areas precludes these soils from agricultural use. Additionally, given the prevalence of prime farmland soils in the surrounding areas, the loss of prime farmland as a result of the Proposed Action would be minimal on a regional scale. Therefore, construction of the Proposed Action would have long-term, negligible impacts on prime farmland.

Some of the area could be considered open space. However, throughout these areas, the Proposed Action would have no effect on potential open space uses, or any other open space benefits such as recreation since FM2 would be below ground. Therefore, the Proposed Action would have no impacts to such areas.

Alternative C – Effects on farmland and open space under Alternative C would be like the Proposed Action Alternative. Under Alternative C, approximately 17.2 acres of the study area would be located on prime farmland, most of which is located along future road ROWs.

Mitigation Measures

The Proposed Action is expected to have negligible impacts on prime farmland and no impacts on open space; therefore, no mitigation measures are required.

5.4.3 Formally Classified Lands

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to Formally Classified Lands.

Alternative B – Under the Proposed Action Alternative, there would be no impacts to Formally Classified Lands as these designated lands are not located within the study area.

Alternative C – Under Alternative C, there would be no impacts to Formally Classified Lands as these designated lands are not located within the study area.

Mitigation Measures

No Formally Classified Lands were identified within the study area; therefore, no mitigation measures are required.

5.5 Areas of Historical Significance and Lands Having Archaeological Significance

The National Historic Preservation Act (NHPA) of 1966 (16 U.S. Code 470 et seq.), as amended, outlines federal policy to protect historic properties and promote historic preservation in cooperation with states, tribal governments, local governments, and other consulting parties. The NHPA established the NRHP and designated the State Historic Preservation Office (SHPO) as the entity responsible for administering state-level programs. The Virginia Department of Historic Resources (DHR) serves as the state's SHPO. The NHPA also created the Advisory Council on Historic Preservation, the federal agency responsible for overseeing the Section 106 process and providing commentary on federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR 800) outline the procedures for federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to any federal undertaking that has the potential to affect historic properties, defined in the NHPA as those properties (archaeological sites, standing structures, or other historic resources) that are listed in or eligible for listing in the NRHP. Although buildings and archaeological sites are most readily recognizable as historic properties, a diverse range of resources are listed in the NRHP, including roads, landscapes, Traditional Cultural Properties, and vehicles. Under Section 106, federal agencies are responsible for identifying historic properties within the Area of Potential Effects (APE) for an undertaking, assessing the effects of the undertaking on those historic properties, if present, and considering ways to avoid, minimize, and mitigate any adverse effects of its undertaking on historic properties. Further, it is the primary regulatory framework that is used in the NEPA process to determine impacts on cultural resources.

As part of the NEPA process for WIFIA funding, HRSD followed the Section 106 framework for identifying potential historic properties in the project's APE and evaluating potential effects thereto.

Affected Environment

Reviews of the Virginia Cultural Resources Information System (VCRIS) maintained by the DHR, the Virginia Archaeological Site Survey Records, the Virginia Historic Inventory Property Forms, and the NRHP were conducted as part of a cultural resources desktop survey of the overall Boat Harbor/Nansemond SWIFT Project area. The Project area is generally located in an area of high archaeological potential given its proximity to several colonial settlements.

In June, August, and October 2020, AECOM conducted investigations to identify and evaluate historic properties on the Newport News and Suffolk sides of the Project area. The surveys were conducted pursuant to Section 106 of the NHPA of 1966, as amended; the Advisory Council on Historic Preservation's *Protection of Historic and Cultural Properties*; the DHR *Guidelines for Conducting Historic Resources Survey in Virginia*; and the Secretary of the Interior's *Standards and Guidelines for Curation*. AECOM also conducted a Phase I marine cultural resources survey in April and May 2020, and January 2021 of the underwater portion of the Project area that crosses the James River. The 2020 marine survey recorded two historic shipwrecks, identified as "Target 1" along the Newport News shoreline. No potentially eligible resources were identified within the Proposed Action study area.

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to areas of historical significance nor lands having potential archaeological significance.

Alternative B – On April 24, 2021, EPA initiated consultation with the SHPO and made a "no historic properties affected" determination (Appendix F). On May 28, 2021, DHR concurred with this determination and agreed that no additional investigations were necessary for the terrestrial archaeological sites and subaqueous targets and anomalies (Appendix F). Additional comments were provided by the SHPO in a letter on July 9, 2021 (Appendix F). In the July letter, DHR concurred with all of EPA's findings, including that all architectural resources are not eligible for listing, and the summarized concurrences in the May letter, which concluded the Section 106 consultation.

No potentially eligible historic resources were identified within the Proposed Action study area; therefore, no impacts to areas of historical significance or lands having archaeological significance are anticipated under the Proposed Action Alternative.

Alternative C – Under Alternative C, impacts to areas of historical significance or lands having potential archaeological significance would be like those of Alternative B, since the portion of the force main along the westerly alignment of FM2 that deviates from Alternative B would avoid all impacts to historic resources, just as is the case with Alternative C.

Mitigation Measures

Practicable mitigation measures include consultation with the SHPO and/or Tribal Historic Preservation Office, minimization of adverse effects, and development of an unanticipated discoveries plan. The location and extent of cultural resources in the study area vicinity has been considered for the FM2 design, as discussed in Section 4.3.

5.6 Irretrievable Resources

Irretrievable resources represent resources that will not be returned to their original state, resources that will be unavailable for a period of time, the loss of future opportunities that are foregone for the period of the Proposed Action, or the use of renewable resources, such as timber or human efforts, as well as other utilization opportunities that are foregone in favor of the Proposed Action.

Affected Environment

The Proposed Action would result in the commitment of natural and man-made resources. The primary commitment of resources would come from construction, and minimal commitment of resources for the operation and maintenance of the new transmission force main.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. The SWIFT facilities would not be built, which would result in irretrievable commitments of water and stability of the Potomac Aquifer because the water supply would continue to be depleted.

Alternative B – Under the Proposed Action Alternative, the construction of FM2 would result in the irretrievable commitment of construction materials, energy resources, human effort, vegetation, and land. Construction materials, energy resources, and human effort would be irretrievably committed during the planning, construction, and maintenance phases of the proposed project. Some trees and vegetation within the area would require clearing; however, this impact has been minimized by locating the alignment primarily within existing ROWs. As a renewable resource, any clearing of vegetation would constitute an irretrievable loss of this resource for as long as it is prevented from regrowing. Additionally, in areas where the force main would be constructed outside of existing ROWs, land would be irretrievably committed as placement of the force main would preclude future development in those sites unless the line is moved.

There are no anticipated irretrievable commitments of water resources, cultural resources, or visual resources. These irretrievable resource commitments are all temporary in nature and would result in the eventual return to a natural state. The Proposed Action provides substantial long-term benefits that are not offered by the No Action Alternative. These benefits, such as the eventual improved treatment of wastewater and improved integrity of the Potomac Aquifer, outweigh the up-front irretrievable commitment of resources associated with the Proposed Action Alternative.

Alternative C – Under Alternative C, HRSD would involve similar irretrievable commitments of resources as with the Proposed Action Alternative. Alternative C also provides substantial long-term benefits that are not offered by the No Action Alternative, which outweigh the up-front irretrievable commitment of resources.

Mitigation Measures

There are no specific mitigation measures to the irretrievable commitment of resources required for the Proposed Action Alternative. However, the irretrievable commitment of resources is minimized through the mitigation measures established for other environmental consequences.

5.7 Noise

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. The EPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals, which may experience an increased degree of annoyance or disruption from elevated noise levels.

Affected Environment

The nearest noise-sensitive receptor would be Tidewater Community College, with some classroom buildings located within the study area. Residents and visitors of the newly constructed mixed-use development in the south-central portion of the study area could also be affected by noise. Students, teachers, and administrators at the college and residents and visitors of the mixed-use development could experience elevated noise levels; however, HRSD has established and would continue to demonstrate a strong commitment to its neighbors and the communities it serves. Proposed upgrades would incorporate elements such as noise abatement measures aimed at promoting quality of life, environmental stewardship, transparency, and community engagement.

The EPA guidance for noise levels affecting residential land use stipulates that noise should be less than 55 dBA for exterior levels and less than 45 dBA for interior levels (EPA 1974). The U.S. Department of Housing and Urban Development (HUD) also recommends that exterior areas of frequent human use follow the EPA guideline of 55 dBA (HUD 2009). In the City of Suffolk, construction of public projects is exempt from the city’s excessive noise ordinance (City of Suffolk 2020). Hence, in the absence of a quantified sound level threshold from local regulations, 55 dBA would be considered a guidance-based threshold for determining potential sound level impacts at noise-sensitive receptors (e.g., residences and schools).

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no impacts to noise levels.

Alternative B – Under the Proposed Action Alternative, noise would be primarily associated with the construction phase; however, this noise would be relatively temporary in duration, ceasing at the end of each workday and upon construction completion. The construction phase for FM2 is anticipated to begin in March 2023 and last through July 2024. The construction schedule would be limited to weekdays; however, if necessary, the contractor may choose to work weekend shifts with approval of a variance from the City of Suffolk.

Construction noise would cause temporary and short-term adverse impacts to the ambient sound environment. Typical noise levels from construction equipment are expected to be 85 dBA or less at a distance of 50 feet from the construction site. These types of noise levels would

diminish with distance from the construction site at a rate of approximately 6 dBA per each doubling of distance.

Construction noise would be expected to attenuate to 65 dBA at approximately 500 feet. This noise would attenuate to the recommended EPA noise guideline of 55 dBA at approximately 1,600 feet and would attenuate to 50 dBA at approximately 3,200 feet. These distances could be shorter in the field as objects and topography would cause further noise attenuation. In most cases, noise from construction vehicular traffic would be incidental in relation to the existing traffic use of surrounding roadways.

Overall, minimal noise impacts would occur within the Proposed Action area, as it is located within developed areas and along ROWs geographically removed from residential communities. For segments located near noise-sensitive receptors, temporary increases in noise levels would occur during construction from operation of heavy equipment and machinery.

Alternative C – Under Alternative C, noise impacts would be like those of the Proposed Action Alternative. The alternate westerly route of Alternative C would site portions of the FM2 alignment closer to potential noise-sensitive receptors to the west, including the TCC campus. Through the use of noise mitigation measures, this Alternative would have minimal impacts on noise.

Mitigation Measures

To mitigate noise impacts to identified sensitive receptors, most construction activities would take place during weekdays and daylight hours except when construction activities may extend beyond daylight hours to allow for the completion of an activity, which could be a safety issue if not completed. By limiting construction activities to weekdays and daylight hours, noise impacts would be reduced during peak times when outdoor activities take place (weekends) and limited to hours when ambient noise levels are typically louder. If any work is conducted at night, it would last only a couple days in any one location.

5.8 Traffic Circulation and Traffic Pattern Disruption

Traffic is defined as the movement of vehicles on a road or public highway. Existing roadway conditions are evaluated based on roadway capacity and traffic volume. The capacity depends on roadway width, number of lanes, and other physical factors. Traffic volumes can be reported as the number of vehicles averaged over a daily period (i.e., average daily traffic [ADT]). Impacts to traffic patterns are primarily addressed qualitatively and incorporate estimates of anticipated vehicle trips associated with the Proposed Action relative to baseline conditions.

Affected Environment

The proposed FM2 would be located predominantly within developed areas and along existing road ROWs in the Suffolk study area. The proposed FM2 alignment also crosses beneath Interstate Highway I-664.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no impacts to traffic.

Alternative B – Under the Proposed Action Alternative, the primary impacts on transportation and traffic would be short-term and intermittent from the movement of construction trucks potentially reducing roadway capacity. Construction trucks and equipment would travel on local roads; traffic on I-664 would not be interrupted. Traffic-generating construction activities would include arrival and departure of construction workers, trucks hauling equipment and materials to the construction site, the hauling of excavated soils, and potential importing of new fill. Construction equipment used may include concrete trucks, back-hoes, front-end loaders, trenchers, paving equipment, and periodic delivery of pipes and materials.

Once construction is completed, traffic levels and flow would return to original levels. As the overall Project aims to improve wastewater treatment networks, it would ultimately result in less maintenance and fewer unscheduled repairs that would require future road closures or detours, and thus, provide a long-term minor benefit.

Effects could include temporary street closures, lane closures, detours, traffic and parking restrictions, and reduced traffic speeds. Temporary increases in vehicular traffic volume would occur throughout the duration of the proposed construction activities due to construction workers accessing the sites. Such increases would be negligible, and would not contribute to traffic congestion, as these vehicles would primarily access the construction sites via the main roadways, which have sufficient capacity for the additional vehicles. Use of local roads to access sites would represent a higher increase in traffic on those roads due to the current low ADT values; however, these increases would still be very minor and are anticipated to last no longer than a couple of days in most areas. Therefore, short-term negligible impacts are anticipated to occur to roadways and traffic during construction, and no long-term impacts would result from the Proposed Action.

Alternative C – Under Alternative C, impacts on traffic circulation would be very similar to those of the Proposed Action Alternative.

Mitigation Measures

During construction, the construction contractor would be responsible for installing any necessary signage and barricades and implementing any traffic safety measures where appropriate. All construction vehicles would drive the posted speed limit on existing roadways.

Measures to minimize congestion and delays would be implemented during construction, including warning signage, limitation of public rights-of-way for staging, use of flag persons, lane closures, and detours. Appropriate coordination with local entities and the implementation of mitigation measures would reduce the potential construction impacts on traffic to less than significant.

5.9 Odor and Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards. The standards have been established to protect the public from potentially harmful amounts of pollutants. Under the CAA, the EPA establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of “sensitive populations, such as people with asthma, children, and older adults.” Secondary air quality standards protect

public welfare by promoting ecosystems health and preventing decreased visibility and damage to crops and buildings.

The EPA has set national ambient air quality standards (NAAQS) for the following six criteria pollutants: ozone (O₃), particulate matter (PM_{2.5}, PM₁₀), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead (Pb). In Virginia, the Virginia State Implementation Plan (SIP) is the federal plan prepared for state compliance with the federal CAA (EPA, 2020a). The SIP is administered by the EPA.

According to the Virginia Department of Health, environmental odors are any odor caused by a substance in the air that you can smell. Most environmental odors in the outdoor air are not at levels that can cause serious health effects but can impact quality of life and well-being. There are no state-wide regulations regarding nuisance odors, however toxic air pollutants are regulated by the VDEQ.

Affected Environment

The entire Proposed Action area is listed as an *attainment area* for all criteria pollutants (EPA, 2021b) and therefore considered to be in compliance with the federal NAAQS as well as Virginia's SIP. The area is also below the thresholds of VDEQ's toxic air pollutant criteria (VDEQ, 2021b).

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no construction and therefore no project-related emissions or release of odors, and current air quality conditions would continue. However, the outdated treatment system would remain, which would involve release of emissions and could result in odors in the immediate area if not properly maintained. The existing treatment facilities, including the biosolids incinerator, would continue to be used. The use of the Boat Harbor TP incinerator would continue to require approximately 67,000 MCF (one thousand cubic feet) of natural gas per year to remain operational, and would continue to release carbon dioxide, sulfur dioxide, and nitrogen oxides into the air, at levels within regulatory requirements. Bio-ash would continue to be produced at the Boat Harbor TP incinerator and would continue to be transferred offsite for use as landfill cover. The continued use of the incinerating facility would involve ongoing costs to ratepayers and would not include the additional benefits of reduced emissions and beneficial reuse of solids at the Nansemond TP proposed under SWIFT.

Alternative B – During the construction phase of FM2, it is unlikely that construction emissions would be greater than de minimis levels. Therefore, construction emissions are likely to be of only minimal impact to air quality. Overall, air quality impacts during construction would be localized and short-term, but less than significant with the implementation of practicable mitigation measures, including high efficiency engines and anti-idling BMPs.

No significant impacts to air quality during construction or operation are anticipated. Effects could include generation of construction dust and emissions from construction equipment and vehicles; however, practicable mitigation measures would be employed to minimize any impacts on air quality.

Alternative C – Under Alternative C, impacts on odor and air quality would be nearly identical to those of the Proposed Action Alternative.

Mitigation Measures

To minimize air quality impacts during construction of the Proposed Action Alternative, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained; stockpiles of debris, soil, sand, or other materials would be watered or covered to minimize fugitive dust; construction areas and adjacent roads would be swept or cleared of mud and debris. All construction equipment would use approved emission control devices and limit unnecessary idling.

5.10 Surface Water

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into the Waters of the United States.

The EPA implements the CWA to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

Affected Environment

As described in Section 5.2, a wetland and WOTUS delineation of the proposed project area was completed in 2020 and 2022 (AECOM, 2022). The field survey identified only one open water feature within the FM2 study area, POW-A is a 0.38-acre open water depression; two other non-jurisdictional, man-made stormwater basins located within uplands were also identified (Appendix A, Figure 5).

Several wetlands also occur within the study area but all impacts to wetlands would be avoided. Wetlands are discussed in Section 5.2.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur, which could result in long term adverse effects to surface waters. The Boat Harbor/Nansemond SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure and saltwater intrusion and land subsidence would continue. The existing treatment facilities would continue to be used; HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply, improved water quality, and other ancillary benefits of SWIFT. Under Alternative A, surface waters would not benefit from pollutant reductions proposed under the SWIFT project.

Alternative B – Under the Proposed Action Alternative, no vegetated wetlands would be directly impacted. HRSD would implement BMPs to minimize or avoid potential indirect impacts. If the installation of FM2 requires water withdrawals from nearby waterbodies for hydrostatic testing; HRSD would obtain all necessary permits related to withdrawals and discharge. Potential

impacts to surface water quality, such as from stormwater and construction site runoff, are described in Section 5.15.

Operation of the Proposed Action Alternative would have an overall beneficial long-term effect on surface waters once all of the Boat Harbor/Nansemond SWIFT Project is completed.

Alternative C – Under Alternative C, impacts to surface waters would be the same as those of Alternative B, since the portion of the force main along the westerly alignment of FM2 that deviates from Alternative B would avoid all impacts to wetlands and surface waters, just as is the case with Alternative C.

Mitigation Measures

Many of the mitigation measures related to surface water impacts are discussed above in **Section 5.1.2**, including avoidance and minimization measures taken during the project design phase, inadvertent release contingency plan, and E&S controls and BMPs.

The FM2 project would follow all federal, state, and local wetland regulations. HRSD would develop a project specific SWPPP and implement standard erosion and sediment control devices (e.g., sediment traps) to avoid or minimize off-site runoff of stormwater and sediment into surface waters.

5.11 Aesthetic Concerns and Visual Impacts

Visual resources are generally defined as the natural and constructed features of the landscape that contribute to the visual quality of locations visible to the public. The evaluation of potential visual impacts in the context of environmental analysis typically addresses the contrast between visible landscape aspects. Collectively, these elements comprise the aesthetic environment. The existing aesthetic of the landscape is compared to the Proposed Action's visual qualities to determine the contrast resulting from the construction of the Proposed Action.

Affected Environment

The Proposed Action area is primarily located within an existing industrial area and along road ROWs adjacent to a community college and new mixed-use developments. The proposed FM2 alignment traverses a variety of land use types, including industrial, commercial, open space, and forested areas. In developed areas and open spaces, the roadways are not buffered or concealed by any features and are considered part of the typical viewscape for those areas. The majority of the Proposed Action area would be visible from nearby roadways.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no change in visual impacts.

Alternative B – Under the Proposed Action Alternative, temporary negligible visual impacts along the entire extent of the proposed FM2 alignment, including the presence of construction equipment and land disturbance during construction. These visual impacts would be limited to the duration of the proposed construction activities and would not occur simultaneously along the entire length of the proposed force main. Proposed construction and associated visual impacts would be consistent with typical roadway construction activities, including limited tree

clearing. Once construction concludes in an area, visual impacts in that area from construction would cease, as the proposed construction continues elsewhere. Following the completion of construction activities, heavy equipment would be removed, and the construction site would be returned to its previous condition, to the maximum extent practicable. The entire proposed force main would be installed underground, so there is no potential for visual impacts after construction is completed. No long-term visual impacts would occur as a result of the Proposed Action.

Alternative C – Under Alternative C, impacts on aesthetics and visual resources would be nearly identical to those of the Proposed Action Alternative.

Mitigation Measures

No mitigation measures are necessary for visual and aesthetic concerns. HRSD would optimize the construction schedule to complete construction in each area as quickly as possible so that visual impacts are minimized to a couple days in duration for most areas adjoining the project area.

5.12 Designated Wild, Scenic, and/or Recreational Rivers

The National Wild and Scenic Rivers System (NWSRS) was created by Congress (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve rivers deemed to have natural, cultural, and recreational significance. It safeguards the special character of these rivers by encouraging public participation in developing goals for river protection.

Affected Environment

No designated wild, scenic, or recreational rivers are located within or adjacent to the Proposed Action study area (NWSRS, 2021).

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to designated wild, scenic, and/or recreational rivers.

Alternative B – Under the Proposed Action Alternative, no impacts to wild, scenic, and/or recreational rivers would occur due to the absence of these features in the study area.

Alternative C – Under Alternative C, no impacts to wild, scenic, and/or recreational rivers would occur due to the absence of these features in the study area.

Mitigation Measures

No wild, scenic, or recreational rivers were identified within the Proposed Action study area; therefore, no mitigation measures are required.

5.13 Socioeconomics and Environmental Justice

Executive Order (EO) 12898 requires federally funded projects to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. As defined by the

EPA, environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Affected Environment

The EPA has developed an Environmental Justice Screening and Mapping tool (EJSCREEN) to provide the EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN was used to provide demographic and environmental information for the geographic area of the proposed project. According to the EJSCREEN report, no minority or low-income environmental justice communities occur within a 1-mile radius of the Proposed Action study area (EPA 2020a).

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction activity would occur. The existing treatment facilities would continue to be used but would not include the additional water supply and other ancillary benefits of SWIFT. Under Alternative A, local water quality would not benefit from pollutant reductions proposed under the SWIFT project. Likewise, the existing incinerator would continue to be used, releasing carbon dioxide, sulfur dioxide, and nitrogen oxides into the air, at levels within regulatory requirements, but nonetheless contributing to air emissions. As a result, the No Action Alternative would have long-term, minor adverse impacts on the local population.

Alternative B – Under the Proposed Action Alternative, a new force main (FM2) would be constructed. As described in Sections 5.7 and 5.9, there is the potential for noise and air quality impacts to nearby sensitive receptors; however, these impacts would be temporary and are not anticipated to result in disproportionate adverse effects to any population.

The Proposed Action would not be expected to have a significant adverse impact on per capita income, unemployment rate, poverty rate, local population size, or projected population growth. Once completed, the Boat Harbor/Nansemond SWIFT projects would have an overall beneficial effect on the environment and local population by providing improved water quality and mitigating potential water scarcity, which may induce localized population growth or indirectly induce growth by establishing new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises); however, any growth would likely be less than significant.

Overall, adverse impacts to socioeconomics and environmental justice communities are anticipated to be beneficial, including improved air and water quality. Minor effects could also include local economic benefits from construction and operation, and temporary disruption to communities from construction.

Alternative C – Under Alternative C, impacts to socioeconomics would be the same as those of Alternative B.

Mitigation Measures

The proposed project is expected to benefit all residents in and adjacent to the proposed project area. Practicable mitigation measures may include implementation of construction BMPs to minimize noise, traffic, air emissions, and impacts to surface waters.

5.14 Floodplain

EO 11988, *Floodplain Management*, requires federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. The Federal Emergency Management Agency (FEMA) uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program. The base flood elevations are depicted on FIRMs and represent the elevation to which floodwater is anticipated to rise during the base flood. FIRMs also depict 100- and 500-year floodplain boundaries within a given area, which are classified based on 1 percent and 0.2 percent annual flood chance, respectively, as well as minimal flood risk areas. The Virginia Department of Conservation and Recreation (DCR) also maintains the Virginia Flood Risk Information System (VFRIS), which maps floodplains in the state and is used for state regulatory actions.

Virginia EO 45 establishes standards for the development of state-owned properties in flood-prone areas, including Special Flood Hazard Areas and the 100- and 500-year floodplain. It defines development in accordance with definitions used under the National Flood Insurance Program (NFIP; 44 CFR §59.1), which considers development to be “any man-made change to improved or un-improved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.” This Virginia EO also requires that any development occurring within a flood-prone area comply with local floodplain ordinances and flood standards established in the Virginia Uniform Statewide Building Code.

Affected Environment

According to the most recent FEMA FIRM, most of the Proposed Action study area lies outside of the 100-year and 500-year floodplain, which are primarily associated with the James River and Streeter Creek, as depicted in Appendix A, Figure 8.

Under Virginia EO 45, the construction of the Proposed Action would be considered a development activity, as it would require excavation and drilling operations.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. The existing Boat Harbor TP would remain in operation and would continue to be subject to regular flooding. Floodplain impacts as a result of the continued use of the existing treatment plant include potential damage and debris being released into floodwaters.

Alternative B –The locations of the proposed FM2 largely avoid disturbance to the 100-year floodplain. The FM2 project design would be coordinated with the local floodplain administrators and compensatory flood storage mitigation would be included, as necessary.

Alternative C – Under Alternative C, the impacts to the floodplain would be the same as those of Alternative B, since the portion of the force main along the westerly alignment of FM2 that deviates from Alternative B is located outside of the 100- and 500-year floodplain.

Mitigation Measures

The proposed project is not anticipated to significantly alter the function of the floodplain. Compliance with the requirements of the NFIP and coordination with the local floodplain administrator would ensure there would be no adverse impacts to the floodplain. Therefore, no further mitigation is necessary for floodplains.

5.15 Water Quality

Section 303(d) of the CWA authorizes the EPA to assist states, territories, and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality. Pollutants regulated under the CWA consist of "priority" pollutants, which include various toxic pollutants, "conventional" pollutants, such as biochemical oxygen demand, total suspended solids, fecal coliform, and oil and grease, also including any pollutant not identified as either conventional or priority.

The National Pollutant Discharge Elimination System (NPDES) program, as established under Section 402 of the CWA, is currently administered by the VDEQ to limit pollutant discharges into streams, rivers, and bays. VDEQ, under the authority of EPA, administers the program as the Virginia Pollutant Discharge Elimination System (VPDES) program. VPDES permits are issued for all point source discharges to surface waters, and discharges of stormwater from industrial activities and municipal separate storm sewer systems (MS4s) (VDEQ, 2021c). The Virginia Stormwater Management Program (VSMP) issues VPDES permits for stormwater discharges from construction activities (VDEQ, 2019).

The EPA administers the Sole Source Aquifer (SSA) Program, as authorized by Section 1425(e) of the Safe Drinking Water Act of 1974. The SSA Program is intended to protect aquifers that supply at least fifty percent of the drinking water for its service area and that have no reasonably available alternative drinking water sources should the aquifer become contaminated (EPA, 2021a).

Affected Environment

No surface water bodies are located within the FM2 study area except for an open water feature, which appears to be used as a stormwater detention basin (Section 5.2). The James River and Streeter Creek are directly adjacent to the study area. The James River is listed as an impaired water on the 2018 303(d) List of Impaired Waters (VDEQ 2018). The study area is not within a mapped sole source aquifer zone; therefore, the requirements of the SSA do not apply.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. Alternative A could result in long term adverse effects on water quality because the Boat Harbor/Nansemond

SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure and saltwater intrusion and land subsidence would continue. The existing treatment facilities would continue to be used; HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply, improved water quality, and other ancillary benefits of SWIFT. Under Alternative A, the Potomac Aquifer and local waterbodies would not benefit from pollutant reductions proposed under the SWIFT project.

Alternative B –

HRSD would obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities from VDEQ. HRSD would comply with the requirements of this permit, including development of a SWPPP to minimize pollutants present in stormwater runoff from the FM2 construction site. Other BMPs to control construction site runoff would also be implemented, such as use of sediment traps when conducting construction activities near surface water bodies, and the development of a Spill Prevention Control and Countermeasure Plan (SPCCP) to address inadvertent spills from construction equipment that would have the potential to impact nearby surface waters. HRSD would coordinate with the Virginia Department of Health to identify the public groundwater wells within or immediately adjacent to the proposed project area, and those would be field marked, as needed, in order to protect them from accidental damage during construction. Construction would not change the impairment status of the James River or any currently listed waters, as pollutant discharge would be regulated under the General VPDES Permit. Proposed construction would have short-term, minor adverse impacts and long-term, significant beneficial impacts on water quality.

On November 16, 2022, VDEQ issued HRSD a notification that a Virginia Water Protection (VWP) Permit is Not Required and VDEQ waived the issuance of a 401 Water Quality Certificate for the Project (Appendix G).

Alternative C – Under Alternative C, the impacts to water quality would be the same as those of Alternative B. The route deviation under Alternative C does not involve a significant change in effects on water quality.

Mitigation Measures

HRSD would coordinate with VDEQ to obtain a General VPDES Permit for construction, and would comply with the applicable requirements, including development of a SWPPP; and implement appropriate BMPs such as standard erosion and sediment control devices, and development of an SPCCP to minimize runoff and potential pollution of nearby water features. In addition, any wells located in the immediate vicinity of the LOD would be marked during construction to protect them from accidental damage.

5.16 Coastal Zones and Coastal Barrier Resource Systems

The Coastal Zone Management Act (CZMA) enables coastal states, including Virginia, to designate state coastal zone boundaries and develop coastal management programs to

improve protection of sensitive shoreline resources and guide sustainable use of coastal areas. The Virginia Coastal Zone Management Program (CZMP) is administered by various state agencies, but the overall program is managed by the VDEQ. Virginia's CZMP consists of laws, regulations, and policies pertaining to various coastal resources: tidal and non-tidal wetlands; subaqueous lands; dunes and beaches; Chesapeake Bay Preservation Areas; marine fisheries; wildlife and inland fisheries; plant pests and noxious weeds; Commonwealth lands; point source air pollution; point source water pollution; nonpoint source water pollution; and shoreline sanitation (VDEQ, 2021a).

The 1982 Coastal Barrier Resources Act was passed by Congress to discourage coastal barrier development. The law blocked issuance of new federal flood insurance policies within the Coastal Barrier Resources System (CBRS) created by that law.

Affected Environment

The Proposed Action is located within the City of Suffolk, which is located within Virginia's coastal zone (VDEQ, 2021a). The entirety of the area is also designated as a Chesapeake Bay Preservation Area (CBPA) under Virginia's Chesapeake Bay Preservation Act of 1988. CBPAs are split into three categories: Resource Protection Areas (RPAs), Resource Management Areas (RMAs), and Intensely Developed Areas (IDAs). RPAs are defined as lands that are adjacent to perennial water bodies that have intrinsic water quality values or are sensitive to development, and RMAs are composed of lands contiguous to the inland boundary of RPAs (VDEQ, 2021d). The majority of the study area is located within Suffolk RMAs, with the coastline along the James River and buffers around wetlands being designated as RPA.

The proposed project area is not located within a CBRS unit (USFWS, 2021a).

Environmental Consequences

Alternative A – Under the No Action Alternative, the current treatment system would not align with the point source water pollution and shoreline sanitation policies of Virginia's CZMP which encourage the reclamation and reuse of wastewater. If the existing Boat Harbor TP is maintained in its current state, the No Action Alternative would not be able to meet the reclamation and reuse goals of the CZMP policies and would have minor adverse impacts to the coastal zone.

Alternative B – Construction of FM2 would result in less-than-significant adverse impacts and future beneficial impacts on the coastal zone. On August 2, 2021, EPA submitted a federal consistency determination to the VDEQ. EPA determined that the Project was consistent with Virginia's CZMP. On August 25, 2021, VDEQ responded to EPA's determination. VDEQ stated that the proposed activity is consistent with the Virginia CZMP, provided all applicable permits or approvals listed under "Enforceable Policies of Virginia's Coastal Zone Management Program" are received prior to implementation of the Project. VDEQ also encouraged the consideration of potential project impacts to the advisory policies of the Virginia CZMP. HRSD will ensure the Proposed Action complies with these permits and policies prior to commencement of construction.

Wetlands and surface waters are discussed in **Sections 5.2** and **5.10**, respectively. Many of these wetlands and surface waters are also located within RPAs, which have additional stream

buffer and water quality requirements. Proposed construction activities would comply with these requirements to the maximum extent practicable in order to comply with the applicable CBPA policies within Virginia's CZMP.

Many of the policies within Virginia's CZMP regarding point source air pollution are not applicable to the Proposed Action; however, there are general policies addressing fugitive dust emissions. As described in **Section 5.9**, BMPs and mitigation measures would be implemented as part of the Proposed Action to minimize these emissions at the construction site. Therefore, the Proposed Action would comply with these policies to the maximum extent practicable.

The Proposed Action is not anticipated to result in point source water pollution, although nonpoint source pollution may impact water quality, as described in **Section 5.15**. HRSD would comply with the applicable VPDES permits and develop a SWPPP to address the potential impacts to water quality from nonpoint source pollution. HRSD would also develop an SPCCP to address accidental spills, and an Inadvertent Returns Contingency Plan to limit inadvertent releases to surface waters from drilling activities, thereby minimizing the impact on Virginia's coastal zone.

Completion of the overall Boat Harbor/Nansemond SWIFT Project would improve wastewater treatment in the region and would have an overall long-term benefit by reducing aquifer-related land subsidence in coastal Virginia and allowing additional time to adapt to sea level rise. This would also protect valuable coastal wetlands for decades longer than currently projected. Therefore, the Proposed Action would have beneficial impacts on Virginia's coastal zone.

Alternative C – Under Alternative C, the impacts to the coastal zone would be the same as those of Alternative B.

Mitigation Measures

The Proposed Action would comply with the applicable policies and regulations contained within Virginia's CZMP in order to minimize impacts to the coastal zone to the maximum extent practicable. Mitigation measures/BMPs discussed for the other resources (e.g., water quality, wildlife, air quality) would avoid or minimize potential effects to the coastal zone.

6. Agency Coordination

VDEQ is the lead agency for conducting the EA compliance process for the proposed HRSD Project. It is the goal of the lead agency to expedite the preparation and review of environmental analysis documents and to be responsive to the needs of the community and the purpose and need of the proposed action while complying with all environmental provisions.

As part of the development of the EA, the following state agencies were contacted requesting comments on the Draft EA, which initially included all three components of the overall Boat Harbor Project (i.e., Pump Station, FM1, and FM2):

- Virginia Department of Agriculture & Consumer Services
- Virginia Department of Conservation & Recreation
- Virginia Department of Forestry
- Virginia Department of Wildlife Resources
- Virginia Department of Health
- Virginia Department of Historic Resources
- Virginia Department of Mines, Minerals & Energy
- Virginia Institute of Marine Science
- Virginia Marine Resources Commission
- Virginia Department of Transportation

The state agency review period occurred between May 20, 2022 and June 20, 2022. Agency comments are included in Appendix G but pertained primarily to FM2, the underwater portion of the Project. VDEQ Division of Land Protection and Revitalization noted several known RCRA generators and petroleum release sites in the vicinity of the Proposed Action and VDEQ Water Division and the Department of Forestry recommended BMPs be employed to minimize potential impacts. These comments have been noted and HRSD will continue coordination with these agencies as necessary prior to the start of construction. Any outstanding comments or agency coordination pertaining to FM2 will be resolved during the public review period and incorporated into the relevant sections of the Final EA.

In response to the Joint Permit Application submitted in November 2021 for the FM1/FM2 portions of the Project, on November 16, 2022, VDEQ issued HRSD a notification that a Virginia Water Protection (VWP) Permit is Not Required and VDEQ waived the issuance of a 401 Water Quality Certificate for the Project. This correspondence is also included in Appendix G.

7. References

- AECOM. (2022). Wetlands and Waters Delineation Report and Addendum. Prepared for the Boat Harbor HRSD SWIFT Project. York County, Virginia. November 2020. Addendum, March 2022.
- DCR. (2022). Virginia Flood Risk Information System (VFRIS). Retrieved from <https://consapps.dcr.virginia.gov/VFRIS/>
- Environmental Science Associates. (2014). EA/Initial Study for the Los Angeles County Waterworks District 40 Regional Recycled Water Project Phase 2. Los Angeles, CA.
- EPA. (1974). United States Environmental Protection Agency 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with An Adequate Margin of Safety. March 1974. Prepared by the U.S. Environmental Protection Agency Office of Noise Abatement and Control. Accessed September 9, 2019, at <https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF>.
- EPA. (2014). Environmental Assessment Douglas Wastewater Treatment Plant Upgrade and Bay Acres Colonia Wastewater Collection System Expansion. San Francisco, CA: U.S. Environmental Protection Agency, Region IX.
- EPA. (2018). Programmatic Environmental Assessment for the WIFIA Program. April 2018.
- EPA NEPA Assist. (2020). NEPA Assist Tool and Mapper. Accessed October 20, 2020, at <https://nepassisttool.epa.gov/nepassist/nepamap.aspx>
- EPA. (2020a). Approved Air Quality Implementation Plans in Virginia. Retrieved October 29, 2021, from <https://www.epa.gov/sips-va>
- EPA. (2020b). EJSCREEN. Retrieved October 28, 2021, from <https://ejscreen.epa.gov/mapper/>
- EPA. (2021a). Map of Sole Source Aquifer Locations. Retrieved October 29, 2021, from <https://www.epa.gov/dwssa/map-sole-source-aquifer-locations>
- EPA. (2021b). Virginia Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Retrieved October 29, 2021, from Green Book: https://www3.epa.gov/airquality/greenbook/anayo_va.html
- EPA. (2021c). WATERS Data (KMZ). Retrieved from https://www.epa.gov/sites/default/files/2020-01/waterskmz_v1.10.kmz
- FEMA. (2021). Flood Map Service Center. Retrieved July 15, 2021, from <https://msc.fema.gov/portal/home>

- HUD. (2009). The Noise Guidebook, Chapter 2, Washington, D.C. Superintendent of Documents, U.S. Government Printing Office. Accessed January 13, 2020, at <https://www.hudexchange.info/resource/313/hud-noise-guidebook/>
- Newport News City of. (2018). City of Newport News One City, One Plan 2040 Comprehensive Plan. Adopted August 14, 2018.,
- Newport News, City of. (2020). City of Newport News Code of Ordinances, Noise Abatement. Ordinance Number 4952-96; Ordinance Number 5030-97; Section 33.02-48. Enacted September 22, 2020.
- NOAA Fisheries. (2020). Essential Fish Habitat Mapper. Accessed October 20, 2020, at <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>
- NRCS. (2021). NRCS Web Soil Survey. Retrieved from United States Department of Agriculture.
- NWSRS. (2021). Virginia. Retrieved from National Wild and Scenic Rivers System: <https://www.rivers.gov/virginia.php>
- Orange County Water District. (2011). Addendum No. 5 to the Program Environmental Impact Report/Tier I Environmental Impact Statement (Final EIR/EIS) for the Orange County Water District (OCWD) Groundwater Replenishment System (GWRS). Fountain Valley, CA.
- San Francisco Planning Department. (2017). Biosolids Digester Facilities Project Draft EIR. San Francisco.
- Suffolk, City of. (2015). Suffolk 2035: A Vision for the Future. City of Suffolk Comprehensive Plan. Adopted April 1, 2015.
- Suffolk, City of. (2020). City of Suffolk Code of Ordinances, Article VI – Noise. Section 34-189, Article VI. Enacted July 15, 2020.
- USACE. (2016). Baltimore District Site Management Plan Former Nansemond Ordnance Depot. May 2016. Accessed October 30, 2020, at https://www.nao.usace.army.mil/Portals/31/docs/environment/FNOD/FNOD_SMP_2016.pdf?ver=2016-07-05-165638-993
- USACE. (2018). Norfolk District Former Nansemond Ordnance Depot. Published Feb. 23, 2018. Accessed October 30, 2020, at <https://www.nao.usace.army.mil/Missions/Environmental/FNOD.aspx>
- USFWS. (2007). National Bald Eagle Management Guidelines. Retrieved from <https://www.fws.gov/migratorybirds/pdf/management/nationalbaldeaglenanagementguidelines.pdf>

November 2022

- USFWS. (2021a). Coastal Barrier Resource System Mapper. Retrieved October 29, 2021, from <https://www.fws.gov/cbra/maps/mapper.html>
- USFWS. (2021b). Information for Planning and Consultation (IPaC). Retrieved October 19, 2021, from <https://ecos.fws.gov/ipac/>
- VDEQ. (2018). Impaired Waters – 303(d) List. Accessed October 30, 2020, at https://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityAssessments/IntegratedReport/2018/ir18_Appendix1a_Category5_List.pdf
- VDEQ. (2019). General VPDES Permit for Discharges of Stormwater from Construction Activities. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/home/showpublisheddocument/8525/637547667064630000>
- VDEQ. (2021a). About CZM. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/coasts/about-czm>
- VDEQ. (2021b). Pollutant Monitoring. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/air/monitoring-assessments/air-monitoring/pollutant-monitoring>
- VDEQ. (2021c). Surface Waters -- Virginia Pollutant Discharge Elimination System. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/permits-regulations/permits/water/surface-water-virginia-pollutant-discharge-elimination-system>
- VDEQ. (2021d). Virginia Coastal Zone Management Program Enforceable Policies -- 2021. Retrieved from <https://www.deq.virginia.gov/home/showpublisheddocument/8605/637556326054300000>
- VDGIF. (2021a). NLEB Winter Habitat and Roost Trees Application. Retrieved November 2, 2021, from <https://dgif-virginia.maps.arcgis.com/apps/webappviewer/index.html?id=32ea4ee4935942c092e41ddcd19e5ec5>
- VDGIF. (2021b). Virginia Fish and Wildlife Information Service (VaFWIS). Retrieved October 25, 2021, from <https://vafwis.dgif.virginia.gov/fwis/>

Appendix A: Figures



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 USGS Topographic Map Source: ESRI, 2019:

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HRSD-SWIFT Project 2022

Boat Harbor Transmission
 Force Main Section 2
 City of Suffolk, VA

Last Date Edited: 11/18/2022

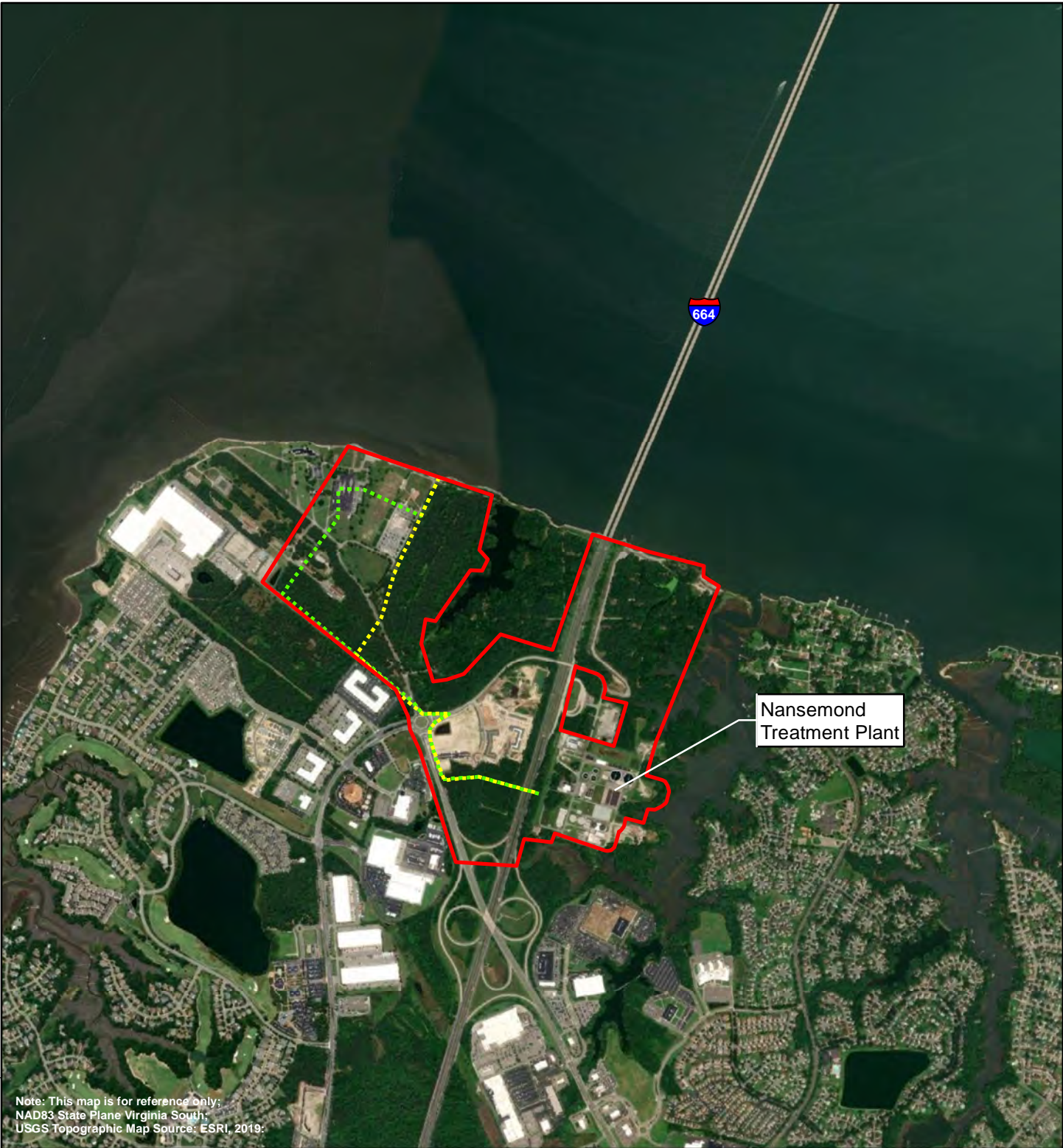
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Legend

Study Area

Figure 1
 Vicinity Map

City of Newport News
 City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 USGS Topographic Map Source: ESRI, 2019;

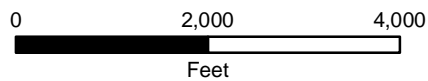
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**HRSD-SWIFT Project
2022**

Boat Harbor Transmission
 Force Main Section 2
 City of Suffolk, VA

Last Date Edited: 11/17/2022



Legend

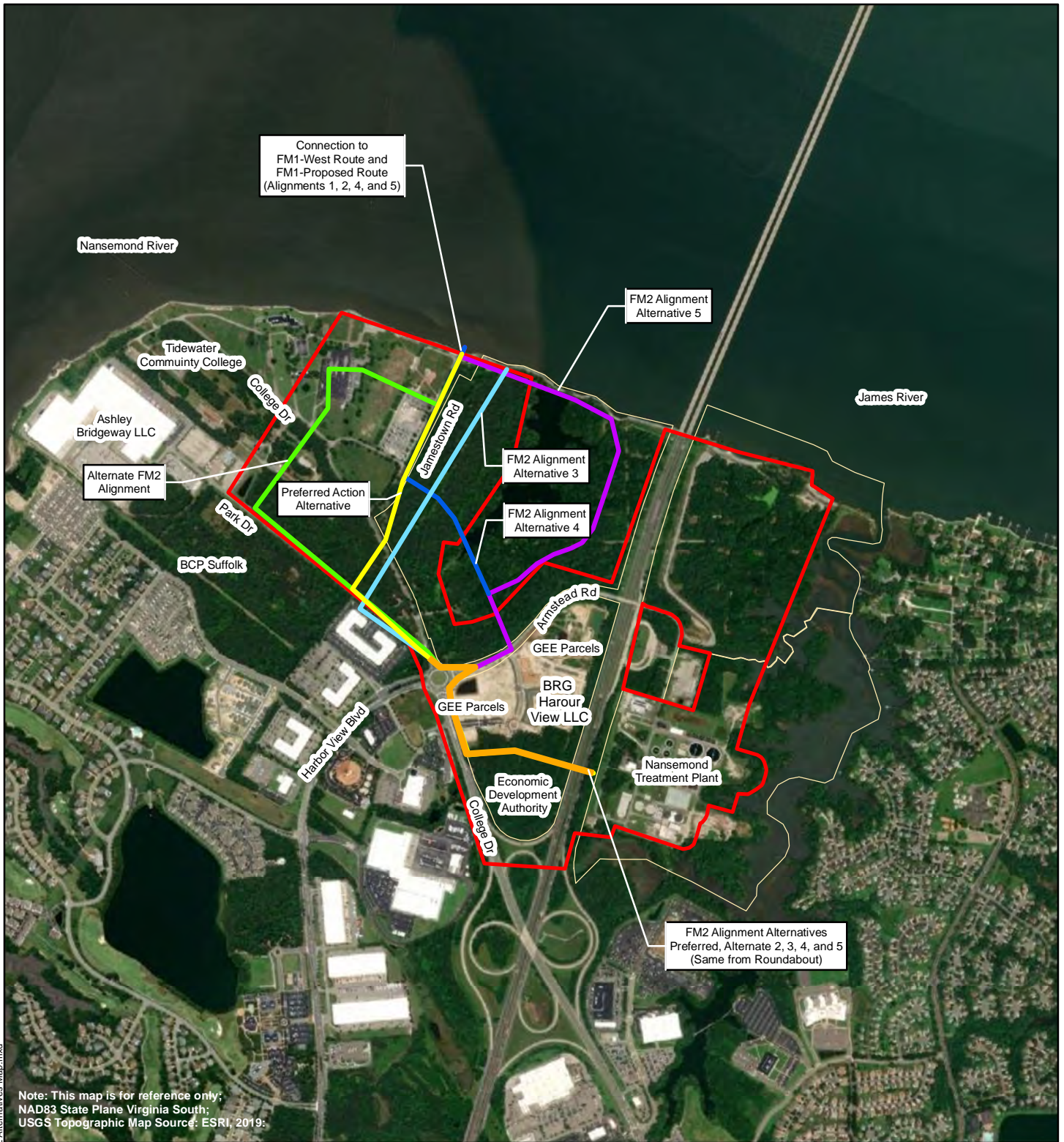
- Study Area
- Proposed Action Alternative
- Alternate FM2 Alignment



Figure 2
 Project Location Map



- City of Newport News
- City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 USGS Topographic Map Source: ESRI, 2019;

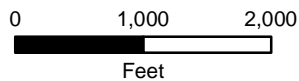
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**HRSD-SWIFT Project
 2022**

Boat Harbor Transmission
 Force Main Section 2
 City of Suffolk, VA

Last Date Edited: 11/17/2022



Legend

- Common Force Main for Alignments All
- Proposed Action Alternative
- Alternate FM2 Alignment
- Force Main Alignment 3
- Force Main Alignment 4
- Force Main Alignment 5
- Study Area
- Parcels



**Figure 3
 FM2 Alternatives Map**



- City of Newport News
- City of Suffolk

James River



**HRSD-SWIFT Project
2022**
Boat Harbor Transmission
Force Main Section 2
City of Suffolk, VA

Date: 11/17/2022

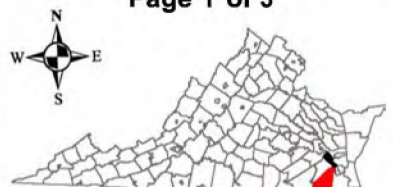
Legend

- ▭ Study Area
- - - Proposed Force Main Alignment
- - - Alternate FM2 Alignment
- ▭ Temporary Workspace
- Field Delineated Wetlands and Waters**
- ▭ PEM
- ▭ PFO
- ▭ Open Water Features
- ▭ Stormwater Features
- Determination Points

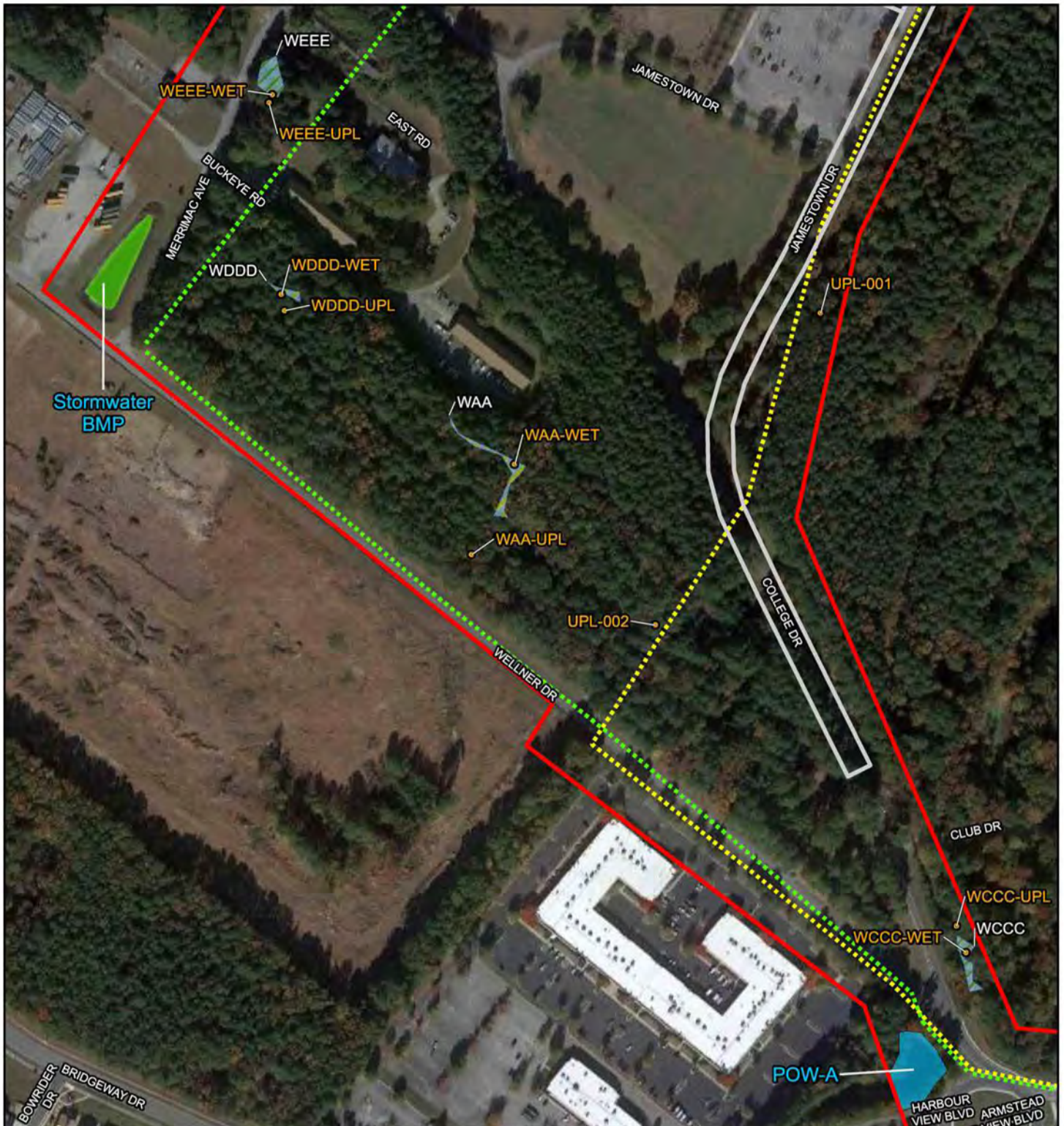


Note: This map is for reference only; NAD83 State Plane Virginia South;
Aerial Image Source: Google, 2019; Wetland delineation date: June 04-05 & 10, 2020/ August 18 2020

**Figure 4
Aquatic Resources Map
Page 1 of 3**



▭ City of Newport News
▭ City of Suffolk




**HRSD-SWIFT Project
2022**
Boat Harbor Transmission
Force Main Section 2
City of Suffolk, VA

Date: 11/17/2022

Legend

- ▬ Study Area
- ⋯ Proposed Force Main Alignment
- ⋯ Alternative Force Main Alignment
- Temporary Workspace



Field Delineated Wetlands and Waters

- PEM
- PFO
- Open Water Features
- Stormwater Features
- Determination Points

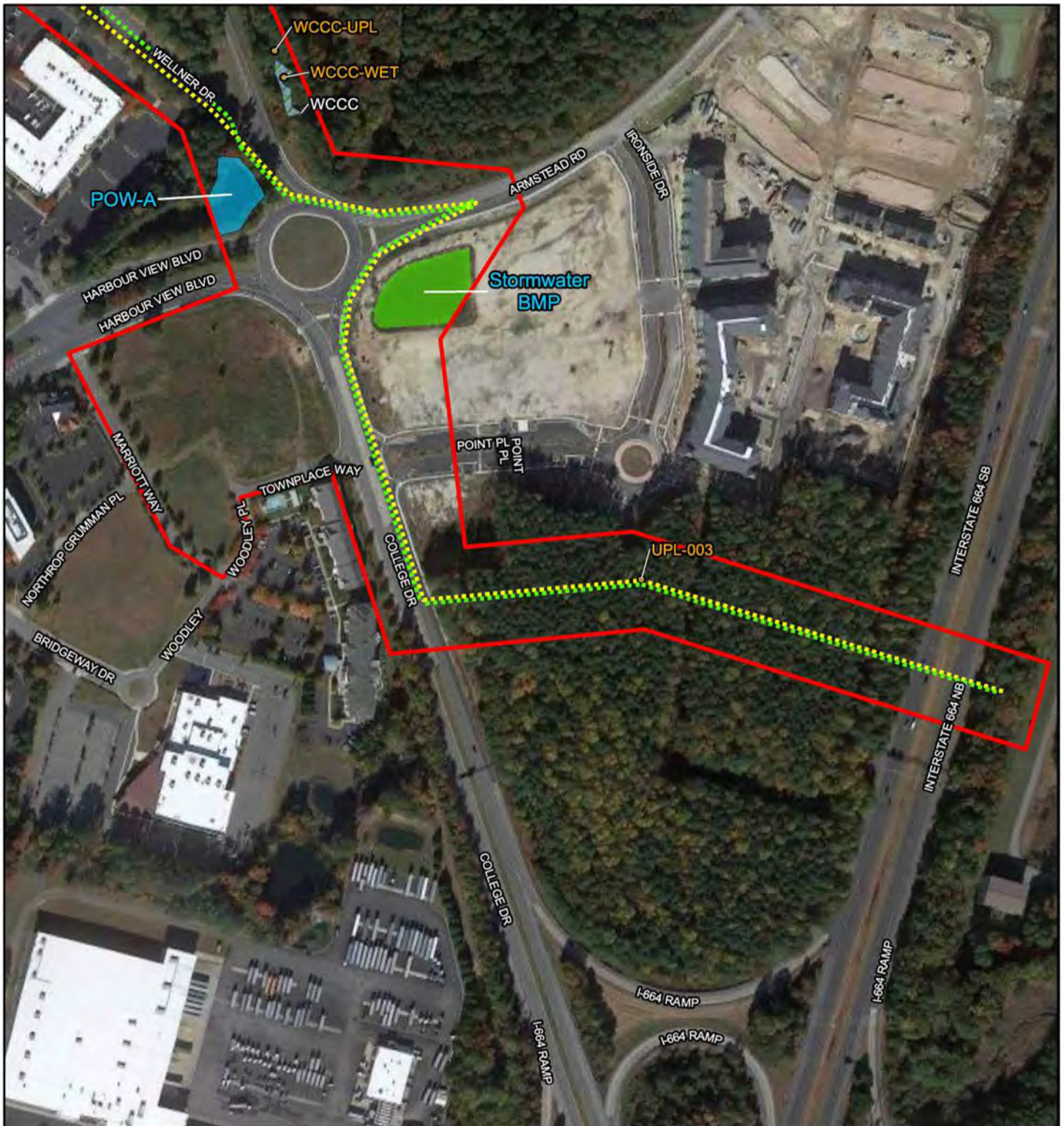
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Feet

Note: This map is for reference only, NAD83 State Plane Virginia South;
Aerial Image Source: Google, 2019; Wetland delineation date: June 04-05 & 10, 2020/ August 18 2020

**Figure 5
Aquatic Resources Map
Page 2 of 3**

City of Newport News
 City of Suffolk



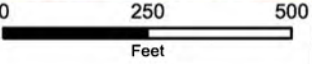
HRSD
 Cleaning wastewater-every-day-for-a-better-Bay

**HRSD-SWIFT Project
 2022**

Boat Harbor Transmission
 Force Main Section 2
 City of Suffolk, VA

Date: 11/17/2022

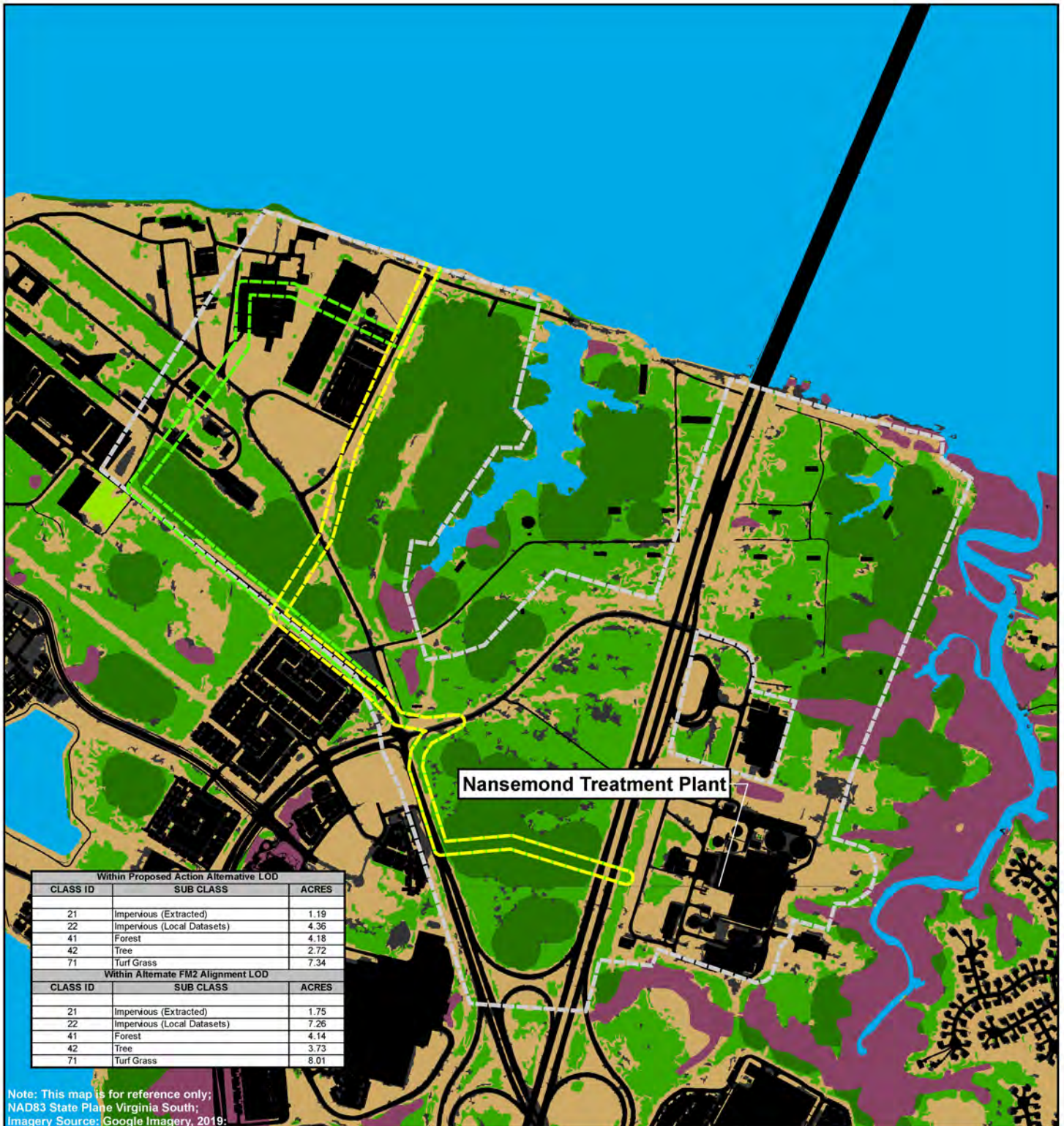
- Legend**
- ▭ Study Area
 - - - Proposed Force Main Alignment
 - - - Alternative Force Main Alignment
 - ▭ Temporary Workspace
 - Field Delineated Wetlands and Waters**
 - ▭ PEM
 - ▭ PFO
 - ▭ Open Water Features
 - ▭ Stormwater Features
 - Determination Points



Note: This map is for reference only, NAD83 State Plane Virginia South;
 Aerial Image Source: Google, 2019; Wetland delineation date: June 04-05 & 10, 2020/ August 18 2020

**Figure 5
 Aquatic Resources Map**
 Page 3 of 3





Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019;

Figure 5
 Land Cover Map



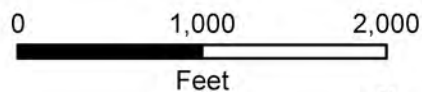
City of Newport News
 City of Suffolk



**HRSD-SWIFT Project
 2022**

Boat Harbor Transmission
 Force Main Section 2
 City of Suffolk, VA

Last Date Edited: 11/17/2022



Legend

- Study Area
- Proposed Action Alternative LOD
- Alternate FM2 Alignment LOD
- LOD 11 - Hydro
- 21 - Impervious (extracted)
- 22 - Impervious (Local datasets)
- 41 - Forest
- 42 - Tree
- 71 - TurfGrass
- 81 - Pasture
- 91 - NWI/Other



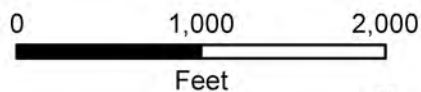
VGIN Land Cover Dataset 2016



Within Proposed Action Alternative LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalma fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	10.34
10B	Kalma fine sandy loam, wet substratum, 2 to 8 percent slopes	0	Well drained	1.66
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.45
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.56
26	Libertonia-Dumas complex	8		3.63
27	Weston fine sandy loam	90	Poorly drained	0.29
6	Dragon fine sandy loam	5	Somewhat poorly drained	2.83
W	Water	0		89.43

Within Alternative FM2 Alignment LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalma fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	12.10
10B	Kalma fine sandy loam, wet substratum, 2 to 8 percent slopes	0	Well drained	1.89
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.66
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.53
26	Libertonia-Dumas complex	8		3.63
27	Urban land	0		5.39
29	Weston fine sandy loam	90	Poorly drained	0.10
6	Dragon fine sandy loam	5	Somewhat poorly drained	2.62
W	Water	0		56.44

Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 In 1:50,000 Scale; Source: Google Imagery, 2019;



Legend

- Study Area
- Proposed Action Alternative LOD
- Alternate FM2 Alignment LOD
- NRCS Soils



**Figure 6
Soil Map**



- City of Newport News
- City of Suffolk

**HRSD-SWIFT Project
2022**

Boat Harbor Transmission
Force Main Section 2 C
City of Suffolk, VA

Last Date Edited: 11/17/2022



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 USGS Topographic Map Source: ESRI, 2019.

Document Path: Y:\Projects\HRSD\SWIFT\Maps\Figure 7 FEMA Map.mxd



**HRSD-SWIFT Project
2022**

Boat Harbor Transmission
 Force Main Section 2
 City of Suffolk, VA

Last Date Edited: 11/18/2022

0 2,000 4,000



Legend

- Study Area
- Proposed Action Alternative
- Alternate FM2 Alignment
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard

FEMA Maps: 5101030183D 12/09/2014
 5101560041E 08/03/2015, 5101560043E 08/03/2015



Figure 7
 FEMA Flood Hazard Map



- City of Newport News
- City of Suffolk

Appendix B: FONSI and Federal Consistency Determination



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 26 2018

OFFICE OF WATER

PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FONSI)

To all interested government agencies, public groups, and individuals:

In accordance with the Council of Environmental Quality's (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR Part 1500), and the U.S. Environmental Protection Agency's (EPA) procedures for implementing the National Environmental Policy Act (NEPA) (40 CFR Part 6), EPA has completed an environmental review of the following proposed action:

Issuance of Credit Assistance to Water and Waste Water Infrastructure Projects Under the Water Infrastructure Finance and Innovation Act Program

The Environmental Protection Agency is evaluating the issuance of credit assistance to water and waste water infrastructure programs under the Water Infrastructure Finance and Innovation Act (WIFIA) program. The environmental review process, which is documented by the enclosed Programmatic Environmental Assessment (PEA), indicates that no potential significant adverse environmental impacts are anticipated from the proposed action. The PEA analyzes the potential adverse and beneficial environmental impacts associated with providing WIFIA credit assistance to eligible water infrastructure projects in compliance with NEPA. Projects receiving WIFIA credit assistance must also comply with applicable federal laws and regulations and Executive Orders (EO) and other state and local environmental reviews.

Based on the environmental impact analysis in the PEA, EPA has determined that no significant environmental impacts are anticipated from the issuance of WIFIA credit assistance and the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment, making the preparation of an Environmental Impact Statement (EIS) unnecessary. Therefore, I am issuing this preliminary Finding of No Significant Impact (FONSI) to document this determination.

Copies of the PEA are available by request or by accessing it through the Federal eRulemaking Portal at <http://www.regulations.gov/> under Docket ID No. EPA-HQ-OW-2018-0079. An electronic copy of this document is available for download from EPA's NEPA Compliance Database at <https://cdxnodengn.epa.gov/cdx-enepa-public/action/nepa/search> and the WIFIA program website at <https://www.epa.gov/wifia>.

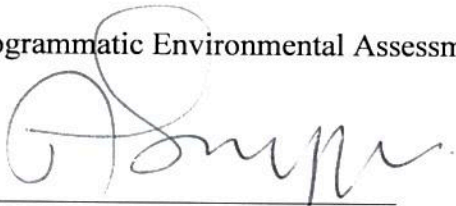
Comments regarding my preliminary decision may be submitted for consideration at <http://www.regulations.gov> under the above Docket ID. Questions on my preliminary decision can be directed to Mr. Alejandro Escobar by email at wifia@epa.gov.

After evaluating any comments received, the EPA will make a final decision. The preliminary decision and finding will then become final after the 30-day comment period expires if no new significant information is provided to alter this finding.

Andrew D. Sawyers, Director
Office of Wastewater Management

Enclosure

Programmatic Environmental Assessment for the WIFIA Program, April 2018



Andrew D. Sawyers, Director
Office of Wastewater Management

4/26/18
Date



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

WIFIA PROGRAMMATIC ENVIRONMENTAL ASSESSMENT ADEQUACY MEMORANDUM

In accordance with the Council of Environmental Quality's (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR Part 1500), and the U.S. Environmental Protection Agency's (EPA) procedures for implementing the National Environmental Policy Act (NEPA) (40 CFR Part 6), EPA has completed an environmental review of the following proposed action:

Issuance of Water Infrastructure Finance and Innovation Act (WIFIA) Program Credit Assistance to Hampton Roads Sanitation District Sustainable Water Initiative for Tomorrow Project 2

EPA developed a Programmatic Environmental Assessment (PEA) to analyze the potential environmental impacts related to the issuance of credit assistance under the WIFIA program. The proposed federal action under consideration in the PEA was the approval or denial of WIFIA applications by either providing or not providing WIFIA credit assistance. The PEA evaluated the effects of design, construction, operation, and maintenance for a range of types of water and wastewater infrastructure projects that are eligible for WIFIA credit assistance. EPA has determined that the above referenced project falls under one of the project types assessed in the PEA.

The prospective borrower has completed the WIFIA Programmatic Environmental Assessment's (PEA) Environmental Questionnaire and provided supplemental information to the WIFIA program about the project and its potential environmental effects. In carrying out its responsibilities under NEPA, EPA has taken the following actions:

- Reviewed the PEA Environmental Questionnaire and supplemental information submitted by the prospective borrower or directly obtained by EPA;
- Determined the adequacy of the information available for completing the environmental review under NEPA and cross-cutting authorities;
- Assessed site-specific environmental impacts of the above referenced WIFIA project;
- Determined that the reasonably foreseeable environmental effects are within the scope or context of the PEA.

EPA has determined that no significant environmental impacts are anticipated from the issuance of WIFIA credit assistance to the applicant, and the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment, making the preparation of an Environmental Impact Statement (EIS) unnecessary. Based on the review documented above, I conclude that this proposal conforms to the WIFIA PEA and associated finding of no significant impact (FONSI), and that the documentation fully covers the proposed action, and constitutes EPA's compliance with the requirements of the NEPA.

A handwritten signature in cursive script, appearing to read "Jorianne Jernberg".

8/31/21

Jorianne Jernberg, Director
WIFIA Management Division
Office of Wastewater Management

Date

Enclosures

Completed PEA Environmental Questionnaire (and supporting documentation)
Completed Applicant Verification Memorandum (and supporting documentation)



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

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Matthew J. Strickler
Secretary of Natural and Historic Resources

David K. Paylor
Director
(804) 698-4000

August 25, 2021

Ms. Alaina McCurdy
Environmental Engineer, WIFIA
U.S. Environmental Protection Agency
Washington, DC 20460
Via email: McCurdy.Alaina@epa.gov

RE: Environmental Protection Agency's (EPA) Federal Consistency Determination for the Hampton Roads Sanitation District's SWIFT – Boat Harbor Treatment Plant Pump Station Conversion and Land Acquisition, Boat Harbor Treatment Plant Transmission Force Main Sections 1 & 2, Nansemond Advanced Nutrient Reduction Improvements Phases I and II, and Nansemond SWIFT Facilities Project, City of Newport News, DEQ #4295

Dear Ms. McCurdy:

On behalf of the Commonwealth of Virginia, the Department of Environmental Quality (DEQ) is responsible for reviewing and responding to the documentation submitted in accordance with the Intergovernmental Review of Federal Programs (E.O. 12372) for the review of federal financial assistance to state and local governments (15 CFR, Subpart F, §930.90 *et seq.*). Pursuant to the Coastal Zone Management Act of 1972, as amended, because this project will be federally funded, it must be constructed and operated in a manner that is consistent with the Virginia Coastal Zone Management (CZM) Program.

PROJECT DESCRIPTION

According to the submission dated August 2, 2021, the U.S. Environmental Protection Agency (USEPA) is issuing financial assistance under the Water Infrastructure Finance and Innovation Act (WIFIA) to the Hampton Roads Sanitation District (HRSD) for the SWIFT (Sustainable Water Initiative for Tomorrow) project (SWIFT) Boat Harbor Treatment Plant Pump Station Conversion and Land Acquisition, Boat Harbor Treatment Plant Transmission Force Main Sections 1 & 2, Nansemond Advanced

Nutrient Reduction Improvements Phases I and II, and Nansemond SWIFT Facilities Project.

WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HRSD to submit an application for credit assistance for the Project.

HRSD proposes to design and construct new facilities to improve water quality of the Chesapeake Bay by reducing surface water discharges from the Boat Harbor and Nansemond Treatment Plants (TP) and improving the quality of effluent from the treatment facilities. The project includes the following sections:

1. Boat Harbor Treatment Plant Pump Station Conversion and Land Acquisition; Boat Harbor Treatment Plant Transmission Force Main Sections 1 & 2: the acquisition of property adjacent to the existing Boat Harbor Treatment Plant, demolition of the majority of the existing plant, construction of a new 32-million gallons per day (MGD)-pump station, installation of a new 36-inch diameter transmission force main beneath the James River.
2. The Nansemond ANRI Phase I & Phase II and SWIFT Facilities: the preliminary engineering necessary to begin design and construction of improvements to Nansemond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansemond Treatment Plant service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansemond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

3. Program Management of SWIFT Full-Scale Implementation- The SWIFT Facility Implementation Program Management team will manage the delivery of the advanced water treatment facilities. The Program Management team will also manage the delivery

of the recharge wells, monitoring wells, and associated pumping and piping systems to support groundwater augmentation. The Program Management team will implement the processes, procedures, and systems needed to design, procure, construct, permit, manage, and integrate the new SWIFT related assets into HRSD's existing systems. The Program Management team will also manage the transition of the new SWIFT assets to HRSD operations and life cycle asset management.

FEDERAL CONSISTENCY

This project is consistent with the Virginia Coastal Zone Management Program (CZM) provided all applicable permits or approvals listed under "Enforceable Policies of Virginia's Coastal Zone Management Program" ([enforceable policies](#)) are received prior to implementation of the project. Accordingly, if any of the enforceable policies apply, please contact the relevant agencies to obtain applicable permits or approvals. DEQ's Tidewater Regional Office (DEQ TRO, 757-518-2000) administers the enforceable policies listed under DEQ's jurisdiction. Please contact that office for assistance in meeting the requirements of applicable programs.

The following discussion is provided as a guide to the enforceable policies administered by DEQ and other agencies of the Commonwealth which could apply to the project. In addition, DEQ encourages the applicant to consider potential project impacts to the [advisory policies](#) of the Virginia CZM Program. Final determination concerning potential impacts on these programs rests with DEQ TRO or the appropriate state agency. It is the applicant's responsibility to coordinate development with appropriate state agencies.

Please note that on October 2, 2020, the National Oceanic and Atmospheric Administration (NOAA) approved an update of the Commonwealth's enforceable policies. Future project submissions must include an analysis or project impacts on the approved policies: <https://www.deq.virginia.gov/permits-regulations/environmental-impact-review/federal-consistency>.

1. Tidal and Non-Tidal Wetlands. Federal and state governments regulate impacts to streams and wetlands. The Virginia Marine Resources Commission serves as the clearinghouse for the Joint Permit Application (JPA) used by the:

1. U.S. Army Corps of Engineers, for issuing permits pursuant to section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act;
2. Department of Environmental Quality, for issuance of Virginia Water Protection Permits pursuant to section 401 of the Clean Water Act, Virginia Code sections 62.1-44.2 et seq., Virginia Code section 62.1-44.15:20 and Virginia Administrative Code 9 VAC 25-210-10 et seq.;
3. Virginia Marine Resources Commission, for permits to encroach on or over state-owned subaqueous beds as well as tidal wetlands pursuant to Virginia Code sections 28.2-1200 through 1400; and

4. Local wetlands board, for impacts to wetlands.

The applicant must contact VMRC at 757-247-2200 to obtain a JPA for streams and wetlands that would be impacted by construction. VMRC will distribute the application to the appropriate agencies. Each agency will conduct its review and respond. Additional information on water resources permitting is available DEQ TRO Water Division (Jeffrey Hannah, 757-518-2146, jeffrey.hannah@deq.virginia.gov).

You state that wetland delineations were conducted in May, June, August, and October 2020 to determine the extent of jurisdictional waters of the U.S. within and adjacent to the project area. Twelve non-tidal wetlands, one tidal wetland, one tidal stream, and three tidal waterbodies were identified within the project study area. Additionally, one ditch, one pond, and four stormwater basins, all regularly maintained, potential jurisdictional features were also identified within the project study area. Many of the water features are located in previously disturbed areas. For unavoidable impacts, DEQ encourages the following practices to minimize the impacts to wetlands and waterways: use of directional drilling from upland locations; operation of machinery and construction vehicles outside of stream-beds and wetlands; use of synthetic mats when in-stream work is unavoidable; stockpiling of material excavated from the trench for replacement if directional drilling is not feasible; and preservation of the top 12 inches of trench material removed from wetlands for use as wetland seed and root stock in the excavated area.

2. Subaqueous Lands. The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the DEQ-TRO Water Division (Jeffrey Hannah, 757-518-2146, jeffrey.hannah@deq.virginia.gov). The program is administered by the Virginia Marine Resources Commission (Virginia Code §28.2-1200 through §28.2-1213).

You indicate that wetland delineations were conducted in May, June, August, and October 2020, and that twelve non-tidal wetlands, one tidal wetland, one tidal stream, and three tidal waterbodies were identified within the project study area. Any impacts to state subaqueous lands will require authorization from the Virginia Marine Resources Commission (VMRC). Please contact VMRC at 757-247-2252 for guidance.

3. Chesapeake Bay Preservation Areas. Pursuant to the Chesapeake Bay Preservation Act (Virginia Code § 62.1-44.15:67 *et seq.*) and the Regulations for the Designation and Management of Chesapeake Bay Preservation Areas (9VAC25-830-10 *et seq.*), localities within the state's coastal zone have enacted programs designed to improve water quality in the Chesapeake Bay through the mitigation of the impacts of development and redevelopment on sensitive environmental features such as streams, wetlands, floodplains, highly erodible and highly permeable soils. Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) have been designated in each

locality; these areas consist of groupings of sensitive environmental features. RPA features (tidal wetlands, certain non-tidal wetlands, tidal shores, and buffer areas) are the most sensitive; in general, only water-dependent uses may be constructed in an RPA. RMA features (highly erodible soils, highly permeable soils, and certain non-tidal wetlands) are less sensitive than RPA features, but no less important. Development in an RMA requires that activities meet certain performance criteria designed to mitigate negative environmental impacts. Contact appropriate locality officials for review and approval of the project pursuant to the local Chesapeake Bay Preservation Area program as applicable.

4. Wildlife and Inland Fisheries. The fisheries management enforceable policy is administered by the Department of Wildlife Resources (DWR) (formally the Department of Game and Inland Fisheries) (Virginia Code Section 29.1-100 to 29.1-570).

The Virginia of Wildlife Resource (DWR) Fish and Wildlife Information Service (VaFWIS) database indicates the confirmed presence of the state-listed threatened peregrine falcon within two miles of the proposed project. Database records indicate that these observations include migration banding observations and an observation at the I-64 bridge over the Elizabeth River, approximately 1.75 miles south of the study area, where there is a known peregrine falcon nest. As there is limited suitable nesting habitat in the Study Area and there are no confirmed sightings in the immediate area, impacts to this species are not anticipated. Per the Virginia Department of Conservation and Recreation (DCR) Biotics Data System, predicted habitat models indicate that habitat for the state endangered Eastern big-eared bat may be present within the Study Area. Coordination with the DCR regarding potential impacts to this species has been initiated.

Please contact DWR (804-367-1000) for guidance on this policy.

5. Point Source Air Pollution. The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that implement Virginia's Air Pollution Control Law. DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality.

The appropriate DEQ regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary sources in the region as well as monitoring emissions from these sources for compliance. As a part of this mandate, the environmental documents of new projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

5(a) Requirements. Guidance on air pollution requirements that may apply is provided below. For information on air pollution control, please contact DEQ TRO (John Brandt, Air Compliance Manager, john.brandt@deq.virginia.gov or 757-518- 2010).

5(a)(i) Fugitive Dust. During transportation/placement of the equipment, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

6. Point Source Water Pollution. The point source program is administered by the State Water Control Board pursuant to Virginia Code §62.1-44.15. Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to §402 of the federal Clean Water Act and administered in Virginia as the VPDES permit program. The Water Quality Certification requirements of §401 of the Clean Water Act of 1972 is administered under the Virginia Water Protection Permit program. The applicant should coordinate with the DEQ TRO (Jeff Hannah, 757-518-2146, email Jeffrey.Hannah@deq.virginia.gov).

7. Nonpoint Source Pollution Control. The DEQ Office of Stormwater Management (OSWM) administers the nonpoint source pollution control enforceable policy through the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R) and Virginia Stormwater Management Law and Regulations (VSWML&R). In addition, DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land-disturbing activities under the Virginia Stormwater Management Program.

7(a) Requirements.

7(a)(i) Erosion and Sediment Control Plan. The applicant is responsible for submitting a project-specific erosion and sediment control (ESC) plan to the appropriate locality for review and approval pursuant to the local ESC requirements should the project involve a land-disturbing activity equal to or greater than 10,000 square feet (2,500 square feet in a Chesapeake Bay Preservation Area). Depending on local requirements, the area of land disturbance requiring an ESC plan may be less. The ESC plan must be approved prior to any land-disturbing activity at the project site. All

regulated land-disturbing activities associated with the project, including on- and off-site access roads, staging areas, borrow areas, stockpiles, and soil intentionally transported from the project, must be covered by the project specific ESC plan. Local ESC program requirements must be requested through the city offices.

Additional guidance may be obtained from DEQ's Office of Stormwater Management, Larry Gavan at (804) 698-4040 or larry.gavan@deq.virginia.gov.

7(a)(ii) Stormwater Management Plan. Dependent on local requirements, a stormwater management (SWM) plan may be required. Local SWM program requirements must be requested through the locality (Reference: Virginia Stormwater Management Act §62.1-44.15 *et seq.*; Virginia Stormwater Management (VSMP) Permit Regulations 9VAC25-870-10 *et seq.*).

7(a)(iii) General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (VAR 10). The owner or operator of projects involving land-disturbing activities of equal to or greater than 1 acre is required to apply for registration coverage under the General Permit for Discharges of Stormwater from Construction Activities. Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ (Holly Sepety at 804-698-4039). General information and registration forms for the General Permit are available at <https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-construction>.

8. Shoreline Sanitation. The Virginia Department of Health (VDH) Division of Water and Wastewater Services (Division) administers the *Sewage Handling and Disposal Regulations* (12 VAC 5-610-20 *et seq.*) which govern septic systems, alternative onsite systems, privies (including composting and incinerating toilets), and siting, design and construction standards for residential and commercial onsite sewage treatment and dispersal systems. Division programs are administered through 35 district offices throughout the Commonwealth. The appropriate district office may be found at <https://www.vdh.virginia.gov/local-health-districts/>.

9. Marine Fisheries. This policy stresses the conservation and promotion of seafood and marine resources of the Commonwealth, including fish, shellfish and marine organisms, and manage the fisheries to maximize food production and recreational opportunities within the Commonwealth's territorial waters. The policy is administered by the Virginia Marine Resources Commission (VMRC) (Virginia Code §§ 28.2-101, -201, -203, -203.1, -225, -551, -600, -601, -603 -618, and -1103, -1203 and the Constitution of Virginia, Article XI, Section 3). Coordinate with VMRC (Randy Owen at Randy.Owen@mrc.virginia.gov) as necessary.

ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

With respect to federal consistency, no further action is necessary if none of the enforceable programs of Virginia CZM Program apply to this project. However, the

project must comply with all other applicable federal, state and local laws and regulations. The following discussion is provided as a guideline of programs administered by DEQ and other agencies of the commonwealth, which could be applicable. Final determinations concerning potential impacts on these programs rest with the DEQ TRO (757-518-2000) and the appropriate agency administering each program. It is the responsibility of the applicant (i.e., the locality) to coordinate with these agencies.

1. Solid and Hazardous Waste Management. DEQ administers the Virginia Solid Waste Management Regulations (9VAC20-81) and the Virginia Hazardous Waste Management Regulations (9VAC20-60). DEQ recommends that all solid wastes generated by this project be reduced at the source, re-used, or recycled. All hazardous wastes should be minimized. Otherwise, all solid waste, hazardous waste, and hazardous material must be managed in accordance with all applicable federal, state, and local environmental regulations. Contact DEQ TRO (Melinda Woodruff, Melinda.Woodruff@deq.virginia.gov, 757-518-2174) concerning the location and availability of waste management facilities in the project area.

2. Pollution Prevention. DEQ advocates that principles of pollution prevention and sustainability be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices (BMPs) will help to ensure that environmental impacts are minimized. However, pollution prevention and sustainability techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques. For more information, contact DEQ's Office of Pollution Prevention (Meghann Quinn, (804-698-4021).

3. Energy Conservation. Any construction should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. Please contact the Department of Mines, Minerals and Energy (David Spears at 434- 951-6350) for assistance in meeting this challenge.

4. Public Water Supply. The Virginia Department of Health (VDH) Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells and surface water intakes). VDH administers both federal and state laws governing waterworks operation. Potential impacts to public water distribution systems or sanitary sewage collection systems should be verified by the local utility. Contact VDH, Arlene Fields Warren, with questions (804-864-7781).

Thank you for your inquiry. We appreciate your interest in complying with Virginia's environmental regulations. If you have any further questions, please call me at (804) 698-4326.

Sincerely,

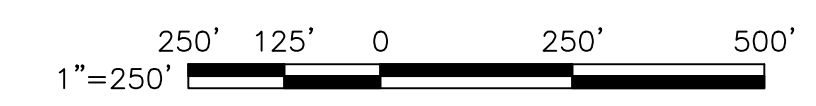
A handwritten signature in black ink, appearing to read "J. A. Wellman". The signature is written in a cursive style with a large initial "J" and "W".

Julia Wellman, EIR Coordinator
Office of Environmental Impact Review

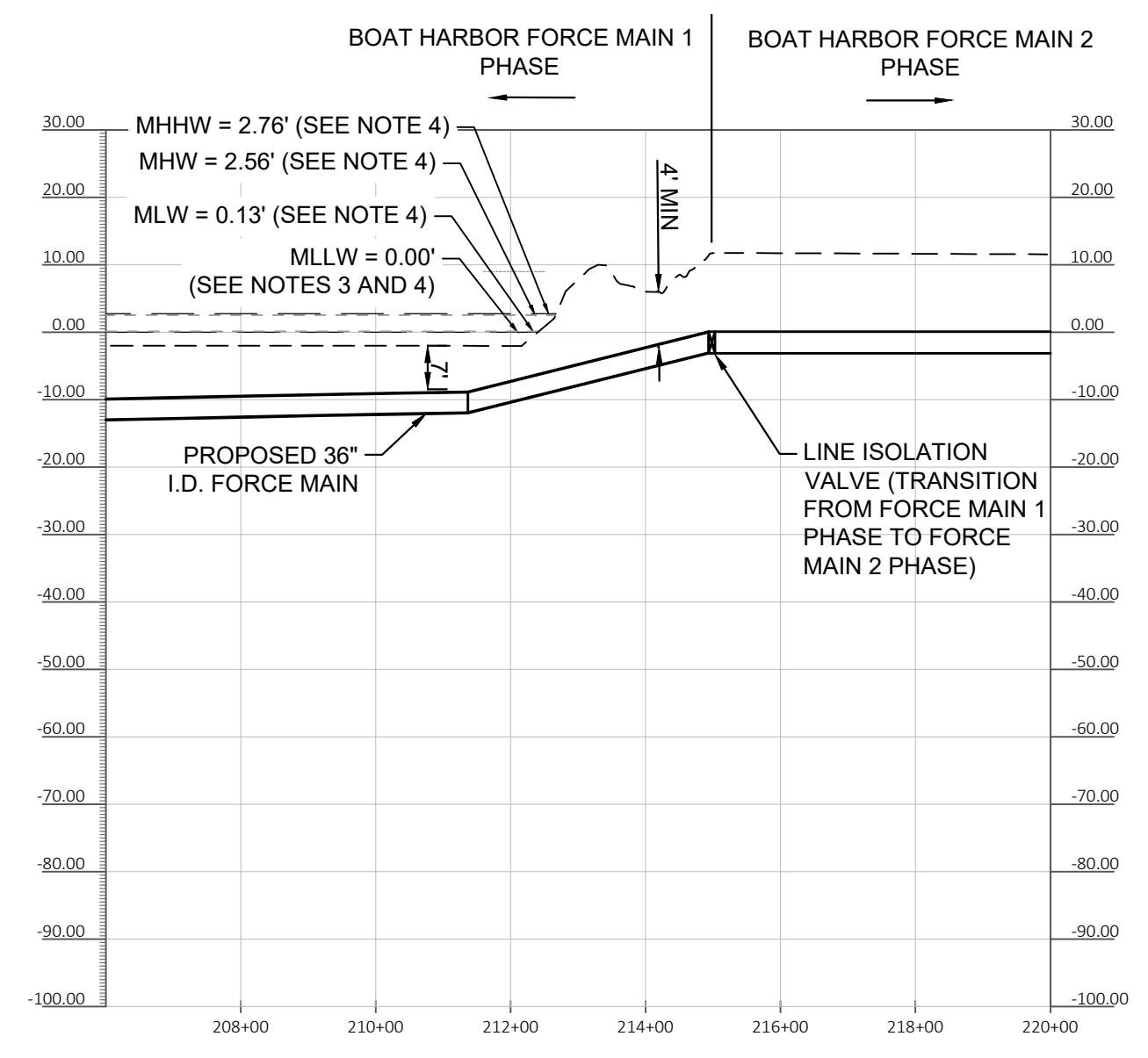
**Appendix C: Conceptual Construction Plans, Proposed Action
Alternative**



© 2021 Microsoft Corporation © 2021 Maxar © CNES (2021) Distribution Airbus DS

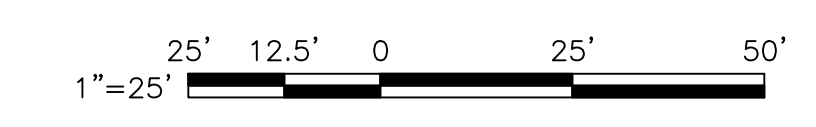


HORIZONTAL SCALE



NOTES:

- BATHYMETRY CONTOURS CREATED USING NOAA ELECTRONIC NAVIGATIONAL CHART (NOAA ENC) DATASET US5VA15M (NOAA CHART 12245). THESE CONTOURS WERE AUGMENTED USING DATA FROM SOUNDINGS TAKEN ALONG THE ALIGNMENT. SOUNDINGS DATA WAS PROCESSED IN ESRI ARCMAP TO CREATE CONTOURS AT 2-FOOT INTERVALS.
- APPROXIMATE LOCATION AT N9653750, E8070328. EXACT LOCATION TO BE COORDINATED WITH FORCE MAIN 2 PHASE.
- EDGE OF JAMES RIVER ESTIMATED USING NOAA'S MLLW ELEVATION OF 0.00' (DATUMS FOR 8638610, SEWELLS POINT VA).
- TIDAL RELATIONSHIPS TO NAVD88 WERE COMPUTED FROM BENCH MARK 8638610 SEWELLS POINT, VA (1983-2001).



VERTICAL SCALE

REV	ISSUED FOR	DATE	BY
1	BID PLAN SET REVISION 1	10/2021	KRG
0	BID PLAN SET	04/2021	KRG

PROJECT ENGINEER:	R. MARSZALKOWSKI
DESIGNED BY:	GEB/OPP/COMBER
DRAWN BY:	AECOM
CHECKED BY:	AECOM

CONCEPTUAL DESIGN DRAWING
NOT RELEASED FOR CONSTRUCTION

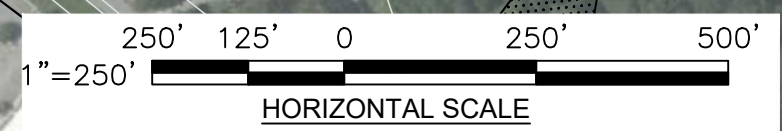
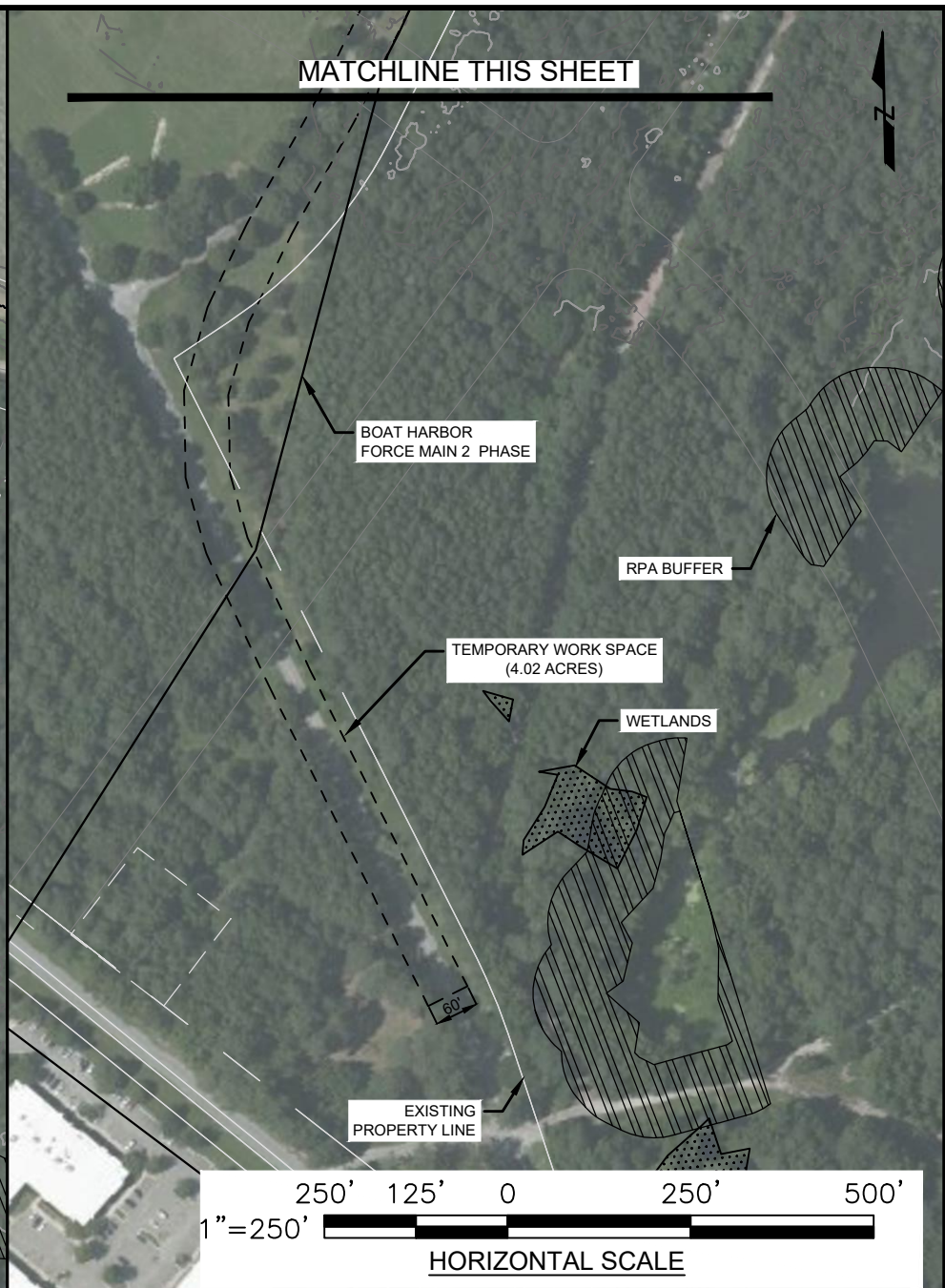
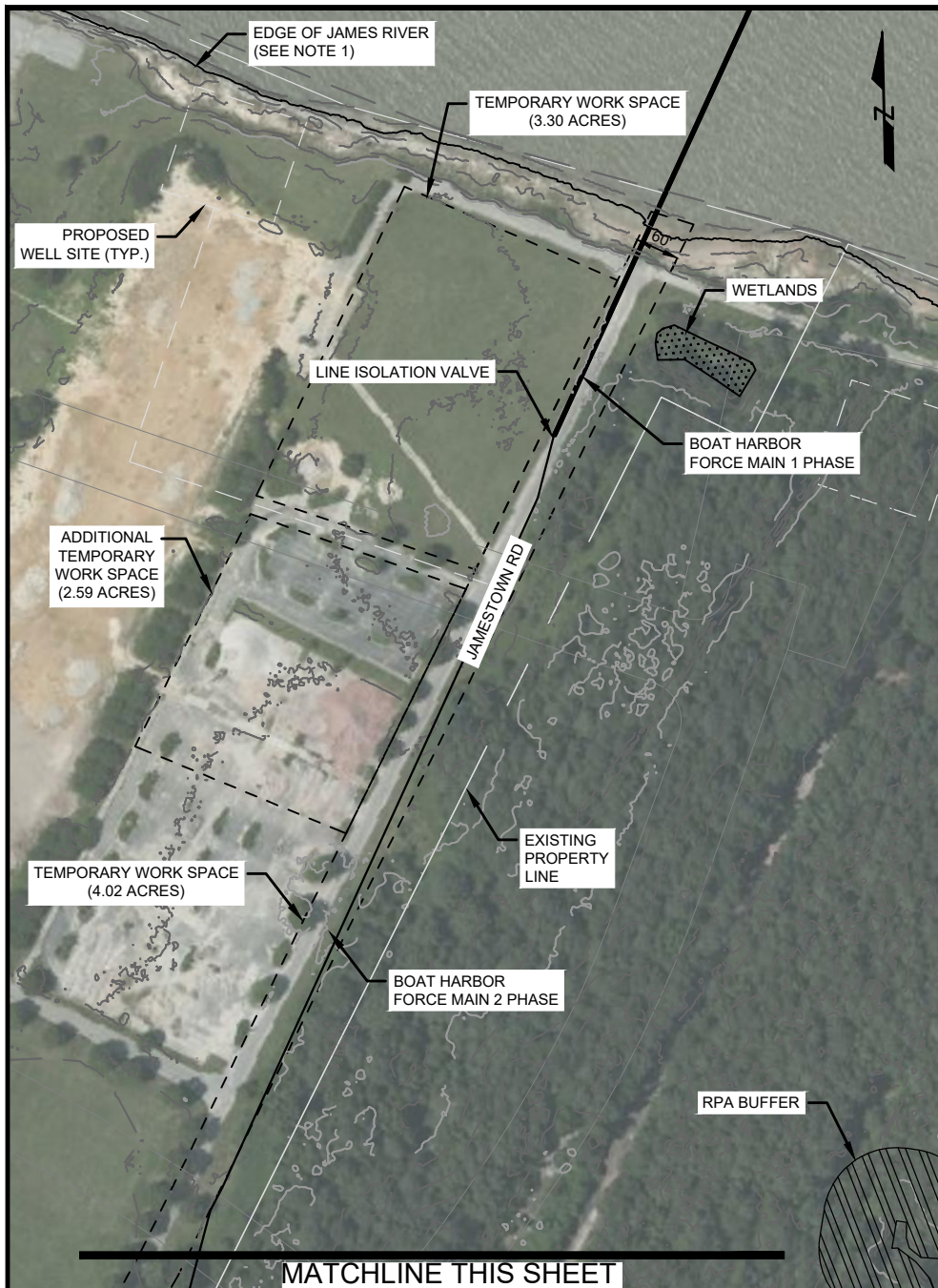


HRSD
BOAT HARBOR TREATMENT PLANT
FORCE MAIN SECTION 1 (SUBAQUEOUS)
DESIGN DEVELOPMENT SERVICES
BH015710

**RIVER CROSSING
PLAN AND PROFILE**
STA. 206+00 - STA. 220+00

DATE:	OCTOBER 2021
PROJECT NO.:	60647606
CONTRACT NO.:	-
DRAWING NUMBER:	C-104

P:\C\USER\KIRSTIN.GEB/PROJECTS/BOAT HARBOR PS FMI PROJECT FILES/WORK DESIGN/COLLABORATION/20_SHEETS/2021.11.02_BH_VADD_FM_1.PLA Saved by Kerstin Gebel, Save date: 11/22/2021, 12:57 PM
 PLOT DATE: 11/22/2021, 1:17 PM BY: KERSSTIN.GEB



1. EDGE OF JAMES RIVER ESTIMATED USING NOAA'S MLLW ELEVATION OF 0.00' (DATUMS FOR 8638610, SEWELLS POINT VA).

REV	ISSUED FOR	DATE	BY
1	BID PLAN SET REVISION 1	10/2021	KRG
0	BID PLAN SET	04/2021	KRG

PROJECT ENGINEER:	R. MARSZALKOWSKI
DESIGNED BY:	GEB/A/PP/COMBER
DRAWN BY:	AECOM
CHECKED BY:	AECOM

CONCEPTUAL DESIGN DRAWING
NOT RELEASED FOR CONSTRUCTION



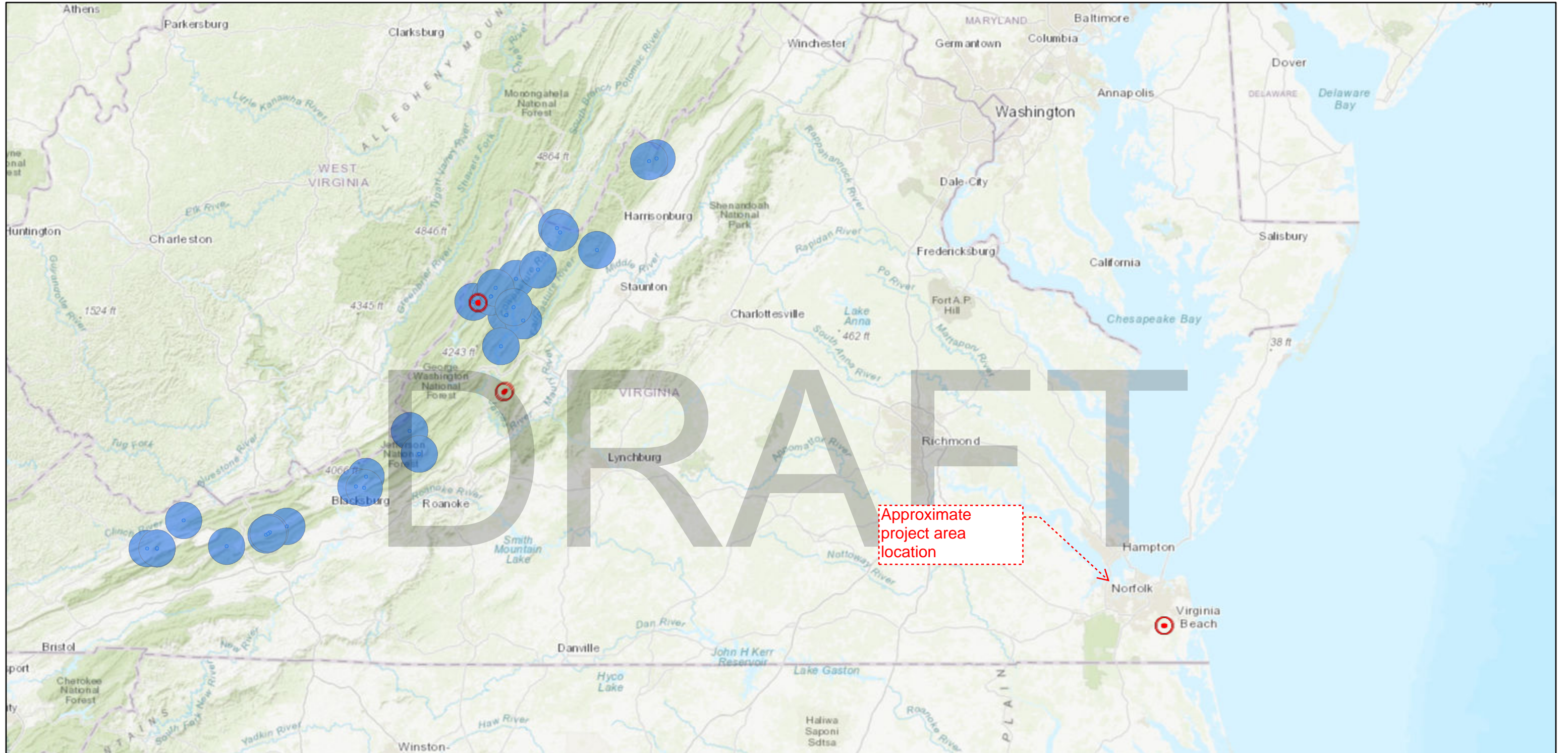
FORCE MAIN 1
TEMPORARY WORK SPACE
SUFFOLK (SOUTH) SIDE

DATE:	OCTOBER 2021
PROJECT NO.:	60647606
CONTRACT NO.:	-
DRAWING NUMBER:	C-201

FILE:///C:/Users/11111111/Desktop/Projects/HRSD/HRSD%20-%20FORCE%20MAIN%20SECTION%201%20-%20SUBAQUEOUS%20DESIGN%20DEVELOPMENT%20SERVICES%20-%20BID%20PLAN%20SET%20-%20REV%2004%202021%20-%20KRG.dwg
 PLOT DATE: 10/20/2021 11:59 AM

Appendix D: Species Information

NLEB Locations and Roost Trees



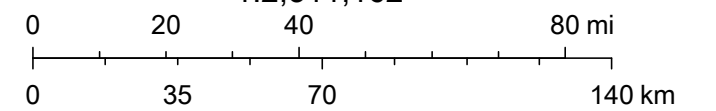
12/11/2020, 1:14:59 PM

○ NLEB Known Occupied Maternity Roost (Summer Habitat)

■ NLEB Hibernaculum 5.5 Mile Buffer

■ NLEB Hibernaculum Half Mile Buffer

1:2,311,162



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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

April 27, 2021

Troy Andersen
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

RE: ESA Section 7 Consultation -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Mr. Andersen:

The Environmental Protection Agency (EPA) is requesting concurrence from the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) for the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HSRD to submit an application for credit assistance for the Project.

The purpose of this letter is to inform your office about the proposed project and to request your concurrence with our determinations regarding potential effects on federally listed threatened and endangered species under USFWS jurisdiction in the proposed project area.

Background

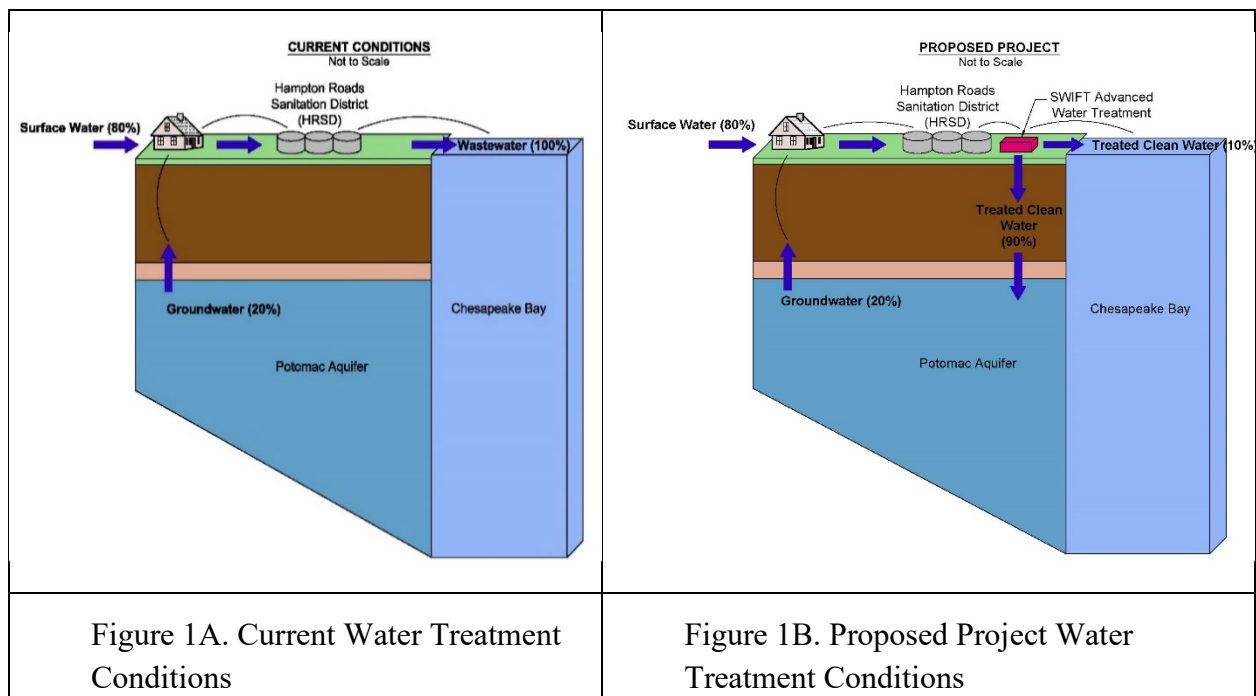
HRSD treats approximately 150 million gallons of wastewater each day and returns it to waterways within the Chesapeake Bay watershed. Groundwater in this area is primarily contained in aquifers that are confined by layers of impermeable soils which prevent rainwater from percolating through to

replenish deep aquifers. The Potomac aquifer is the largest and deepest aquifer in eastern Virginia and its primary groundwater supply, containing hundreds of trillions of gallons of pressurized water. With insufficient ability to recharge naturally, the water within the Potomac aquifer is a limited resource and as water is withdrawn, the pressure in the aquifer decreases. The reduced pressure has caused compaction of the aquifer, resulting in land subsidence, vulnerability to sea level rise, and increased potential for saltwater contamination.

Description of the Proposed Action

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (Figures 1A and 1B).



Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP, construction of a new 32-million

gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansemond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components involve the preliminary engineering necessary to begin design and construction of improvements to Nansemond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansemond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansemond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, erosion control blankets, check dams in medium-sized channels, and/or straw bale dikes in smaller drainage channels. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Effects on water quality from accidental spills or releases of materials such as fuels or lubricants would be minimized using sediment curtains and standard construction BMPs. Mitigation measures would also include development of a Spill Prevention, Control, and Countermeasure Plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, if necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

Description of the Action Area

The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR 402.02). For this project, the action area consists of the vicinity of the Boat Harbor TP on the north shore of the James River, the Nanesmond TP on the south shore of the river, and the proposed pipeline alignment beneath the river (Attachment I, Figures 2, 3, and 4). Potential direct or indirect effects of the proposed action are expected to be limited to areas adjacent to the project boundaries.

Federally Listed Species Under USFWS Jurisdiction in the Action Area

The Information for Planning and Consultation (IPaC) online system identified two federally listed species as having the potential to occur in the action area: the threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) and the threatened red-cockaded woodpecker (*Picoides borealis*) (USFWS 2020a).

In May, June, August, and October 2020, field surveys of the Project area were performed to verify areas identified via desktop analyses as potentially suitable or marginal habitats for threatened or endangered species. An on-site, reconnaissance-level, habitat assessment was performed for the red-cockaded woodpecker and NLEB. Neither species was observed within the Project area. Red-cockaded woodpecker habitat consists of mature pine forests. No suitable habitat was observed in the action area, and no documented occurrences of the red-cockaded woodpecker have been recorded within a 2-mile radius of the action area. Therefore, the proposed action would have no effect on the red-cockaded woodpecker.

Potentially suitable summer roosting habitat was observed in the Project area for the NLEB. According to the VDWR NLEB Winter Habitat and Roost Tree Application, the nearest known maternity roost for

the NLEB is approximately 22 miles southeast of the action area (VDWR 2020). There are no documented maternity roosts within 150 feet or hibernacula within 0.25 mile of the action area. Therefore, incidental take from tree removal is not prohibited. The Project activities will comply with the USFWS NLEB 4(d) rule, and voluntary conservation measures will be implemented where practicable, such as time-of-year restrictions on tree removal (1 June through 31 July) and minimizing light pollution through downward adjusted light angles. The IPaC report and the NLEB Habitat and Roost Tree Maps are included in Attachment B, as well as a USFWS Self-Certification Letter noting a “may affect, not likely to adversely affect” determination for the NLEB. Prior to commencement of the Project, coordination with USFWS would be conducted regarding the limits and timing of vegetation removal to ensure compliance with the ESA.

Marine Mammals

According to mapping of marine mammal distributions by NOAA Fisheries, marine mammals with the potential to occur in the waters of the James River estuary near the proposed pipeline alignment are the bottlenose dolphin and West Indian manatee (NOAA Fisheries 2020). The bottlenose dolphin is under the jurisdiction of NOAA, and EPA will be separately consulting regarding this species, and it is not discussed further.

The West Indian manatee (*Trichechus manatus latirostris*) is federally listed as threatened and is under the jurisdiction of the USFWS. The USFWS IPaC report did not include the manatee as a listed species with the potential to occur in the Project Area. Although the NOAA Fisheries mapping of marine mammal distributions indicates that the manatee has been recorded in the James River (NOAA Fisheries 2020c), the species is only a rare summer visitor to Chesapeake Bay. As their presence is such a rare occurrence and has a low potential to occur in the area, the potential for the manatee to be affected by the Project is discountable.

Summary

EPA requests your agency’s concurrence with our determination of effects on each of the federally listed species under USFWS jurisdiction. The analysis determined that the proposed action would have no effect on the red-cockaded woodpecker and may affect but is not likely to adversely affect the NLEB. If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

Attachment I, Figures

Attachment II, IPaC Review Package

cc:

HRSD/Mr. E. Girardi

Literature Cited

NOAA Fisheries. 2020. Chesapeake Bay and outer coasts of Maryland and Virginia 2016 ESI marine mammal polygons. Office of Response and Restoration. Accessed November 13, 2020, at <https://fisheries.noaa.gov/inport/item/55161>.

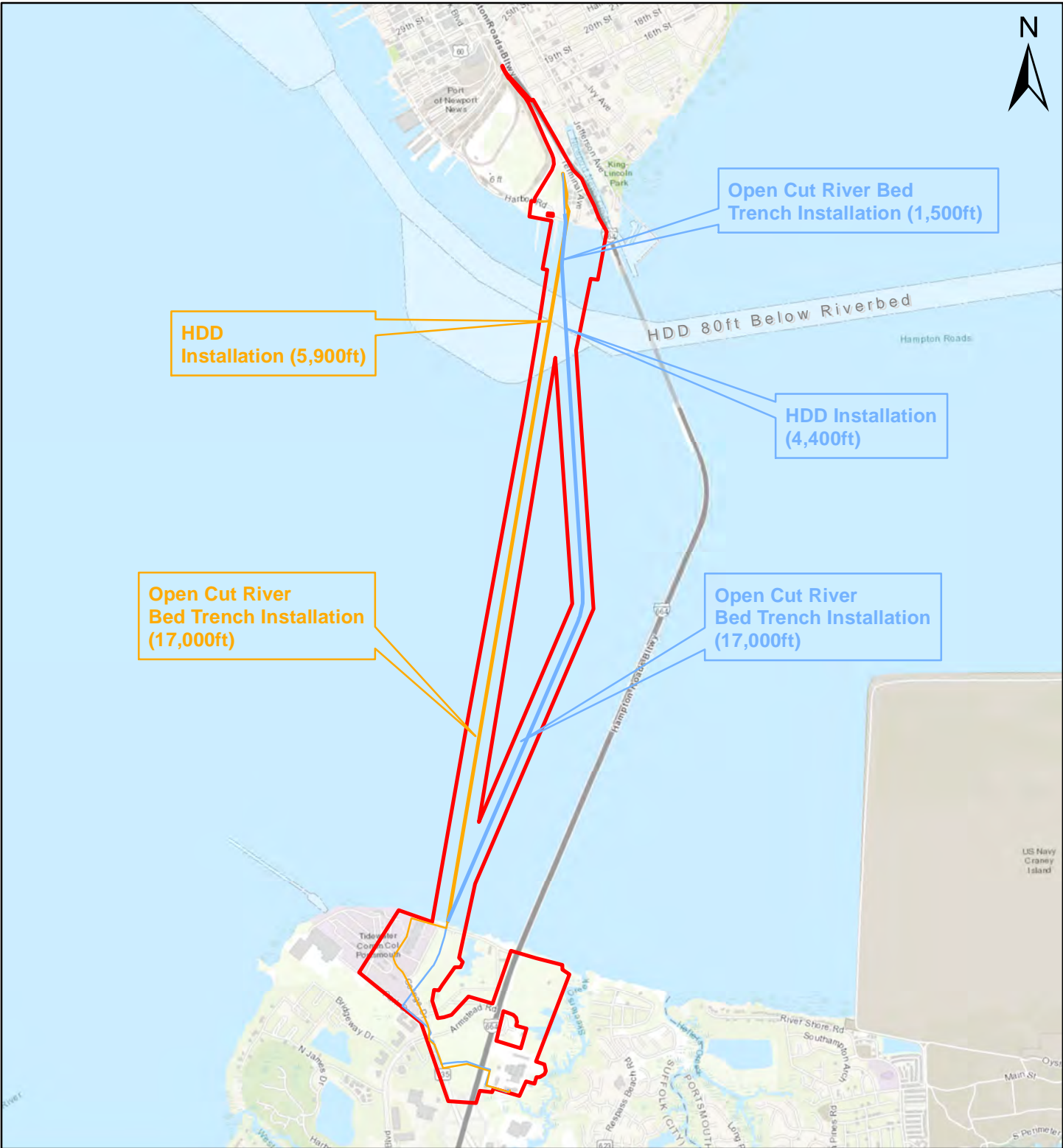
U.S. Fish and Wildlife Service (USFWS). 2020. Information for Planning and Consultation (IPAC). Accessed December 10 at <https://ecos.fws.gov/ipac/>.

Virginia Department of Wildlife Resources (VDWR). 2020. Northern Long-Eared Bat Winter Habitat & Roost Trees Application. Accessed December 11 at <https://www.dgif.virginia.gov/wildlife/bats/northern-long-eared-bat-application/>.

Attachment I

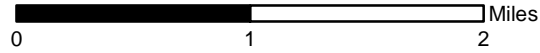
Boat Harbor Treatment Plant, Transmission Force Main, and Nansmond ANRI SWIFT Project Figures 2-4

*Figure 1 located in body of letter



Legend

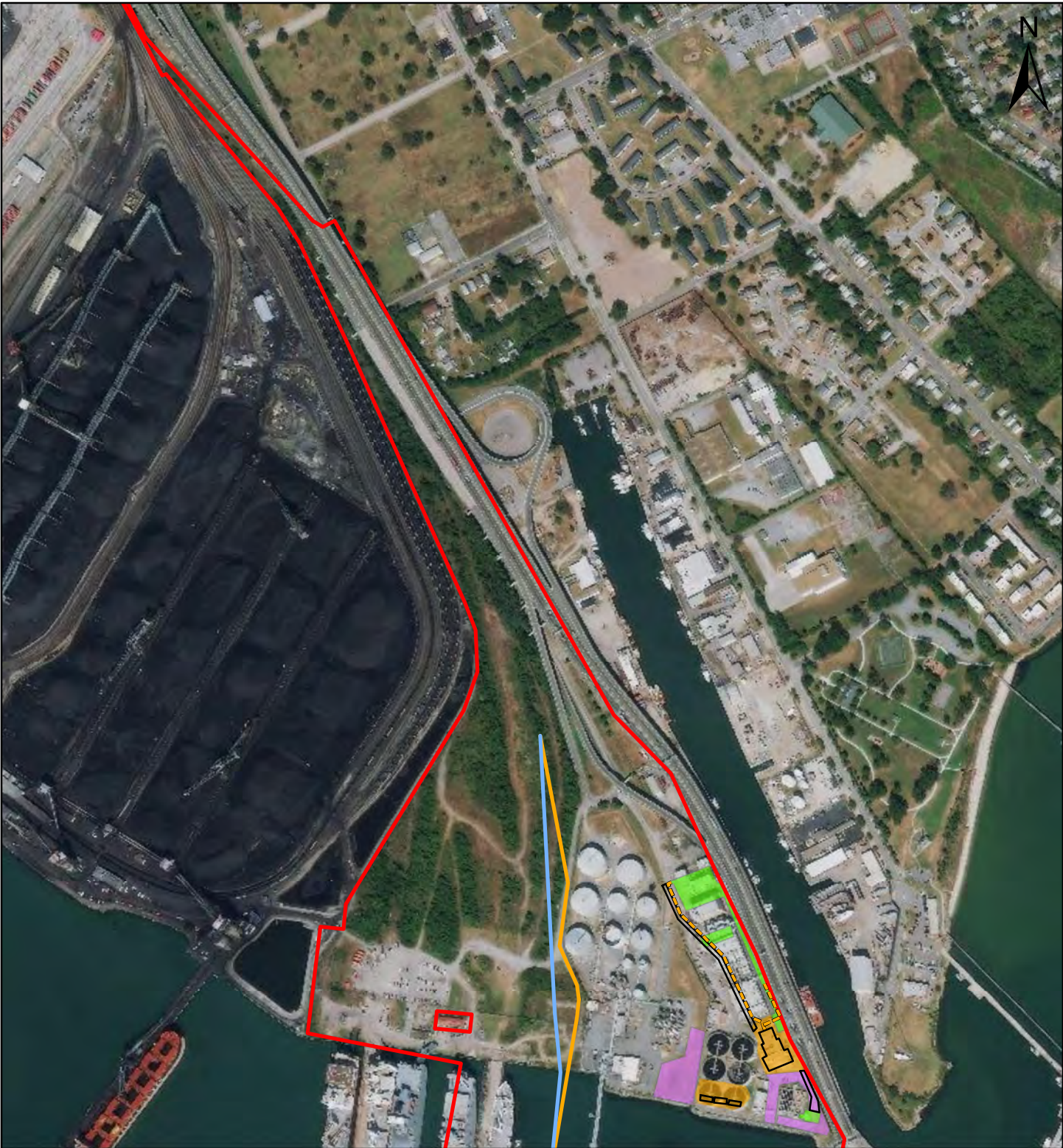
- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Federal Shipping Channel



AECOM 10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

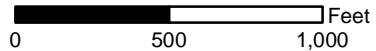
**WIFIA
Site Vicinity Map**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 2
-------------------------	-------------------------	--------------------	----------



Legend

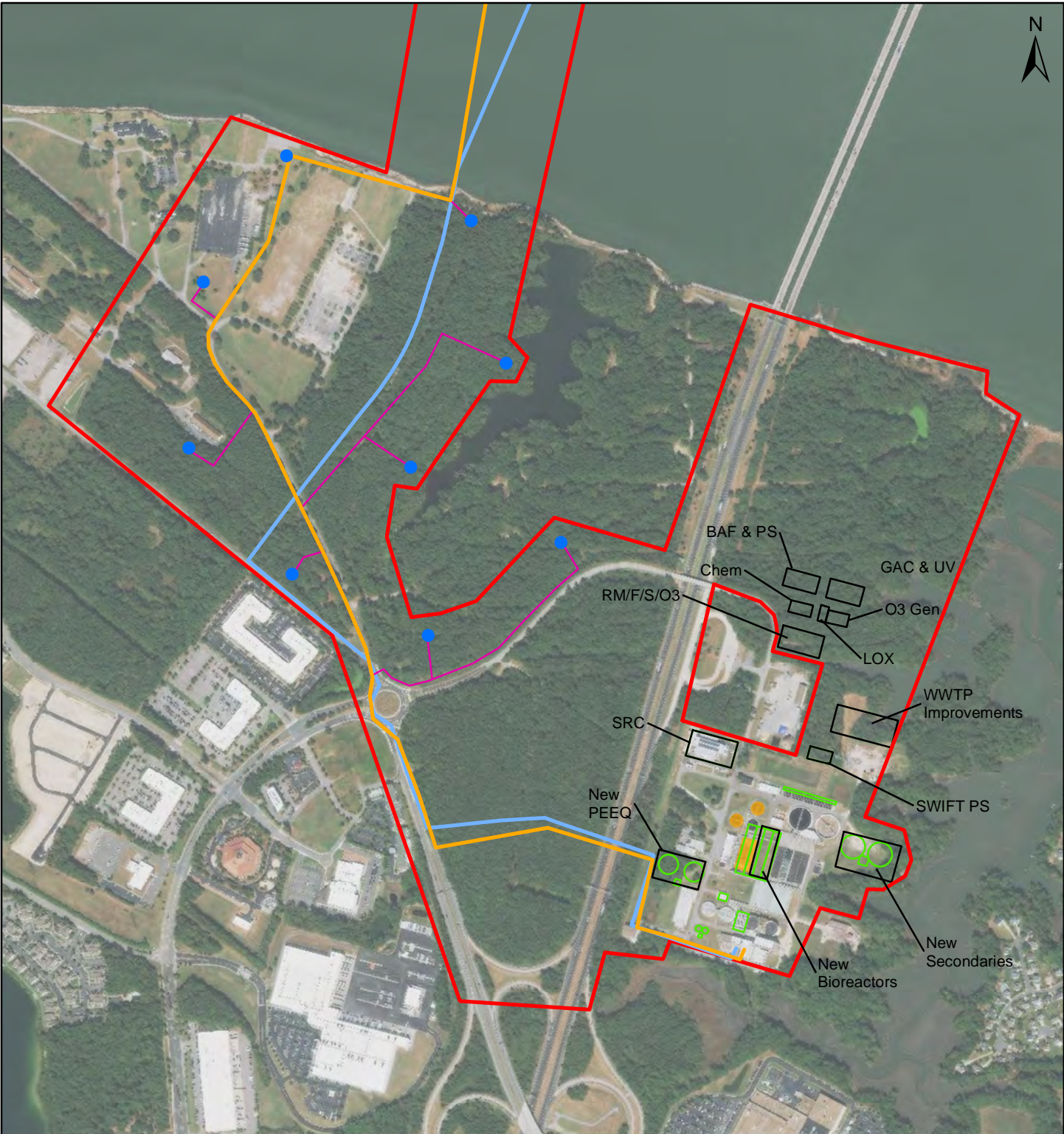
- Proposed Demo Gravity Channel
- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Proposed Site Features
- Keep and Protect Area
- Proposed Demolition Area
- Workspace Alternatives for HDD Equipment



AECOM 10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

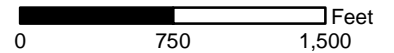
**WIFIA Newport News side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 3
-------------------------	-------------------------	--------------------	----------



Legend

- Future Well House
- Alternative Force Main Alignment
- Proposed Force Main Alignment
- Proposed Well Force Main
- Project Boundary
- Proposed Nansemond SWIFT Site Features
- Proposed Nansemond ANRI Site Features
- Proposed Nansemond Demolition



AECOM

10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

**WiFi Suffolk side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 3/30/2021	Figure 4
-------------------------	-------------------------	-------------------	----------

Attachment II
IPAC Review Package



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>

In Reply Refer To:

March 12, 2021

Consultation Code: 05E2VA00-2021-SLI-1063

Event Code: 05E2VA00-2021-E-07469

Project Name: James River Crossing Nansemond

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

To Whom It May Concern:

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

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

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

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
-

Official Species List

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

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2021-SLI-1063

Event Code: 05E2VA00-2021-E-07469

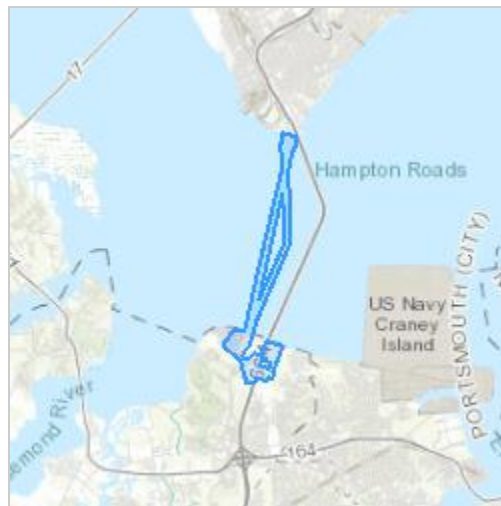
Project Name: James River Crossing Nansemond

Project Type: WATER SUPPLY / DELIVERY

Project Description: WIFIA SWIFT James River Crossing

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.92640275535837,-76.42442626046763,14z>



Counties: Newport News and Suffolk counties, Virginia

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 12/10/2020

Self-Certification Letter

Project Name: Nansemond Treatment Plant and SWIFT Facility

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the determinations described above for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia A. Schulz". The signature is written in a cursive style and is placed on a light blue rectangular background.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>

In Reply Refer To:
Consultation Code: 05E2VA00-2021-TA-1063
Event Code: 05E2VA00-2021-E-03024
Project Name: James River Crossing Nansemond

December 10, 2020

Subject: Verification letter for the 'James River Crossing Nansemond' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Catherine Lavagnino:

The U.S. Fish and Wildlife Service (Service) received on December 10, 2020 your effects determination for the 'James River Crossing Nansemond' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"^[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Red-cockaded Woodpecker, *Picoides borealis* (Endangered)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

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

1. Name

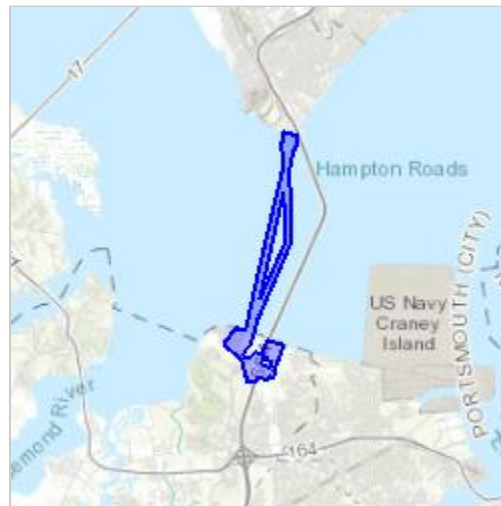
James River Crossing Nansemond

2. Description

The following description was provided for the project 'James River Crossing Nansemond':

WIFIA SWIFT James River Crossing

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/36.92640275535837N76.42442626046763W>

**Determination Key Result**

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?
Yes
2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")
No
3. Will your activity purposefully **Take** northern long-eared bats?
No
4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?
Automatically answered
No
5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/angered/mammals/nleb/nhisites.html.

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

No

7. Will the action involve Tree Removal?

Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

10

2. If known, estimated acres of forest conversion from April 1 to October 31

10

3. If known, estimated acres of forest conversion from June 1 to July 31

10

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

Species Conclusions Table

Project Name: HRSD SWIFT PM FY20 – Nansemond

Date: 11/09/2020

Species / Resource Name	Conclusion	ESA Section 7	Notes / Documentation
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Potential habitat present and no current survey conducted	May Affect, Not Likely to Adversely Affect	No maternity roost or hibernaculum documented in the vicinity of the project area. Relying upon the Final 4(d) Rule of the NLEB and activities excepted from take prohibitions to fulfill our project-specific Section 7 responsibilities.
Eastern Big-eared Bat (<i>Corynorhinus rafinesquii macrotis</i>)	Potential suitable habitat present and no current survey conducted	Not Required	There may be potential roosting and foraging habitat within the study area. No maternity roost or hibernaculum documented in the vicinity of the project area for eastern big-eared bat.
Tri-colored Bat (<i>Perimyotis subflaus</i>)	Potential suitable habitat present and no current survey conducted	Not Required	There may be potential roosting and foraging habitat within the study area. No maternity roost or hibernaculum documented in the vicinity of the project area for tri-colored bat.
Red-cockaded Woodpecker (<i>Picoides borealis</i>)	No suitable habitat present	No Effect	Red-cocked woodpecker's habitat consists of mature pine forests. No positive observations have been made within a 2-mile radius of the project area and no suitable habitat was observed on site.
Peregrine Falcon (<i>Falco peregrinus</i>)	Potential habitat present and no current survey conducted	Not Required	Peregrine falcons prefer wide open spaces and nest on cliffs, trees, and more recently tall buildings in urban areas (Chesapeake Bay Program). A positive observation occurred within a 2-mile radius of the project area. By avoiding tree clearing from February 15 to July 15, proposed project activities are not likely to adversely affect this species.
Piping Plover (<i>Charadrius melodus</i>)	No suitable habitat	No Effect	Piping plover habitat consists of flat, open, sandy beaches with little vegetation. The shoreline within the project area was characterized by rip-rap, broken concrete slabs, and discarded brick located adjacent to

			Tidewater Community College and associated parking areas. No sandy beaches are located within the project area and therefore, no suitable habitat was observed on site.
Wilson's Plover (<i>Charadrius wilsonia</i>)	Potential suitable habitat present and no current survey conducted	Not Required	Wilson's plover habitat consists of open areas including sandy beaches, estuaries, and tidal mudflats. The shoreline within the project area was characterized by rip-rap, broken concrete slabs, and discarded brick located adjacent to Tidewater Community College and associated parking areas. Estuarine emergent wetlands are mapped along the eastern project boundary. A 100-foot RPA buffer has been placed on wetlands fitting this habitat description. No positive observations have occurred within a two-mile radius of the project area.
Canebrake Rattlesnake (<i>Crotalus horridus</i>)	Potential suitable habitat present and no current survey conducted	Not Required	Habitat for canebrake rattlesnakes consists of mature hardwood, mixed hardwood-pine forests, forested cane thickets, and ridges adjacent to swampy areas. The forested areas throughout the project area, adjacent to delineated wetland features may provide suitable habitat for the canebrake rattlesnake. No positive observations have occurred within a two-mile radius of the project area. Due to the species transient nature and the availability of suitable adjacent habitat, proposed project activities are not likely to adversely affect the canebrake rattlesnake.
Mabee's Salamander (<i>Ambystoma mabeei</i>)	Potential suitable habitat present and no current survey conducted	Not Required	Mabee's salamander prefers ephemeral and semi-permanent wetlands free of fish including vernal pools in mature hardwood and mixed hardwood-pine forests, Carolina bays, and sinkhole ponds for breeding and utilize terrestrial habitat outside of the breeding period which includes open fields, pine forest, and hardwood forest. The project area consists of several wetland features free of fish with adjacent uplands that may provide suitable

			habitat. Due to the species transient nature and the availability of suitable adjacent habitat, proposed project activities are not likely to adversely affect the Mabee's salamander.
Loggerhead Sea Turtle (<i>Caretta caretta</i>)	No suitable habitat present	May Affect, Not Likely to Adversely Affect	Nesting in Virginia has been reported on the barrier beach islands off the Eastern Shore. This species requires a reproductive site that is a sand beach. The northern portion of the Project Area consists of in water work, however, due to the lack of nesting habitat along the shoreline and the transient nature of the species, proposed project activities may affect, but are not likely to adversely affect loggerhead sea turtles.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Unlikely to disturb nesting bald eagles	No Eagle Permit Act required	No nests within 660' of proposed project activities.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Does not intersect with an eagle concentration area	No Eagle Permit Act required	The project area is not located within an eagle concentration area
Critical Habitat	No Critical Habitat Present	No Effect	



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>

In Reply Refer To:

March 19, 2021

Consultation Code: 05E2VA00-2021-SLI-2723

Event Code: 05E2VA00-2021-E-07870

Project Name: Nansemond Boat Harbor Side

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

To Whom It May Concern:

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

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

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

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
-

Official Species List

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

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2021-SLI-2723

Event Code: 05E2VA00-2021-E-07870

Project Name: Nansemond Boat Harbor Side

Project Type: WATER SUPPLY / DELIVERY

Project Description: Environmental Constraints Analysis

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.9710146,-76.41468253057462,14z>



Counties: Newport News County, Virginia

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 10/22/2020

Self-Certification Letter

Project Name: Boat Harbor Treatment Plant and SWIFT Facility

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the determinations described above for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia A. Schulz". The signature is written in a cursive style and is placed on a light blue rectangular background.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Species Conclusions Table

Project Name: HRSD SWIFT PM FY20 – Boat Harbor

Date: 10/22/2020

Species / Resource Name	Conclusion	ESA Section 7	Notes / Documentation
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Potential habitat present and no current survey conducted	May affect, Not Likely to Adversely Affect	Relying upon the findings of the 01/05/2016 Programmatic Biological Opinion for Final 4(d) Rule of the NLEB and activities excepted from take prohibitions to fulfill our project-specific Section 7 responsibilities. No Maternity roost or hibernaculum in the vicinity of the Project Area.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Unlikely to disturb nesting bald eagles	No Eagle Permit Act required	According to the Center for Conservation Biology (CCB) Mapping application, there are no bald eagle nests within 660 feet of the Project Area.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Does not intersect with an eagle concentration area	No Eagle Permit Act required	According to the U.S. Fish and Wildlife Service Virginia Field Office's Bald Eagle Map Tool, the Project Area does not intersect with a bald eagle concentration area.
Piping Plover (<i>Charadrius melodus</i>)	No suitable habitat present	No Effect	Piping Plovers habitat consists of sparsely vegetated ocean facing beaches, sandflats, and washovers (Virginia Department of Game and Inland Fisheries). No shoreline work is anticipated within the Project Area.
Atlantic Sturgeon (<i>Acipenser oxyrinchus</i>)	Potential habitat present and no current survey conducted	No Effect	Positive observations have been documented within a two-mile radius of the Project Area. Due to the transient nature of the species and the in-stream work consisting of solely temporary impacts, no adverse effects are anticipated.
Loggerhead Sea Turtle (<i>Caretta caretta</i>)	Potential habitat present and no current survey conducted	No Effect	Positive observations have been documented within a two-mile radius of the Project Area. Due to the transient nature of the species and in-stream work consisting of solely temporary impacts, no adverse effects are anticipated.

Mabee's Salamander (<i>Ambystoma mabeei</i>)	No suitable habitat present	No Effect	Habitat for Mabee's salamander consists of savannas on the edges of bogs or ponds, low wet woods and swamps, and adjacent to ditches and pools. Uplands adjacent to ditches and ponds are highly industrialized and no positive observations have been documented within a two-mile radius of the Project Area.
Canebrake Rattlesnake (<i>Crotalus horridus</i>)	No suitable habitat present	No Effect	Habitat for canebrake rattlesnake consists of mature hardwood, mixed hardwood-pine forests, forested cane thickets, and ridges adjacent to swampy areas. The Project Area is highly industrialized, and no positive observations have occurred within a two-mile radius of the Project Area.
Anadromous Fish	Potential suitable habitat present, no current survey conducted	No Effect	No Time Of Year Restriction (TOYR) required in the James River below Rt. 17 crossing. No adverse effects anticipated
Submerged Aquatic Vegetation	Suitable habit present	No Effect	Submerged aquatic vegetation (SAV) is present in the James River near the Project Area. Due to the Project consisting of Horizontal Directional Drilling near the SAV, no adverse effects are anticipated.
Critical Habitat	No Critical Habitat Present	No Effect	No construction activity will be conducted in any critical habitat.



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

June 9, 2021

Alaina McCurdy
Environmental Scientist, Office of Wastewater Management
U.S. EPA, Region 3
1650 Arch Street
Philadelphia, PA 19103

Re: Boat Harbor Nansemond Treatment Plants, Hampton Roads, VA

Dear Ms. McCurdy:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letter dated May 11, 2021, and received on May 12, 2021, regarding the above-referenced proposed project. We reviewed your consultation request document and related materials. Based on our knowledge, expertise, and your materials, we concur with your conclusion that the proposed action is not likely to adversely affect any National Marine Fisheries Service ESA-listed species.

We would like to offer several clarifications to complement your incoming request for consultation. You state that a number of marine trenching techniques for pipeline burial may be employed during the duration of this project including barge-mounted excavation with side-casting, jetting, and plowing. Barge-mounted excavation with side-casting technique uses an excavator attached to a barge to mechanically cut a trench or dig in the bottom sediment. Jetting uses high pressure water and air to create a trench by fluidizing the seabed to disperse sediments into the water column. Plowing uses sediment collected from digging or a plow pulled over the pipeline to direct trenched soil back into place after a pipeline is installed.

The marine trenching techniques that may be used for this project will suspend sediment in the water column and increase turbidity throughout the action area. In your analysis of effects of turbidity, you state that the effects of the action will impact “adjacent areas,” however, effects of the action will be within the action area, not only in surrounding areas. In addition, we concur that turbidity will affect benthic habitat, which will indirectly impact ESA-listed species, but the effects of turbidity may also directly impact ESA-listed species. Direct effects of increased turbidity to sea turtles may occur when they drink seawater in order to hydrate and sturgeon gills may be affected by increased sediment. However, the use of sediment curtains are expected to keep sediment levels below harmful concentrations in the main channel of the river. We expect any sediment released into the river to settle quickly such that any potential for exposure to sea turtles and sturgeon will be temporary and of short duration. Sea turtles and sturgeon would be transient if they were to enter the action area and, therefore, exposure to increased sediments would be brief. Based on these considerations, direct and indirect effects of increased sedimentation on sea turtles and sturgeon will be too small to be meaningfully measured or detected, and therefore, insignificant.

In your analysis of the effects of habitat modification, you state that the effects of the action on habitat will be in “adjacent areas”, however, effects of the action will be within the action area, not only in surrounding areas. The habitat that will be modified by the action is a 50-foot wide transect of the river, which is a small portion of the 4.3-mile wide section of the river where vessels associated with the project may transit. Therefore, there will still be sufficient foraging habitat and prey available for sea turtles and sturgeon within the action area. We concur with your determination that effects to habitat will be



temporary and we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of habitat modification will be too small to be meaningfully measured or detected, and therefore, insignificant.

Taking into consideration: (1) The existing baseline conditions; (2) the action and what it adds to existing baseline conditions; and (3) new baseline conditions (the existing baseline conditions and the action together), we concur with your determination that increased vessel traffic is not likely to adversely affect ESA-listed species in the action area. Although the baseline risk of a vessel strike within the James River is unknown, we expect that adding project vessels to the existing baseline will not increase the risk that any vessel in the area will strike an individual, or will increase it to such a small extent that the effect of the action (i.e., any increase in risk of a strike caused by the project) cannot be meaningfully measured or detected. Furthermore, the increase in traffic associated with the proposed project will be extremely small because a minimal number of project vessels will be added to the baseline. The addition of project vessels will also be intermittent, temporary, and restricted to a small portion of the overall action area on any given day. As such, any increased risk of a vessel strike caused by the project will be too small to be meaningfully measured or detected, therefore, the effects of increased risk of a vessel strike in the action area is insignificant.

In your analysis of effects to Atlantic sturgeon critical habitat, you state that the proposed project will overlap with a small section of Atlantic sturgeon critical habitat (approximately 0.18 miles). We concur with your determination that effects to designated critical habitat, including increased turbidity and habitat modification, will be temporary and minimized by deployment of sediment curtains. In addition, we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of the action on Atlantic sturgeon critical habitat will be too small to be meaningfully measured or detected and are insignificant. At this time, no further consultation pursuant to section 7 of the ESA is required.

Reinitiation of consultation is required and shall be requested by the Federal agency or by us, 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; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence, please contact Meagan Riley at (978) 281-9339 or by email at meagan.riley@noaa.gov. For any additional questions related to Essential Fish Habitat, please contact David O'Brien at (804) 684-7828 or david.l.obrien@noaa.gov.

Sincerely,



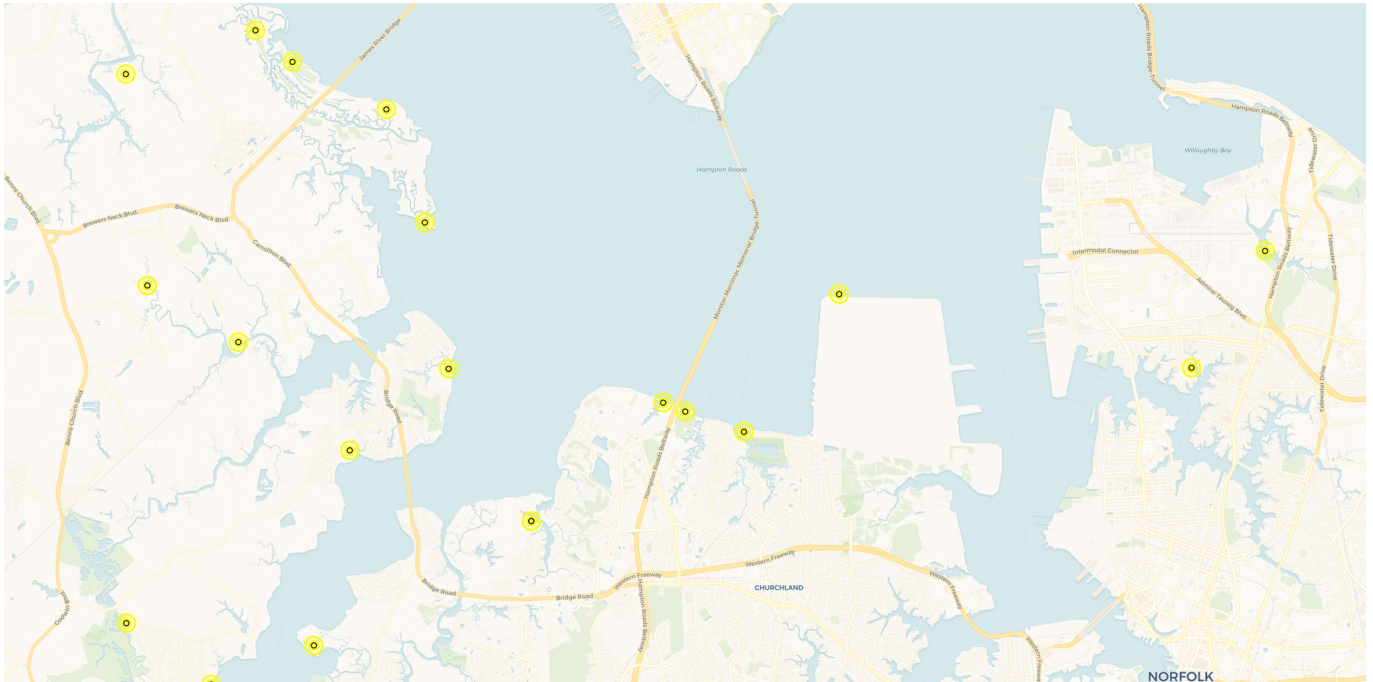
Jennifer Anderson
Assistant Regional Administrator
for Protected Resources

ECO: GARFO-2021-01134

File Code: H:\Section 7 Team\Section 7\Non-Fisheries\EPA\Informal\2021\Boat_Harbor_Nansemond_Treatment_Plants_VA



CCB Mapping Portal



Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers

Map Center [longitude, latitude]: [-76.42227172851562, 36.91833266402325]

Map Link:

<https://www.ccbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&zoom=13&lat=36.91833266402325&lng=-76.42227172851562&base=Street+Map+%28OSM%2FCarto%29>

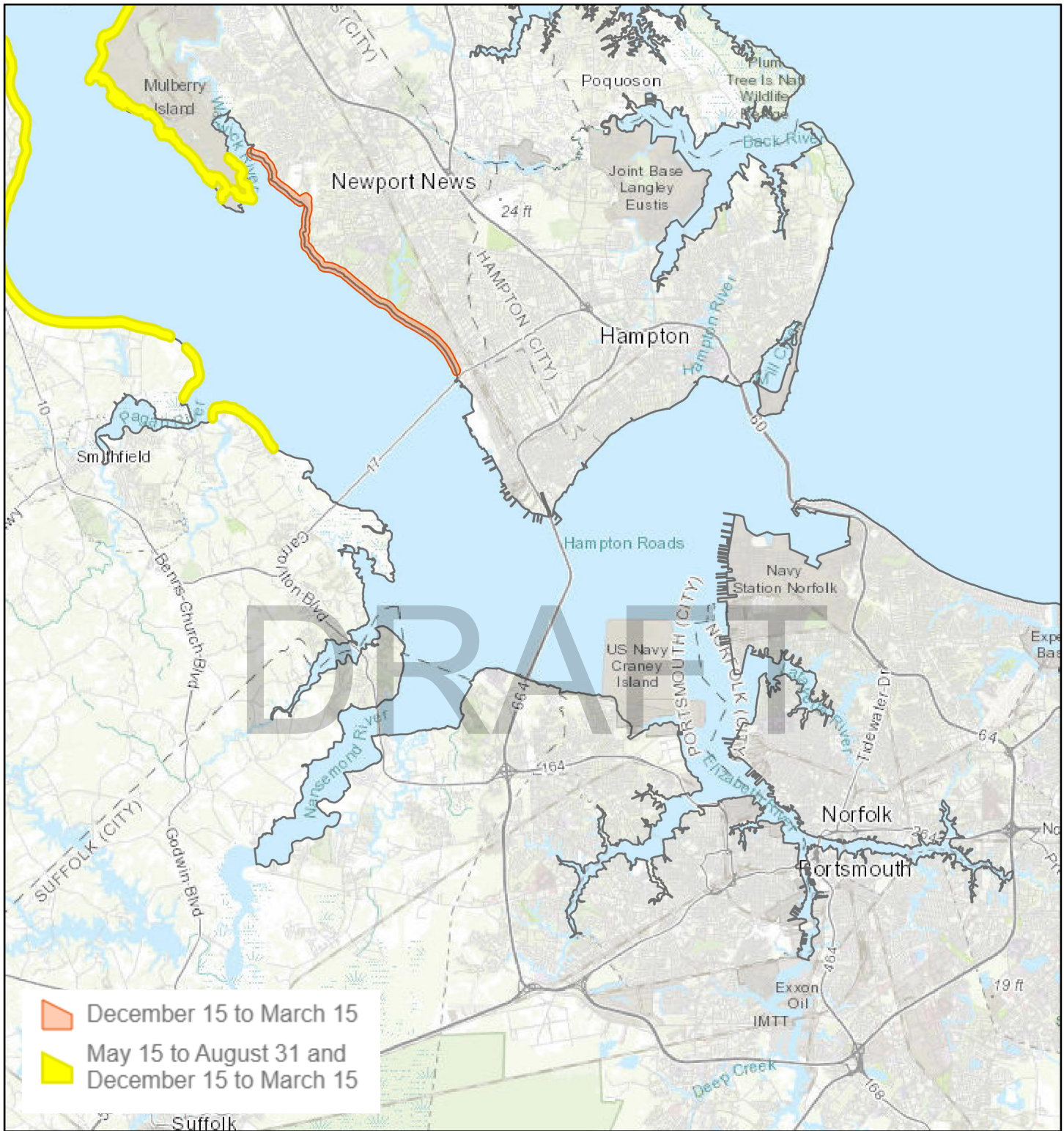
Report Generated On: 12/10/2020

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the [Data Use Agreement](#), to ensure compliance with our data use policies. For additional data access questions, view our [Data Distribution Policy](#), or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

Report generated by [The Center for Conservation Biology Mapping Portal](#).

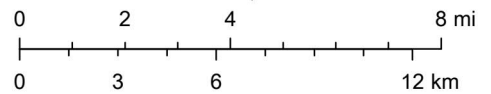
To learn more about CCB visit ccbirds.org or contact us at info@ccbirds.org

VA Bald Eagle Concentration Areas



July 20, 2020

1:288,895



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 36°56'31" N, Longitude = 77°35'54" W
Decimal Degrees: Latitude = 36.94, Longitude = -76.40

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** WARNING ***







Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Little Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
			Atlantic Herring	Juvenile Adult	New England	Amendment 3 to the Atlantic Herring FMP
			Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Winter Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			Windowpane Flounder	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Sandbar Shark	Juvenile Neonate	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Sand Tiger Shark	Neonate/Juvenile Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
			Atlantic Butterfish	Adult Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid, & Butterfish Amendment 11
			Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

HAPCs

Show	Link	Data Caveats	HAPC Name	Management Council
			Sandbar Shark	AHMS
			Summer Flounder	MAFMC

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. **For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)

Mid-Atlantic Council HAPCs,
No spatial data for summer flounder SAV HAPC.

DRAFT

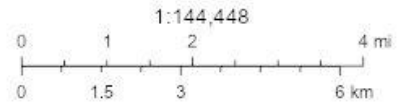


Area of Interest (AOI) Information

Area : 1,450.98 acres

Dec 10 2020 17:48:37 Eastern Standard Time

DRAFT



Earthstar Geographics, VITA, Esri, HERE, Garmin

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	3	2,246.96	N/A
Shortnose Sturgeon	1	748.99	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	2,995.95	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	17.19	N/A

Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	ANS_JAM_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	James River
2	ANS_JAM_JUV_MAF	Atlantic sturgeon	Juvenile	Migrating & Foraging	James River
3	ANS_JAM_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	James River

#	From	Until	From (2)	Until (2)	Area(acres)
1	03/15	11/30	N/A	N/A	748.99
2	01/01	12/31	N/A	N/A	748.99
3	03/15	11/30	N/A	N/A	748.99

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	SNS_JAM_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	James River

#	From	Until	From (2)	Until (2)	Area(acres)
1	03/01	11/30	N/A	N/A	748.99

Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone
1	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
2	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
3	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
4	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia

#	From	Until	From (2)	Until (2)	Area(acres)
1	5/1	11/30	No Data	No Data	748.99
2	5/1	11/30	No Data	No Data	748.99
3	5/1	11/30	No Data	No Data	748.99
4	5/1	11/30	No Data	No Data	748.99

In or Near Critical Habitat

#	Species	In or Near Critical Habitat Unit	Area(acres)
1	Atlantic Sturgeon	Chesapeake Bay Unit 5: James River	17.19

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.

DRAFT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 5, 2021

David O'Brien
Habitat and Ecosystem Services Division
NOAA Fisheries Service
1375 Greate Road
Virginia Field Office
P.O. Box 1346
Gloucester Point, Virginia 23062

Re: EFH Assessment -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Mr. O'Brien:

The Environmental Protection Agency (EPA) is requesting concurrence from the National Oceanic Atmospheric Administration (NOAA) Fisheries Service regarding essential fish habitat (EFH) the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HRSD to submit an application for credit assistance for the Project.

EPA has evaluated potential affects to listed species as outlined below. Additionally, EPA has evaluated the potential for the project to adversely affect EFH in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The EPA used the EFH Assessment Worksheet from the Greater Atlantic Regional Fisheries Office of National Oceanic and Atmospheric Administration (NOAA) Fisheries (NOAA Fisheries 2020a) to evaluate potentially affected EFH, and we are submitting

our evaluation and findings for your review. The EFH Assessment Worksheet is provided as Attachment II. We have determined that the impact of the Proposed Action on EFH would not be substantial and request an abbreviated EFH consultation.

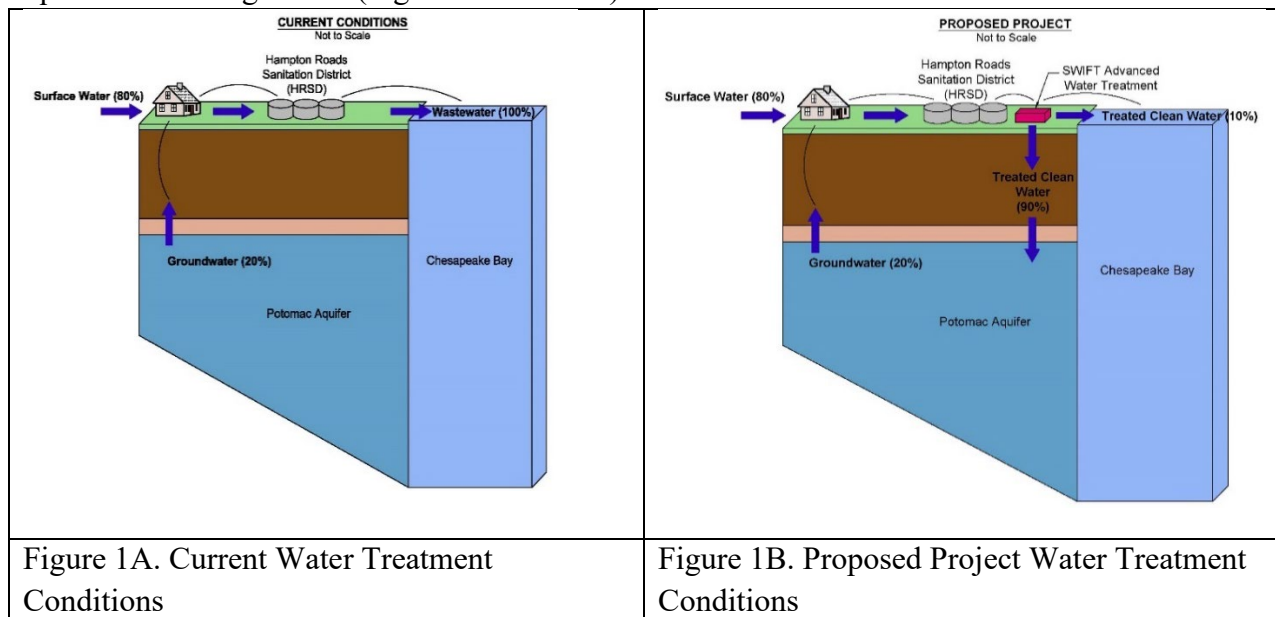
Background

HRSD treats approximately 150 million gallons of wastewater each day and returns it to waterways within the Chesapeake Bay watershed. Groundwater in this area is primarily contained in aquifers that are confined by layers of impermeable soils which prevent rainwater from percolating through to replenish deep aquifers. The Potomac aquifer is the largest and deepest aquifer in eastern Virginia and its primary groundwater supply, containing hundreds of trillions of gallons of pressurized water. With insufficient ability to recharge naturally, the water within the Potomac aquifer is a limited resource and as water is withdrawn, the pressure in the aquifer decreases. The reduced pressure has caused compaction of the aquifer, resulting in land subsidence, vulnerability to sea level rise, and increased potential for saltwater contamination.

Description of the Proposed Action

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (Figures 1A and 1B).



Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP, construction of a new 32-million gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor

Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansmond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of sub-surface horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components involve the preliminary engineering necessary to begin design and construction of improvements to Nansmond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansmond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansmond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not

include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, erosion control blankets, check dams in medium-sized channels, and/or straw bale dikes in smaller drainage channels. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Effects on water quality in the James River from the incidental release of drilling mud during HDD (frac-out) and accidental spills or releases of materials, such as fuels or lubricants, would be minimized using sediment curtains and standard construction BMPs. Mitigation measures would also include development of a Spill Prevention, Control, and Countermeasure Plan and HDD Frac-out Plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, if necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

EFH Assessment

The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," and it requires federal agencies to consult with NOAA Fisheries when proposing activities that may adversely affect EFH. To facilitate consultation, NOAA Fisheries provides an online mapping tool (the EFH Mapper) that can be queried to identify designated EFH species and life stages potentially occurring near the proposed project area (NOAA 2020b).

The proposed transmission force main would be installed across the James River using trenching and HDD. The pipeline would connect the Boat Harbor Treatment Plant (Newport News, VA) and Nansemond Treatment Plant (Suffolk, VA) on the north and south shores of the river, respectively (Attachment I, Figures 2, 3, and 4). EFH for one or more life stages of 12 federally-managed fish species has been designated in the waters in the vicinity of the project area. These species and life stages are identified in Table 1.

Table 1. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)			X	X
Atlantic herring (<i>Clupea harengus</i>)			X	X
Black sea bass (<i>Centropristis striata</i>)			X	X
Bluefish (<i>Pomatomus saltatrix</i>)			X	X
Clearnose skate (<i>Raja eglanteria</i>)			X	X
Little skate (<i>Leucoraja erinacea</i>)				X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
Sand tiger shark (<i>Carcharias taurus</i>) ²		X	X	X
Sandbar shark (<i>Charcharinus plumbeus</i>) ²		X	X	
Summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
Windowpane flounder (<i>Scophthalmus aquosus</i>)			X	
Winter skate (<i>Leucoraja ocellata</i>)				X

Notes:
1. An “X” indicates that EFH has been designated within the project area for that species and life stage.
2. The two shark species bear live young (neonates) and, thus, do not have a free-swimming larval stage.
Source: NOAA (2020a)

The EFH Mapper identified habitat areas of particular concern (HAPCs) for the sandbar shark and summer flounder in the action area. The alignment of the proposed pipeline approximately follows the western boundary of the sandbar shark HAPC in the James River estuary. Summer flounder HAPC is not a discrete area but a habitat type -- beds of submerged aquatic vegetation (SAV). Maps of SAV beds in Chesapeake Bay indicate that potential summer flounder HAPC is not present in the project area. The nearest SAV beds are approximately 2,000 feet northeast of the north end of the pipeline alignment (Attachment I, Figure 5) and would not be affected by pipeline installation.

The information presented in this letter is based on the analysis provided in the EFH Assessment Worksheet (NOAA 2020a) prepared for this consultation (Attachment II). The four primary elements of the EFH assessment are summarized below:

1. Description of the proposed action.
 - Provided above
2. An analysis of the potential adverse effects of the proposed action on EFH and the managed species.
 - Provided in the EFH Assessment Worksheet (Attachment II) and briefly summarized as follows:
 - The 36-inch transmission force main would be installed beneath the James River between the Boat Harbor and Nansemond Treatment Plants on the north and south shores of the James River, respectively, in estuarine subtidal habitat. Direct, temporary, and minor impacts on EFH from sediment disturbance, turbidity, and sedimentation may occur during construction. Long-term operation of the proposed project would not affect EFH. BMPs would be used to minimize or prevent erosion, sedimentation, and turbidity.
3. Conclusions regarding the effects of the proposed action on EFH.
 - Provided in the EFH Assessment Worksheet and briefly summarized as follows:

- The EPA has determined that potential adverse effects on EFH from the proposed action would be minimal and temporary. The overall determination is that adverse effects on EFH would not be substantial.

4. Proposed mitigation measures.

- No mitigation measures are proposed because adverse effects would be minimal and temporary.
- The EPA would implement BMPs, described above and in Attachment II, to avoid and/or minimize temporary adverse effects, which are briefly summarized as follows:
 - Indirect impacts from sediment disturbance and erosion would be prevented or minimized through BMPs such as sediment curtains, silt fence, sandbags, earthen berms, and other approved measures to control erosion, turbidity, and sedimentation.

Conclusions

Based on this assessment, the EPA has determined that the effects of the proposed action on EFH would not be substantial. EPA requests your concurrence with this determination. If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

1. Attachment I, Figures
2. Attachment II, EFH Assessment Worksheet, EFH Mapper report

cc:

HRSD/ Mr. E. Girardi

Literature Cited

National Oceanic and Atmospheric Administration (NOAA). 2020a. Essential Fish Habitat Assessment Worksheet. EFH Consultation Guidance, Greater Atlantic Regional Fisheries Office, NOAA Fisheries. Accessed in December at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations>.

NOAA. 2020b. Essential Fish Habitat Mapper. NOAA Fisheries. Last updated 20 October 2020. <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

VaFWIS Search Report

Compiled on 5/27/2020, 7:41:34 PM

[Help](#)

Known or likely to occur within a **2 mile radius around point 36,53,48.9 -76,25,35.0**
in **740 Portsmouth City, 800 Suffolk City, VA**

[View Map of Site Location](#)

604 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 35) (35 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
030074	FESE	Ia	Turtle, Kemp's ridley sea	Lepidochelys kempii		BOVA
040228	FESE	Ia	Woodpecker, red-cockaded	Picoides borealis		BOVA
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA,HU6
030071	FTST	Ia	Turtle, loggerhead sea	Caretta caretta	Yes	BOVA,SppObs
040144	FTST	Ia	Knot, red	Calidris canutus rufa		BOVA,HU6
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
040120	FTST	IIa	Plover, piping	Charadrius melodus	Potential	BOVA,Habitat,BBA,HU6
040118	SE	Ia	Plover, Wilson's	Charadrius wilsonia	Potential	BOVA,Habitat,HU6
040110	FPSE	Ia	Rail, eastern black	Laterallus jamaicensis jamaicensis		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA,HU6
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus	Potential	BOVA,Habitat,HU6
040096	ST	Ia	Falcon, peregrine	Falco peregrinus	Yes	BOVA,SppObs,HU6
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040179	ST	Ia	Tern, gull-billed	Gelochelidon nilotica		BOVA,HU6
020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei	Potential	BOVA,Habitat,HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes	BOVA,Habitat,SppObs,HU6
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
040040		Ia	Ibis, glossy	Plegadis falcinellus		BOVA,HU6
040422		Ic	Warbler, Wayne's	Setophaga virens waynei		HU6
070131		Ic	Isopod, Phreatic	Caecidotea phreatica		BOVA
100176		Ic	Skipper, Arogos	Atrytone arogos arogos		BOVA

020063		IIa	Toad, oak	Anaxyrus quercicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes	Potential	BOVA,BBA,HU6
040033		IIa	Egret, snowy	Egretta thula	Yes	BOVA,BBA,SppObs,HU6
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040192		IIa	Skimmer, black	Rynchops niger		HU6
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans	Potential	BOVA,Habitat,HU6
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		BOVA,HU6

To view **All 604 species** [View 604](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.;

b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;

c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

[View Map of All Query Results from All Observation Tables](#)

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (4 records)

[View Map of All Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C92	James River 1	Confirmed	6		IV	Yes

P118	Nansemond river	Potential	0		Yes
P177	West Creek	Potential	0		Yes
P87	Knotts creek	Potential	0		Yes

Impediments to Fish Passage (1 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
786	MATHEWS DAM	STREETER CREEK	Yes

Colonial Water Bird Survey (1 records)

[View Map of All Query Results Colonial Water Bird Survey.](#)

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE*	Highest Tier**	
Urban, Newport News South, Suffolk	1	May 3 2013	2			Yes

Displayed 1 Colonial Water Bird Survey

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests (3 records)

[View Map of All Query Results Bald Eagle Nests](#)

Nest	N Obs	Latest Date	DGIF	View Map
------	-------	-------------	------	----------

			Nest Status	
PM0001	5	Jan 1 2003	HISTORIC	Yes
PM0101	2	May 1 2001	HISTORIC	Yes
PM9901	6	Apr 24 2000	HISTORIC	Yes

Displayed 3 Bald Eagle Nests

Species Observations (118 records - displaying first 20 , 6
Observations with Threatened or
Endangered species)

[View Map of All Query Results
Species Observations](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
607701	SppObs	Oct 11 2008	Lisa; Wright	1	FTST	I	Yes
607950	SppObs	Oct 10 2008	Christina; Trapani	1	FTST	I	Yes
367005	SppObs	Jan 1 1900		1	FTST	I	Yes
86461	SppObs	Sep 30 1996	David Sausville	3	ST	I	Yes
65062	SppObs	May 18 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	2	CC	II	Yes
5197	SppObs	May 13 1991	Don Schwab, VDGIF	1	CC	II	Yes
86451	SppObs	Sep 30 1996	David Sausville	1		II	Yes
622414	SppObs	May 17 2014	Robyn; Nadolny	1		III	Yes
623371	SppObs	May 8 2014	Robyn; Nadolny	2		III	Yes
65101	SppObs	Aug 16 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		III	Yes
65097	SppObs	Aug 15 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	2		III	Yes

65086	SppObs	Jun 8 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	3		III	Yes
65087	SppObs	Jun 8 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	5		III	Yes
65083	SppObs	Jun 8 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		III	Yes
65064	SppObs	May 18 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		III	Yes
86502	SppObs	Sep 30 1996	David Sausville	3		III	Yes
65096	SppObs	Aug 15 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	3		IV	Yes
65088	SppObs	Jun 28 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	2		IV	Yes
65090	SppObs	Jun 28 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	4		IV	Yes
65080	SppObs	Jun 9 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		IV	Yes

Displayed 20 Species Observations

Selected 118 Observations [View all 118 Species Observations](#)

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species (7 Species)

[View Map of Combined Terrestrial Habitat Predicted for 7 WAP Tier I & II Species Listed Below](#)

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040120	FTST	IIa	Plover, piping.	Charadrius melodus	Yes
040118	SE	Ia	Plover, Wilson's	Charadrius wilsonia	Yes
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus	Yes

020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei	Yes
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes
040105		IIb	Rail, king	Rallus elegans	Yes
040186		IIIa	Tern, least	Sternula antillarum	Yes

Virginia Breeding Bird Atlas Blocks (2 records)

[View Map of All Query Results](#)
[Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE *	Highest Tier **	
59044	Newport News South, CE	1	FTST	II	Yes
59046	Newport News South, SE	13		II	Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
740	Portsmouth City	414	FESE	I
800	Suffolk City	532	FESE	I

USGS 7.5' Quadrangles:

Bowers Hill
Newport News South

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier

JL49	Nansemond River-Bennett Creek	93	FESE	I
JL50	Hampton Roads-Streeter Creek	91	FTSE	I
JL55	Western Branch Elizabeth River	91	FTSE	I
JL59	Hampton Roads Channel	97	FESE	I

Compiled on 5/27/2020, 7:41:34 PM 11035140.0 report=all searchType= R dist= 3218 poi= 36,53,48.9 -76,25,35.0

PixelSize=64; Anadromous=0.044455; BBA=0.115346; BECAR=0.022982; Bats=0.023413; Buffer=0.098759; County=0.113162; HU6=0.154046; Impediments=0.039204; Init=0.193264; PublicLands=0.040467; Quad=0.098912; SppObs=0.439591; TEWaters=0.064115; TierReaches=0.060014; TierTerrestrial=0.22588; Total=2.029059; Tracking_BOVA=0.229738; Trout=0.050032; huva=0.077274

DRAFT

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Global Conservation Status Rank: Select All

State Conservation Status Rank: Select All

Federal Legal Status: Select All

State Legal Status: Select All

County: Suffolk (City)

Search Run: 9/8/2020 12:48:13 PM

Result Summary

Total Species returned: 11

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

DRAFT

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Suffolk (City)								
AMPHIBIANS								
Mabee's Salamander	Ambystoma mabeei	Ambystoma mabeei	G4	S1S2	None	LT	18	Y
BIRDS								
Red-cockaded Woodpecker	Picoides borealis	Picoides borealis	G3	S1	LE	LE	8	Y
Wayne's Black-throated Green Warbler	Setophaga virens waynei	Setophaga virens waynei	G5T1	S1B	SOC	None	1	Y
MAMMALS								
Eastern Big-eared Bat	Corynorhinus rafinesquii macrotis	Corynorhinus rafinesquii macrotis	G3G4T3	S2	None	LE	44	Y
Northern long-eared Myotis	Myotis septentrionalis	Myotis septentrionalis	G1G2	S1S3	LT	LT	61	Y

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Tricolored bat (=Eastern pipistrelle)	Perimyotis subflavus	Perimyotis subflavus	G2G3	S1S3	SOC	LE	19	Y
NON-VASCULAR PLANTS								
A moss	Campylopus carolinae	Campylopus carolinae	G2	S1	SOC	None	2	Y
REPTILES								
Canebrake Rattlesnake	Crotalus horridus [Coastal Plain population]	Crotalus horridus [Coastal Plain population]	G4T4	S1	None	LE	18	Y
VASCULAR PLANTS								
sandhills bog lily	Lilium pyrophilum	Lilium pyrophilum	G2	S1	SOC	None	8	Y
Raven's Seedbox	Ludwigia ravenii	Ludwigia ravenii	G1G2	S1	SOC	PE	7	Y
Virginia Least Trillium	Trillium pusillum var. virginianum	Trillium pusillum var. virginianum	G3T2	S2	SOC	None	37	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an [information request](#).

To Contribute information on locations of natural heritage resources, please fill out and submit a [rare species sighting form](#).

DRAFT

Appendix E: Natural Resource Agency Consultation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 5, 2021

David O'Brien
Habitat and Ecosystem Services Division
NOAA Fisheries Service
1375 Greate Road
Virginia Field Office
P.O. Box 1346
Gloucester Point, Virginia 23062

Re: EFH Assessment -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Mr. O'Brien:

The Environmental Protection Agency (EPA) is requesting concurrence from the National Oceanic Atmospheric Administration (NOAA) Fisheries Service regarding essential fish habitat (EFH) the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HRSD to submit an application for credit assistance for the Project.

EPA has evaluated potential affects to listed species as outlined below. Additionally, EPA has evaluated the potential for the project to adversely affect EFH in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The EPA used the EFH Assessment Worksheet from the Greater Atlantic Regional Fisheries Office of National Oceanic and Atmospheric Administration (NOAA) Fisheries (NOAA Fisheries 2020a) to evaluate potentially affected EFH, and we are submitting

our evaluation and findings for your review. The EFH Assessment Worksheet is provided as Attachment II. We have determined that the impact of the Proposed Action on EFH would not be substantial and request an abbreviated EFH consultation.

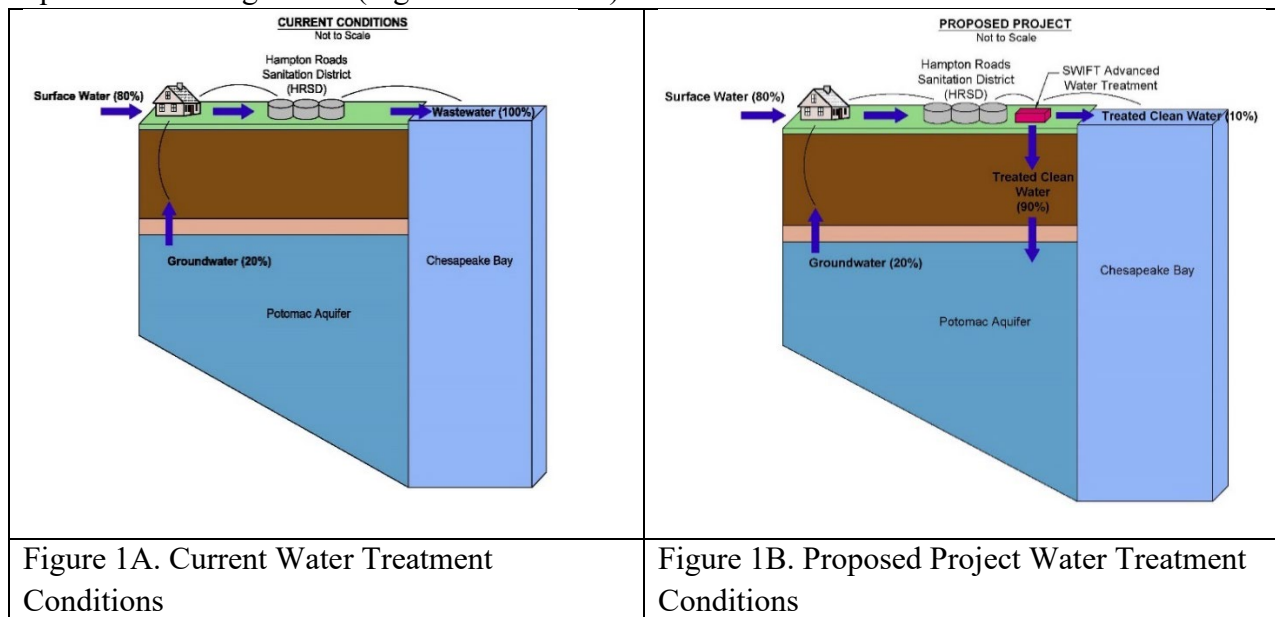
Background

HRSD treats approximately 150 million gallons of wastewater each day and returns it to waterways within the Chesapeake Bay watershed. Groundwater in this area is primarily contained in aquifers that are confined by layers of impermeable soils which prevent rainwater from percolating through to replenish deep aquifers. The Potomac aquifer is the largest and deepest aquifer in eastern Virginia and its primary groundwater supply, containing hundreds of trillions of gallons of pressurized water. With insufficient ability to recharge naturally, the water within the Potomac aquifer is a limited resource and as water is withdrawn, the pressure in the aquifer decreases. The reduced pressure has caused compaction of the aquifer, resulting in land subsidence, vulnerability to sea level rise, and increased potential for saltwater contamination.

Description of the Proposed Action

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (Figures 1A and 1B).



Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP, construction of a new 32-million gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor

Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansmond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of sub-surface horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components involve the preliminary engineering necessary to begin design and construction of improvements to Nansmond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansmond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansmond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not

include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, erosion control blankets, check dams in medium-sized channels, and/or straw bale dikes in smaller drainage channels. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Effects on water quality in the James River from the incidental release of drilling mud during HDD (frac-out) and accidental spills or releases of materials, such as fuels or lubricants, would be minimized using sediment curtains and standard construction BMPs. Mitigation measures would also include development of a Spill Prevention, Control, and Countermeasure Plan and HDD Frac-out Plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, if necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

EFH Assessment

The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," and it requires federal agencies to consult with NOAA Fisheries when proposing activities that may adversely affect EFH. To facilitate consultation, NOAA Fisheries provides an online mapping tool (the EFH Mapper) that can be queried to identify designated EFH species and life stages potentially occurring near the proposed project area (NOAA 2020b).

The proposed transmission force main would be installed across the James River using trenching and HDD. The pipeline would connect the Boat Harbor Treatment Plant (Newport News, VA) and Nansemond Treatment Plant (Suffolk, VA) on the north and south shores of the river, respectively (Attachment I, Figures 2, 3, and 4). EFH for one or more life stages of 12 federally-managed fish species has been designated in the waters in the vicinity of the project area. These species and life stages are identified in Table 1.

Table 1. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)			X	X
Atlantic herring (<i>Clupea harengus</i>)			X	X
Black sea bass (<i>Centropristis striata</i>)			X	X
Bluefish (<i>Pomatomus saltatrix</i>)			X	X
Clearnose skate (<i>Raja eglanteria</i>)			X	X
Little skate (<i>Leucoraja erinacea</i>)				X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
Sand tiger shark (<i>Carcharias taurus</i>) ²		X	X	X
Sandbar shark (<i>Charcharinus plumbeus</i>) ²		X	X	
Summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
Windowpane flounder (<i>Scophthalmus aquosus</i>)			X	
Winter skate (<i>Leucoraja ocellata</i>)				X

Notes:
 1. An “X” indicates that EFH has been designated within the project area for that species and life stage.
 2. The two shark species bear live young (neonates) and, thus, do not have a free-swimming larval stage.
 Source: NOAA (2020a)

The EFH Mapper identified habitat areas of particular concern (HAPCs) for the sandbar shark and summer flounder in the action area. The alignment of the proposed pipeline approximately follows the western boundary of the sandbar shark HAPC in the James River estuary. Summer flounder HAPC is not a discrete area but a habitat type -- beds of submerged aquatic vegetation (SAV). Maps of SAV beds in Chesapeake Bay indicate that potential summer flounder HAPC is not present in the project area. The nearest SAV beds are approximately 2,000 feet northeast of the north end of the pipeline alignment (Attachment I, Figure 5) and would not be affected by pipeline installation.

The information presented in this letter is based on the analysis provided in the EFH Assessment Worksheet (NOAA 2020a) prepared for this consultation (Attachment II). The four primary elements of the EFH assessment are summarized below:

1. Description of the proposed action.
 - Provided above
2. An analysis of the potential adverse effects of the proposed action on EFH and the managed species.
 - Provided in the EFH Assessment Worksheet (Attachment II) and briefly summarized as follows:
 - The 36-inch transmission force main would be installed beneath the James River between the Boat Harbor and Nansemond Treatment Plants on the north and south shores of the James River, respectively, in estuarine subtidal habitat. Direct, temporary, and minor impacts on EFH from sediment disturbance, turbidity, and sedimentation may occur during construction. Long-term operation of the proposed project would not affect EFH. BMPs would be used to minimize or prevent erosion, sedimentation, and turbidity.
3. Conclusions regarding the effects of the proposed action on EFH.
 - Provided in the EFH Assessment Worksheet and briefly summarized as follows:

- The EPA has determined that potential adverse effects on EFH from the proposed action would be minimal and temporary. The overall determination is that adverse effects on EFH would not be substantial.

4. Proposed mitigation measures.

- No mitigation measures are proposed because adverse effects would be minimal and temporary.
- The EPA would implement BMPs, described above and in Attachment II, to avoid and/or minimize temporary adverse effects, which are briefly summarized as follows:
 - Indirect impacts from sediment disturbance and erosion would be prevented or minimized through BMPs such as sediment curtains, silt fence, sandbags, earthen berms, and other approved measures to control erosion, turbidity, and sedimentation.

Conclusions

Based on this assessment, the EPA has determined that the effects of the proposed action on EFH would not be substantial. EPA requests your concurrence with this determination. If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

1. Attachment I, Figures
2. Attachment II, EFH Assessment Worksheet, EFH Mapper report

cc:

HRSD/ Mr. E. Girardi

Literature Cited

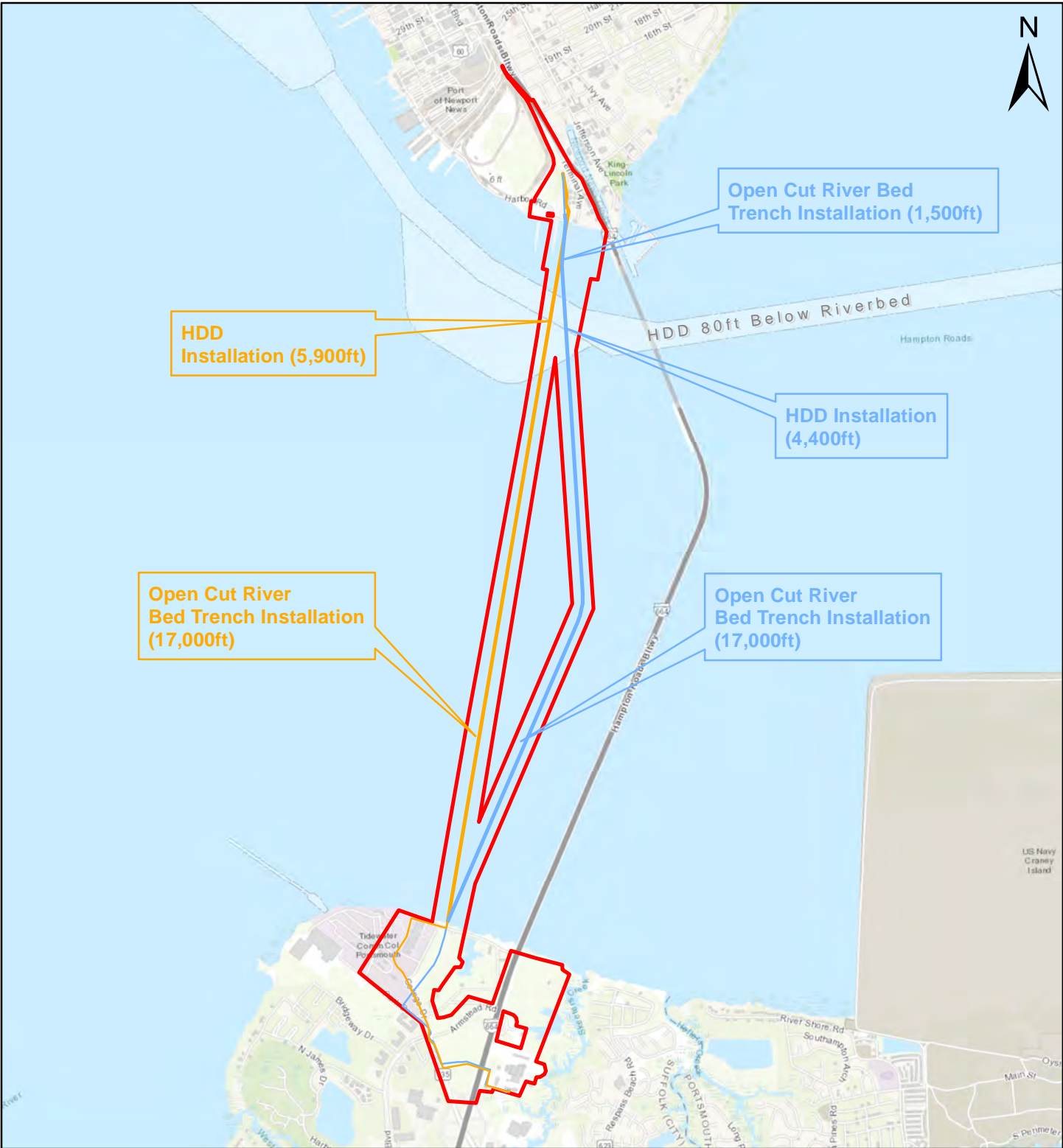
National Oceanic and Atmospheric Administration (NOAA). 2020a. Essential Fish Habitat Assessment Worksheet. EFH Consultation Guidance, Greater Atlantic Regional Fisheries Office, NOAA Fisheries. Accessed in December at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations>.

NOAA. 2020b. Essential Fish Habitat Mapper. NOAA Fisheries. Last updated 20 October 2020. <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

Attachment I

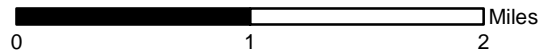
Boat Harbor Treatment Plant, Transmission Force Main, and Nansmond ANRI SWIFT Project Figures 2-5

*Figure 1 located in body of letter



Legend

- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Federal Shipping Channel

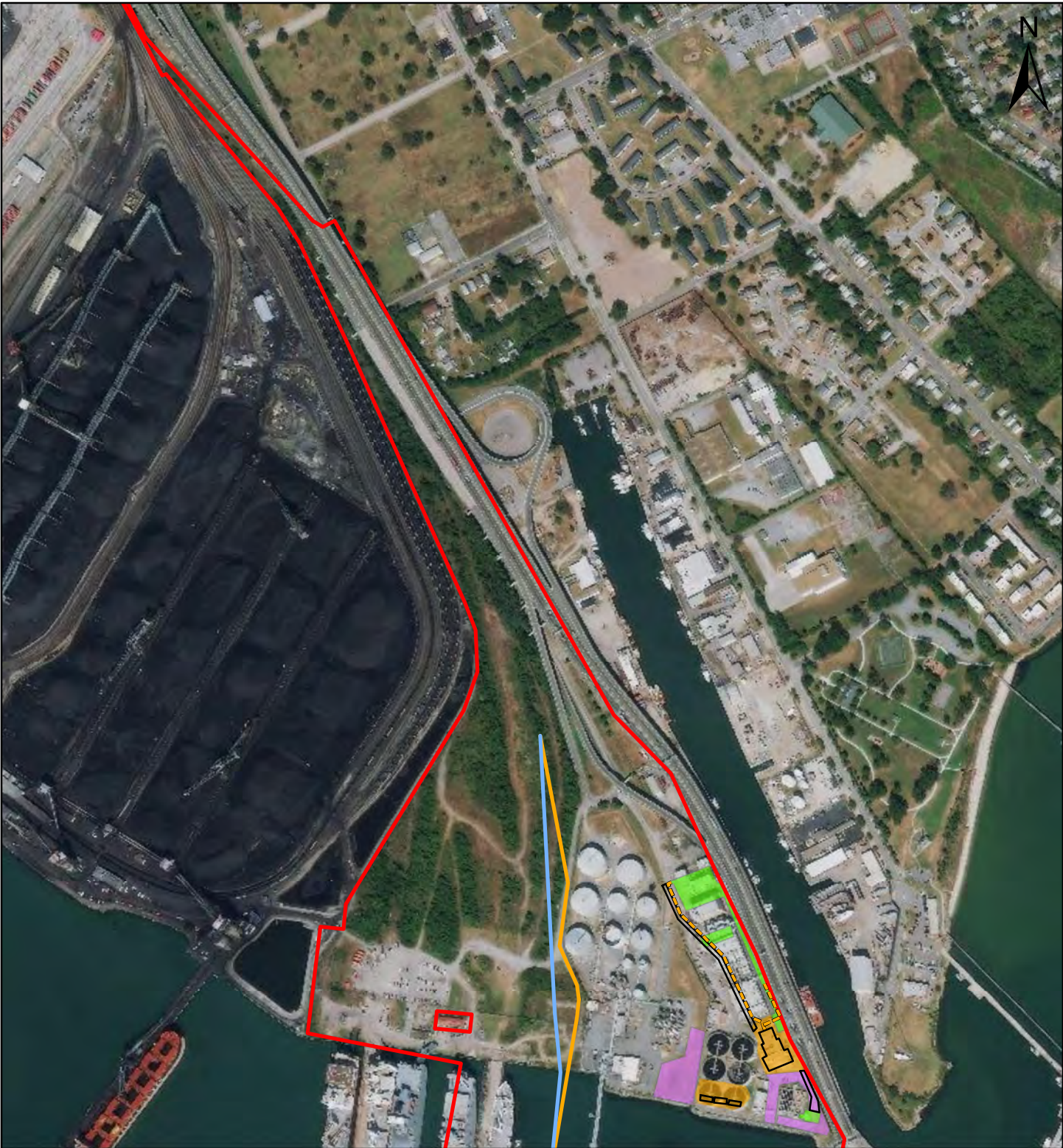


AECOM

10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

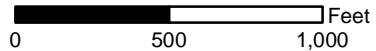
**WIFIA
Site Vicinity Map**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 2
-------------------------	-------------------------	--------------------	----------



Legend

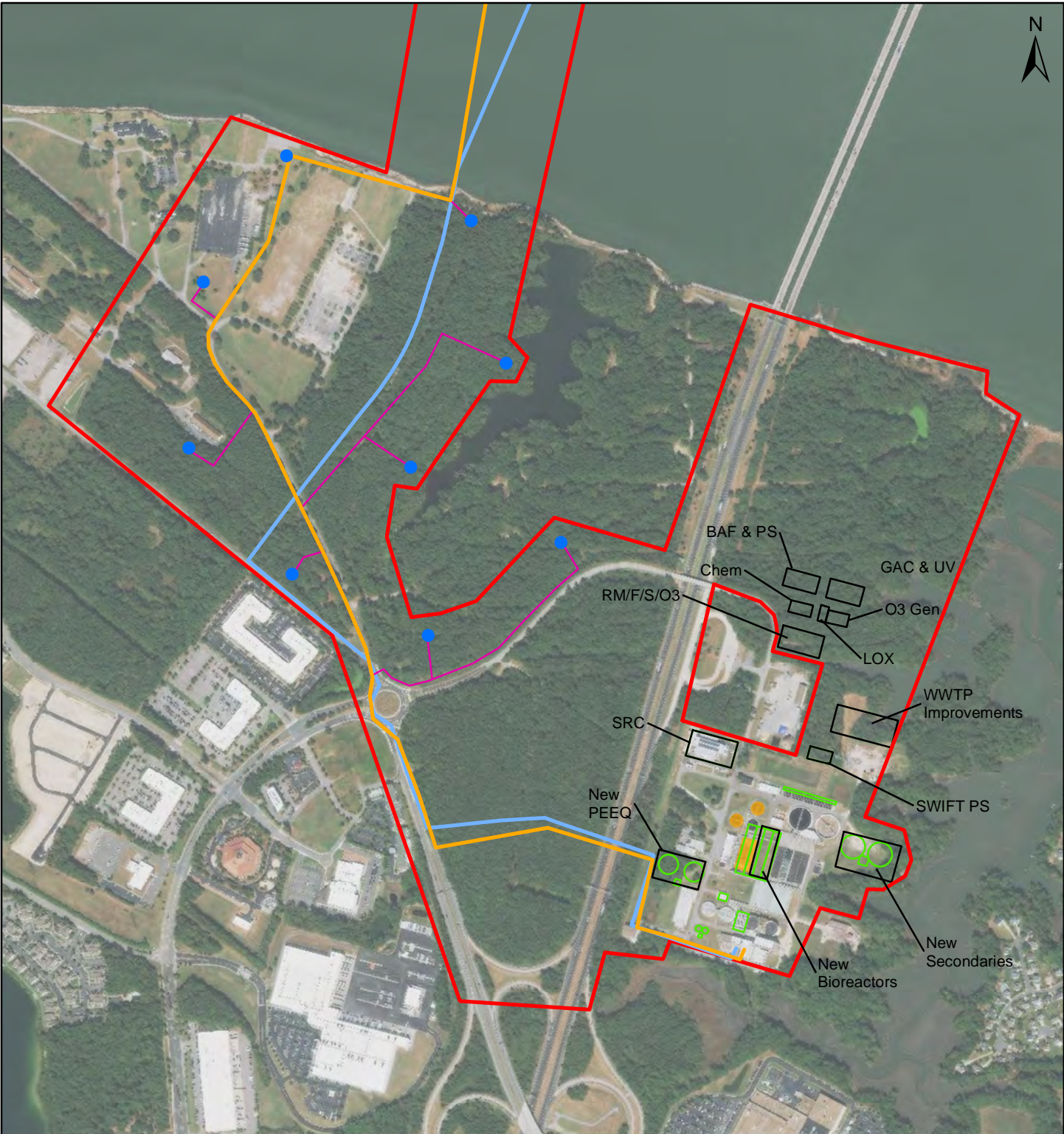
- Proposed Demo Gravity Channel
- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Proposed Site Features
- Keep and Protect Area
- Proposed Demolition Area
- Workspace Alternatives for HDD Equipment



AECOM 10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

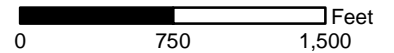
**WIFIA Newport News side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 3
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Legend

- Future Well House
- Alternative Force Main Alignment
- Proposed Force Main Alignment
- Proposed Well Force Main
- Project Boundary
- Proposed Nansemond SWIFT Site Features
- Proposed Nansemond ANRI Site Features
- Proposed Nansemond Demolition



AECOM

10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

**WiFi Suffolk side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 3/30/2021	Figure 4
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Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Aerial Image Source: ESRI, 2019;
 Wetland delineation date: 05/27/2020
 SAV boundary source: VIMS and SAV Data Administrator, 2016

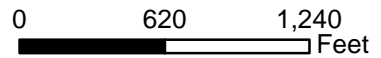


Legend

- Project Study Area Boundary
- Area not available for field survey
- Drainage Ditch
- Pond

**Submerged Aquatic Vegetation
 SAV Density (VIMS, 2016)**

- 0-10%
- 40-70%



AECOM 10 Patewood Drive,
 Building 6, Suite 500
 Greenville, SC 29615

**WIFIA Newport News side
 of Project Area
 Site Wetlands & SAV**

Project No. 60617789	Prepared by K. Clark	Date 12/30/2020	Figure 5
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Attachment II

EFH Assessment Worksheet &

EFH Mapper Report

NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Worksheet

This worksheet is your essential fish habitat (EFH) assessment. It provides us with the information necessary to assess the effects of your action on EFH under the Magnuson Stevens Fishery Conservation and Management Act and on NOAA trust resources under the Fish and Wildlife Coordination Act (FWCA). Consultation is not required if:

1. there is no adverse effect on EFH or NOAA trust resources (see page 10 for more info).
2. no EFH is designated and no trust resources may be present at the project site.

Instructions

Federal agencies or their non-federal designated lead agency should email the completed worksheet and necessary attachments to nmfs.gar.efh.consultation@noaa.gov. Include the public notice (if applicable) or project application and project plans showing:

- location map of the project site with area of impact.
- existing and proposed conditions.
- all waters of the U.S. on the project site with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked.
- sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom or natural rocky habitat areas, and shellfish beds.
- site photographs, if available.

We will provide our EFH conservation recommendations and recommendations under the FWCA, as appropriate, within 30 days of receipt of a complete EFH assessment (60 days if an expanded consultation is necessary). Please submit complete information to minimize delays in completing the consultation.

This worksheet provides us with the information required¹ in an EFH assessment:

1. A description of the proposed action.
2. An analysis of the potential adverse effects on EFH and the federally managed species.
3. The federal agency's conclusions regarding the effects of the action on EFH.
4. Proposed mitigation, if applicable.

Your analysis **should focus on impacts that reduce the quality and/or quantity of the habitat or result in conversion to a different habitat type** for all life stages of species with designated EFH within the action area.

Use the information on the [HCD website](#) and [NOAA's EFH Mapper](#) to complete this worksheet. If you have questions, please contact the appropriate [HCD staff member](#) to assist you.

¹ The EFH consultation process is guided by the requirements of our EFH regulation at 50 CFR 600.905.

EFH ASSESSMENT WORKSHEET

General Project Information

Date Submitted:

Project/Application Number:

Project Name:

Project Sponsor/Applicant:

Federal Action Agency (if state agency acting as delegated):

Fast-41 or One Federal Decision Project: Yes No

Action Agency Contact Name:

Contact Phone: Contact Email:

Latitude: Longitude:

Address, City/Town, State:

Body of Water:

Project Purpose:

Project Description:

Anticipated Duration of In-Water Work or Start/End Dates:

	Habitat Type	Total impact (sq ft/acres)	Impacts are temporary	Restored to pre-existing conditions	Permanent conversion of all or part of habitat
	Rocky/hard bottom ⁴ :				
	Sand				
	Shellfish beds or oyster reefs				
	Mudflats				
	Submerged aquatic vegetation (SAV) ⁵ , macroalgae, epifauna				
	Diadromous fish (migratory or spawning habitat)				

Indicate type(s) of rocky/hard bottom habitat (pebble, cobble, boulder, bedrock outcrop/ledge) and species of SAV:

Project Effects

Select all that apply	Project Type/Category
	Hatchery or Aquaculture
	Agriculture
	Forestry
	Military (e.g., acoustic testing, training exercises)
	Mining (e.g., sand, gravel)
	Restoration or fish/wildlife enhancement (e.g., fish passage, wetlands, beach renourishment, mitigation bank/ILF creation)

⁴ Indicate type(s). The type(s) of rocky habitat will help you determine if the area is cod HAPC.

⁵ Indicate species. Provide a copy of the SAV report and survey conducted at the site, if applicable.

Select all that apply	Project Type/Category
	Infrastructure/transportation (e.g., culvert construction, bridge repair, highway, port)
	Energy development/use
	Water quality (e.g., TMDL, wastewater, sediment remediation)
	Dredging/excavation and disposal
	Piers, ramps, floats, and other structures
	Bank/shoreline stabilization (e.g., living shoreline, groin, breakwater, bulkhead)
	Survey (e.g., geotechnical, geophysical, habitat, fisheries)
	Other

Select all that apply	Potential Stressors Caused by the Activity	Select all that apply and if temporary or permanent		Habitat alterations caused by the activity
		Temp	Perm	
	Underwater noise			
	Water quality/turbidity/contaminant release			Water depth change
	Vessel traffic/barge grounding			Tidal flow change
	Impingement/entrainment ⁶			Fill
	Prevent fish passage/spawning			Habitat type conversion
	Benthic community disturbance			Other:
	Impacts to prey species			Other:

⁶ Entrainment is the voluntary or involuntary movement of aquatic organisms from a water body into a surface diversion or through, under, or around screens and results in the loss of the organisms from the population. Impingement is the involuntary contact and entrapment of aquatic organisms on the surface of intake screens caused when the approach velocity exceeds the swimming capability of the organism.

Details: project impacts and mitigation

The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. Attach supplemental information if necessary.

Describe how the project would impact each of the habitat types selected above. Include temporary and permanent impact descriptions and direct and indirect impacts.

What specific measures will be used to avoid impacts, including project design, turbidity controls, acoustic controls, and time of year restrictions? If impacts cannot be avoided, why not?

What specific measures will be used to minimize impacts?

Is compensatory mitigation proposed?

Yes

No

If no, why not? If yes, describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation and monitoring plan, if applicable.

Federal Action Agency's EFH determination (select one)	
	There is no adverse effect ⁷ on EFH or EFH is not designated at the project site. EFH Consultation is not required. This is a FWCA-only request.
	The adverse effect ⁷ on EFH is not substantial. This means that the adverse effects are no more than minimal, temporary, or can be alleviated with minor project modifications or conservation recommendations. This is a request for an abbreviated EFH consultation.
	The adverse effect ⁷ on EFH is substantial. This is a request for an expanded EFH consultation. We will provide more detailed information, including an alternatives analysis and NEPA document, if applicable.

EFH and HAPC designations⁸

Use the [EFH mapper](#) to determine if EFH may be present in the project area and enter all species and lifestages that have designated EFH. Optionally, you may review the EFH text descriptions linked to each species in the EFH mapper and use them to determine if the described habitat is present. We recommend this for larger projects to help you determine what your impacts are.

Species	EFH is designated/mapped for:				Habitat present based on text description (optional)
	EFH: eggs	EFH: larvae	EFH: juvenile	EFH: adults/spawning adults	

⁷ An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

⁸ Within the Greater Atlantic Region, EFH has been designated by the New England, Mid-Atlantic, and South Atlantic Fisheries Management Councils and NOAA Fisheries.

HAPCs

Select all that are in your action area.

	Summer flounder: SAV ⁹ Unmapped		Alvin & Atlantis Canyons
	Sandbar shark		Baltimore Canyon
	Sand Tiger Shark (Delaware Bay)		Bear Seamount
	Sand Tiger Shark (Plymouth-Duxbury-Kingston Bay)		Heezen Canyon
	Inshore 20m Juvenile Cod		Hudson Canyon
	Great South Channel Juvenile Cod		Hydrographer Canyon
	Northern Edge Juvenile Cod		Jeffreys & Stellwagen
	Lydonia Canyon		Lydonia, Gilbert & Oceanographer Canyons
	Norfolk Canyon (Mid-Atlantic)		Norfolk Canyon (New England)
	Oceanographer Canyon		Retriever Seamount
	Veatch Canyon (Mid-Atlantic)		Toms, Middle Toms & Hendrickson Canyons
	Veatch Canyon (New England)		Washington Canyon
	Cashes Ledge		Wilmington Canyon

⁹ Summer flounder HAPC is defined as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. In locations where native species have been eliminated from an area, then exotic species are included. Use local information to determine the locations of HAPC.

More information

The [Magnuson-Stevens Fishery Conservation and Management Act \(MSA\)](#) mandates that federal agencies conduct an [essential fish habitat \(EFH\) consultation](#) with NOAA Fisheries on any actions they authorize, fund, or undertake that may adversely affect EFH. An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

We designed this worksheet to help you to prepare EFH assessments. It is important to remember that an adverse effect determination is a trigger to consult with us. It does not mean that a project cannot proceed as proposed, or that project modifications are necessary. It means that the effects of the proposed action on EFH must be evaluated to determine if there are ways to avoid, minimize, or offset adverse effects.

This worksheet should be used as your EFH assessment or as a guide to develop your EFH assessment. At a minimum, you should include all the information required to complete this worksheet in your EFH assessment. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. If your answers in the worksheet and supplemental information you attach do not fully evaluate the adverse effects to EFH, we may request additional information to complete the consultation.

You may need to prepare an expanded EFH assessment for more complex projects to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH assessment worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, you should include an analysis as outlined in this worksheet for an expanded EFH assessment, along with any additional necessary information. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects.
- the views of recognized experts on the habitat or the species that may be affected.
- a review of pertinent literature and related information.
- an analysis of alternatives that could avoid or minimize the adverse effects on EFH.

Please contact our Greater Atlantic Regional Fisheries Office, [Protected Resources Division](#) regarding potential impacts to marine mammals or threatened and endangered species.

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 36°56'31" N, Longitude = 77°35'54" W

Decimal Degrees: Latitude = 36.94, Longitude = -76.40



















The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** WARNING ***







Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Little Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
			Atlantic Herring	Juvenile Adult	New England	Amendment 3 to the Atlantic Herring FMP
			Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Winter Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			Windowpane Flounder	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Sandbar Shark	Juvenile Neonate	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Sand Tiger Shark	Neonate/Juvenile Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
			Atlantic Butterfish	Adult Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid, & Butterfish Amendment 11
			Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

HAPCs

Show	Link	Data Caveats	HAPC Name	Management Council
			Sandbar Shark	AHMS
			Summer Flounder	MAFMC

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. **For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)

Mid-Atlantic Council HAPCs,

No spatial data for summer flounder SAV HAPC.



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

June 9, 2021

Alaina McCurdy
Environmental Scientist, Office of Wastewater Management
U.S. EPA, Region 3
1650 Arch Street
Philadelphia, PA 19103

Re: Boat Harbor Nansemond Treatment Plants, Hampton Roads, VA

Dear Ms. McCurdy:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letter dated May 11, 2021, and received on May 12, 2021, regarding the above-referenced proposed project. We reviewed your consultation request document and related materials. Based on our knowledge, expertise, and your materials, we concur with your conclusion that the proposed action is not likely to adversely affect any National Marine Fisheries Service ESA-listed species.

We would like to offer several clarifications to complement your incoming request for consultation. You state that a number of marine trenching techniques for pipeline burial may be employed during the duration of this project including barge-mounted excavation with side-casting, jetting, and plowing. Barge-mounted excavation with side-casting technique uses an excavator attached to a barge to mechanically cut a trench or dig in the bottom sediment. Jetting uses high pressure water and air to create a trench by fluidizing the seabed to disperse sediments into the water column. Plowing uses sediment collected from digging or a plow pulled over the pipeline to direct trenched soil back into place after a pipeline is installed.

The marine trenching techniques that may be used for this project will suspend sediment in the water column and increase turbidity throughout the action area. In your analysis of effects of turbidity, you state that the effects of the action will impact “adjacent areas,” however, effects of the action will be within the action area, not only in surrounding areas. In addition, we concur that turbidity will affect benthic habitat, which will indirectly impact ESA-listed species, but the effects of turbidity may also directly impact ESA-listed species. Direct effects of increased turbidity to sea turtles may occur when they drink seawater in order to hydrate and sturgeon gills may be affected by increased sediment. However, the use of sediment curtains are expected to keep sediment levels below harmful concentrations in the main channel of the river. We expect any sediment released into the river to settle quickly such that any potential for exposure to sea turtles and sturgeon will be temporary and of short duration. Sea turtles and sturgeon would be transient if they were to enter the action area and, therefore, exposure to increased sediments would be brief. Based on these considerations, direct and indirect effects of increased sedimentation on sea turtles and sturgeon will be too small to be meaningfully measured or detected, and therefore, insignificant.

In your analysis of the effects of habitat modification, you state that the effects of the action on habitat will be in “adjacent areas”, however, effects of the action will be within the action area, not only in surrounding areas. The habitat that will be modified by the action is a 50-foot wide transect of the river, which is a small portion of the 4.3-mile wide section of the river where vessels associated with the project may transit. Therefore, there will still be sufficient foraging habitat and prey available for sea turtles and sturgeon within the action area. We concur with your determination that effects to habitat will be



temporary and we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of habitat modification will be too small to be meaningfully measured or detected, and therefore, insignificant.

Taking into consideration: (1) The existing baseline conditions; (2) the action and what it adds to existing baseline conditions; and (3) new baseline conditions (the existing baseline conditions and the action together), we concur with your determination that increased vessel traffic is not likely to adversely affect ESA-listed species in the action area. Although the baseline risk of a vessel strike within the James River is unknown, we expect that adding project vessels to the existing baseline will not increase the risk that any vessel in the area will strike an individual, or will increase it to such a small extent that the effect of the action (i.e., any increase in risk of a strike caused by the project) cannot be meaningfully measured or detected. Furthermore, the increase in traffic associated with the proposed project will be extremely small because a minimal number of project vessels will be added to the baseline. The addition of project vessels will also be intermittent, temporary, and restricted to a small portion of the overall action area on any given day. As such, any increased risk of a vessel strike caused by the project will be too small to be meaningfully measured or detected, therefore, the effects of increased risk of a vessel strike in the action area is insignificant.

In your analysis of effects to Atlantic sturgeon critical habitat, you state that the proposed project will overlap with a small section of Atlantic sturgeon critical habitat (approximately 0.18 miles). We concur with your determination that effects to designated critical habitat, including increased turbidity and habitat modification, will be temporary and minimized by deployment of sediment curtains. In addition, we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of the action on Atlantic sturgeon critical habitat will be too small to be meaningfully measured or detected and are insignificant. At this time, no further consultation pursuant to section 7 of the ESA is required.

Reinitiation of consultation is required and shall be requested by the Federal agency or by us, 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; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence, please contact Meagan Riley at (978) 281-9339 or by email at meagan.riley@noaa.gov. For any additional questions related to Essential Fish Habitat, please contact David O'Brien at (804) 684-7828 or david.l.obrien@noaa.gov.

Sincerely,



Jennifer Anderson
Assistant Regional Administrator
for Protected Resources

ECO: GARFO-2021-01134

File Code: H:\Section 7 Team\Section 7\Non-Fisheries\EPA\Informal\2021\Boat_Harbor_Nansemond_Treatment_Plants_VA

NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Worksheet

This worksheet is your essential fish habitat (EFH) assessment. It provides us with the information necessary to assess the effects of your action on EFH under the Magnuson Stevens Fishery Conservation and Management Act and on NOAA trust resources under the Fish and Wildlife Coordination Act (FWCA). Consultation is not required if:

1. there is no adverse effect on EFH or NOAA trust resources (see page 10 for more info).
2. no EFH is designated and no trust resources may be present at the project site.

Instructions

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- location map of the project site with area of impact.
- existing and proposed conditions.
- all waters of the U.S. on the project site with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked.
- sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom or natural rocky habitat areas, and shellfish beds.
- site photographs, if available.

We will provide our EFH conservation recommendations and recommendations under the FWCA, as appropriate, within 30 days of receipt of a complete EFH assessment (60 days if an expanded consultation is necessary). Please submit complete information to minimize delays in completing the consultation.

This worksheet provides us with the information required¹ in an EFH assessment:

1. A description of the proposed action.
2. An analysis of the potential adverse effects on EFH and the federally managed species.
3. The federal agency's conclusions regarding the effects of the action on EFH.
4. Proposed mitigation, if applicable.

Your analysis **should focus on impacts that reduce the quality and/or quantity of the habitat or result in conversion to a different habitat type** for all life stages of species with designated EFH within the action area.

Use the information on the [HCD website](#) and [NOAA's EFH Mapper](#) to complete this worksheet. If you have questions, please contact the appropriate [HCD staff member](#) to assist you.

¹ The EFH consultation process is guided by the requirements of our EFH regulation at 50 CFR 600.905.

EFH ASSESSMENT WORKSHEET

General Project Information

Date Submitted:

Project/Application Number:

Project Name:

Project Sponsor/Applicant:

Federal Action Agency (if state agency acting as delegated):

Fast-41 or One Federal Decision Project: Yes No

Action Agency Contact Name:

Contact Phone: Contact Email:

Latitude: Longitude:

Address, City/Town, State:

Body of Water:

Project Purpose:

Project Description:

Anticipated Duration of In-Water Work or Start/End Dates:

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	Rocky/hard bottom ⁴ :				
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	Shellfish beds or oyster reefs				
	Mudflats				
	Submerged aquatic vegetation (SAV) ⁵ , macroalgae, epifauna				
	Diadromous fish (migratory or spawning habitat)				

Indicate type(s) of rocky/hard bottom habitat (pebble, cobble, boulder, bedrock outcrop/ledge) and species of SAV:

Project Effects

Select all that apply	Project Type/Category
	Hatchery or Aquaculture
	Agriculture
	Forestry
	Military (e.g., acoustic testing, training exercises)
	Mining (e.g., sand, gravel)
	Restoration or fish/wildlife enhancement (e.g., fish passage, wetlands, beach renourishment, mitigation bank/ILF creation)

⁴ Indicate type(s). The type(s) of rocky habitat will help you determine if the area is cod HAPC.

⁵ Indicate species. Provide a copy of the SAV report and survey conducted at the site, if applicable.

Select all that apply	Project Type/Category
	Infrastructure/transportation (e.g., culvert construction, bridge repair, highway, port)
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	Water quality (e.g., TMDL, wastewater, sediment remediation)
	Dredging/excavation and disposal
	Piers, ramps, floats, and other structures
	Bank/shoreline stabilization (e.g., living shoreline, groin, breakwater, bulkhead)
	Survey (e.g., geotechnical, geophysical, habitat, fisheries)
	Other

Select all that apply	Potential Stressors Caused by the Activity	Select all that apply and if temporary or permanent		Habitat alterations caused by the activity
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Is compensatory mitigation proposed?

Yes

No

If no, why not? If yes, describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation and monitoring plan, if applicable.

Federal Action Agency's EFH determination (select one)	
	There is no adverse effect ⁷ on EFH or EFH is not designated at the project site. EFH Consultation is not required. This is a FWCA-only request.
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HAPCs

Select all that are in your action area.

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	Veatch Canyon (New England)		Washington Canyon
	Cashes Ledge		Wilmington Canyon

⁹ Summer flounder HAPC is defined as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. In locations where native species have been eliminated from an area, then exotic species are included. Use local information to determine the locations of HAPC.

More information

The [Magnuson-Stevens Fishery Conservation and Management Act \(MSA\)](#) mandates that federal agencies conduct an [essential fish habitat \(EFH\) consultation](#) with NOAA Fisheries on any actions they authorize, fund, or undertake that may adversely affect EFH. An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

We designed this worksheet to help you to prepare EFH assessments. It is important to remember that an adverse effect determination is a trigger to consult with us. It does not mean that a project cannot proceed as proposed, or that project modifications are necessary. It means that the effects of the proposed action on EFH must be evaluated to determine if there are ways to avoid, minimize, or offset adverse effects.

This worksheet should be used as your EFH assessment or as a guide to develop your EFH assessment. At a minimum, you should include all the information required to complete this worksheet in your EFH assessment. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. If your answers in the worksheet and supplemental information you attach do not fully evaluate the adverse effects to EFH, we may request additional information to complete the consultation.

You may need to prepare an expanded EFH assessment for more complex projects to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH assessment worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, you should include an analysis as outlined in this worksheet for an expanded EFH assessment, along with any additional necessary information. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects.
- the views of recognized experts on the habitat or the species that may be affected.
- a review of pertinent literature and related information.
- an analysis of alternatives that could avoid or minimize the adverse effects on EFH.

Please contact our Greater Atlantic Regional Fisheries Office, [Protected Resources Division](#) regarding potential impacts to marine mammals or threatened and endangered species.

Useful Links

[National Wetland Inventory Maps](https://www.fws.gov/wetlands/)

<https://www.fws.gov/wetlands/>

[EPA's National Estuary Program \(NEP\)](https://www.epa.gov/nep/local-estuary-programs)

<https://www.epa.gov/nep/local-estuary-programs>

[Northeast Regional Ocean Council \(NROC\) Data Portal](https://www.northeastocean.org/)

<https://www.northeastocean.org/>

Mid-Atlantic Regional Council on the Ocean (MARCO) Data Portal

<http://portal.midatlanticocean.org/>

Resources by State

Maine

[Maine Office of GIS Data Catalog](https://geolibrary-maine.opendata.arcgis.com/datasets#data)

<https://geolibrary-maine.opendata.arcgis.com/datasets#data>

[Town shellfish information including shellfish conservation area maps](https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html)

<https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html>

[State of Maine Shellfish Sanitation and Management](https://www.maine.gov/dmr/shellfish-sanitation-management/index.html)

<https://www.maine.gov/dmr/shellfish-sanitation-management/index.html>

[Eelgrass maps](https://www.maine.gov/dmr/science-research/species/eelgrass/index.html)

<https://www.maine.gov/dmr/science-research/species/eelgrass/index.html>

[Casco Bay Estuary Partnership](https://www.cascobayestuary.org/)

<https://www.cascobayestuary.org/>

[Maine GIS Stream Habitat Viewer](https://www.arcgis.com/home/item.html?id=5869c2d20f0b4c3a9742bdd8abef42cb)

<https://www.arcgis.com/home/item.html?id=5869c2d20f0b4c3a9742bdd8abef42cb>

New Hampshire

[NH's Statewide GIS Clearinghouse, NH GRANIT](http://www.granit.unh.edu/)

<http://www.granit.unh.edu/>

[NH Coastal Viewer](http://www.granit.unh.edu/nhcoastalviewer/)

<http://www.granit.unh.edu/nhcoastalviewer/>

[State of NH Shellfish Program](https://www.des.nh.gov/organization/divisions/water/wmb/shellfish/)

<https://www.des.nh.gov/organization/divisions/water/wmb/shellfish/>

Massachusetts

[MA Shellfish Sanitation and Management Program](https://www.mass.gov/shellfish-sanitation-and-management)

<https://www.mass.gov/shellfish-sanitation-and-management>

[MassGIS Data, Including Eelgrass Maps](http://maps.massgis.state.ma.us/map_ol/oliver.php)

http://maps.massgis.state.ma.us/map_ol/oliver.php

[MA DMF Recommended TOY Restrictions Document](https://www.mass.gov/files/documents/2016/08/ry/tr-47.pdf)

<https://www.mass.gov/files/documents/2016/08/ry/tr-47.pdf>

[Massachusetts Bays National Estuary Program](https://www.mass.gov/orgs/massachusetts-bays-national-estuary-program)

<https://www.mass.gov/orgs/massachusetts-bays-national-estuary-program>

[Buzzards Bay National Estuary Program](http://buzzardsbay.org/)

<http://buzzardsbay.org/>

[Massachusetts Division of Marine Fisheries](https://www.mass.gov/orgs/massachusetts-division-of-marine-fisheries)

<https://www.mass.gov/orgs/division-of-marine-fisheries>

[Massachusetts Office of Coastal Zone Management](#)

<https://www.mass.gov/orgs/massachusetts-office-of-coastal-zone-management>

Rhode Island

[RI Shellfish and Aquaculture](#)

<http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/shellfish-aquaculture.php>

[RI Shellfish Management Plan](#)

<http://www.shellfishri.com/>

Eelgrass Maps

<http://edc.maps.arcgis.com/apps/View/index.html?appid=db52bb689c1e44259c06e11fd24895f8>

[RI GIS Data](#)

<http://ridemgis.maps.arcgis.com/apps/webappviewer/index.html?id=87e104c8adb449eb9f905e5f18020de5>

[Narragansett Bay Estuary Program](#)

<http://nbep.org/>

[Rhode Island Division of Marine Fisheries](#)

<http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/index.php>

[Rhode Island Coastal Resources Management Council](#)

<http://www.crmc.ri.gov/>

Connecticut

[CT Bureau of Aquaculture](#)

<https://www.ct.gov/doag/cwp/view.asp?a=3768&q=451508&doagNav=>

[CT GIS Resources](#)

https://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707

[Natural Shellfish Beds in CT](#)

<https://cteco.uconn.edu/viewer/index.html?viewer=aquaculture>

[Eelgrass Maps](#)

https://www.fws.gov/northeast/ecologicalservices/pdf/wetlands/2012_CT_Eelgrass_Final_Report_11_26_2013.pdf

[Long Island Sound Study](#)

<http://longislandsoundstudy.net/>

[CT GIS Resources](#)

<http://cteco.maps.arcgis.com/home/index.html>

[CT DEEP Office of Long Island Sound Programs and Fisheries](#)

<https://www.ct.gov/deep/site/default.asp>

[CT River Watershed Council](#)

<https://www.ctriver.org/>

New York

[Eelgrass Report](#)

http://www.dec.ny.gov/docs/fish_marine_pdf/finaleseagrassreport.pdf

[Peconic Estuary Program](#)

<https://www.peconicestuary.org/>

[NY/NJ Harbor Estuary](#)

<https://www.hudsonriver.org/estuary-program>

New York GIS Clearinghouse

<https://gis.ny.gov/>

New Jersey

[Submerged Aquatic Vegetation Mapping](http://www.crssa.rutgers.edu/projects/sav/)

<http://www.crssa.rutgers.edu/projects/sav/>

[Barnegat Bay Partnership](https://www.barnegatbaypartnership.org/)

<https://www.barnegatbaypartnership.org/>

[NJ GeoWeb](https://www.nj.gov/dep/gis/geoweb splash.htm)

<https://www.nj.gov/dep/gis/geoweb splash.htm>

[NJ DEP Shellfish Maps](https://www.nj.gov/dep/landuse/shellfish.html)

<https://www.nj.gov/dep/landuse/shellfish.html>

Pennsylvania

[Delaware River Management Plan](https://www.fishandboat.com/Fish/Fisheries/DelawareRiver/Documents/delaware_river_plan_exec_draft.pdf)

https://www.fishandboat.com/Fish/Fisheries/DelawareRiver/Documents/delaware_river_plan_exec_draft.pdf

[PA DEP Coastal Resources Management Program](https://www.dep.pa.gov/Business/Water/Compacts%20and%20Commissions/Coastal%20Resources%20Management%20Program/Pages/default.aspx)

<https://www.dep.pa.gov/Business/Water/Compacts%20and%20Commissions/Coastal%20Resources%20Management%20Program/Pages/default.aspx>

[PA DEP GIS Mapping Tools](https://www.dep.pa.gov/DataandTools/Pages/GIS.aspx)

<https://www.dep.pa.gov/DataandTools/Pages/GIS.aspx>

Delaware

[Partnership for the Delaware Estuary](http://www.delawareestuary.org/)

<http://www.delawareestuary.org/>

[Center for Delaware Inland Bays](http://www.inlandbays.org/)

<http://www.inlandbays.org/>

[Delaware FirstMap](http://delaware.maps.arcgis.com/home/index.html)

<http://delaware.maps.arcgis.com/home/index.html>

Maryland

[Submerged Aquatic Vegetation Mapping](http://web.vims.edu/bio/sav/)

<http://web.vims.edu/bio/sav/>

[MERLIN](http://dnrweb.dnr.state.md.us/MERLIN/)

<http://dnrweb.dnr.state.md.us/MERLIN/>

[Maryland Coastal Bays Program](https://mdcoastalbays.org/)

<https://mdcoastalbays.org/>

Virginia

[Submerged Aquatic Vegetation mapping](http://www.mrc.virginia.gov/regulations/Guidance_for_SAV_beds_and_restoration_final_approved_by_Commission_7-22-17.pdf)

http://www.mrc.virginia.gov/regulations/Guidance_for_SAV_beds_and_restoration_final_approved_by_Commission_7-22-17.pdf

[VDGIF Time of Year Restrictions \(TOYR\) and Other Guidance](https://www.dgif.virginia.gov/wp-content/uploads/VDGIF-Time-of-Year-Restrictions-Table.pdf)

<https://www.dgif.virginia.gov/wp-content/uploads/VDGIF-Time-of-Year-Restrictions-Table.pdf>

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

[Greater Atlantic Regional Office](#)
[Atlantic Highly Migratory Species Management Division](#)

Query Results

Degrees, Minutes, Seconds: Latitude = 36° 56' 26" N, Longitude = 77° 35' 25" W
 Decimal Degrees: Latitude = 36.940, Longitude = -76.410









The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** WARNING ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH





Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Little Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Atlantic Herring	Juvenile Adult	New England	Amendment 3 to the Atlantic Herring FMP
		Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Windowpane Flounder	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Sandbar Shark	Juvenile Neonate	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
		Sand Tiger Shark	Neonate/Juvenile Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
		Atlantic Butterfish	Adult Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
		Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

Link	Data Caveats	HAPC Name	Management Council
		Sandbar Shark	Secretarial
		Summer Flounder	Mid-Atlantic

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.

****For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)**

All spatial data is currently available for the Mid-Atlantic and New England councils,

Secretarial EFH,

Bigeye Sand Tiger Shark,

Bigeye Sixgill Shark,

Caribbean Sharpnose Shark,

Galapagos Shark,

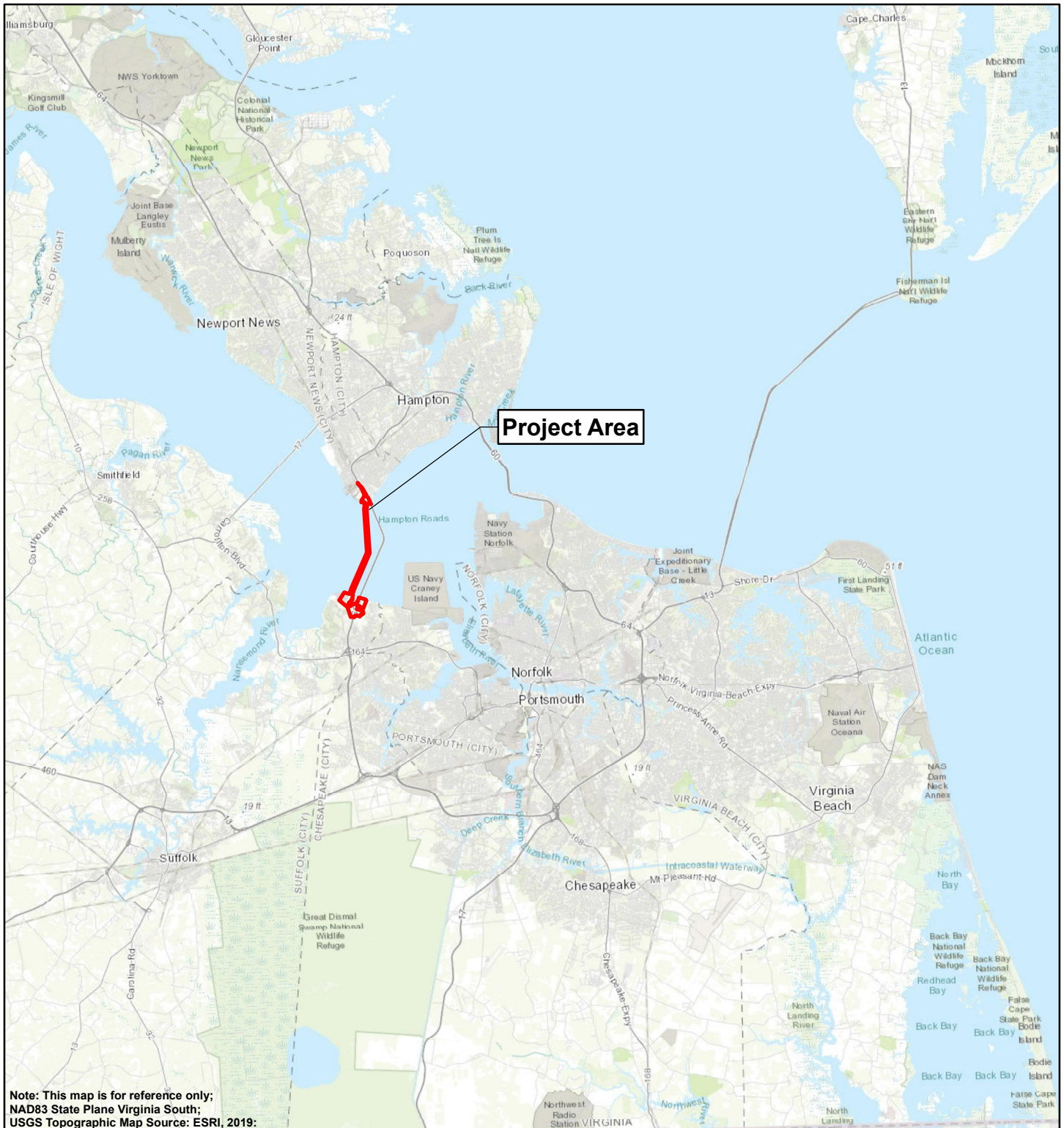
Narrowtooth Shark,

Sevengill Shark,

Sixgill Shark,

Smooth Hammerhead Shark,

Smalltail Shark



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 USGS Topographic Map Source: ESRI, 2019:

HRSD-SWIFT Project 2021

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 11/1/2021

0 5 10
 Miles

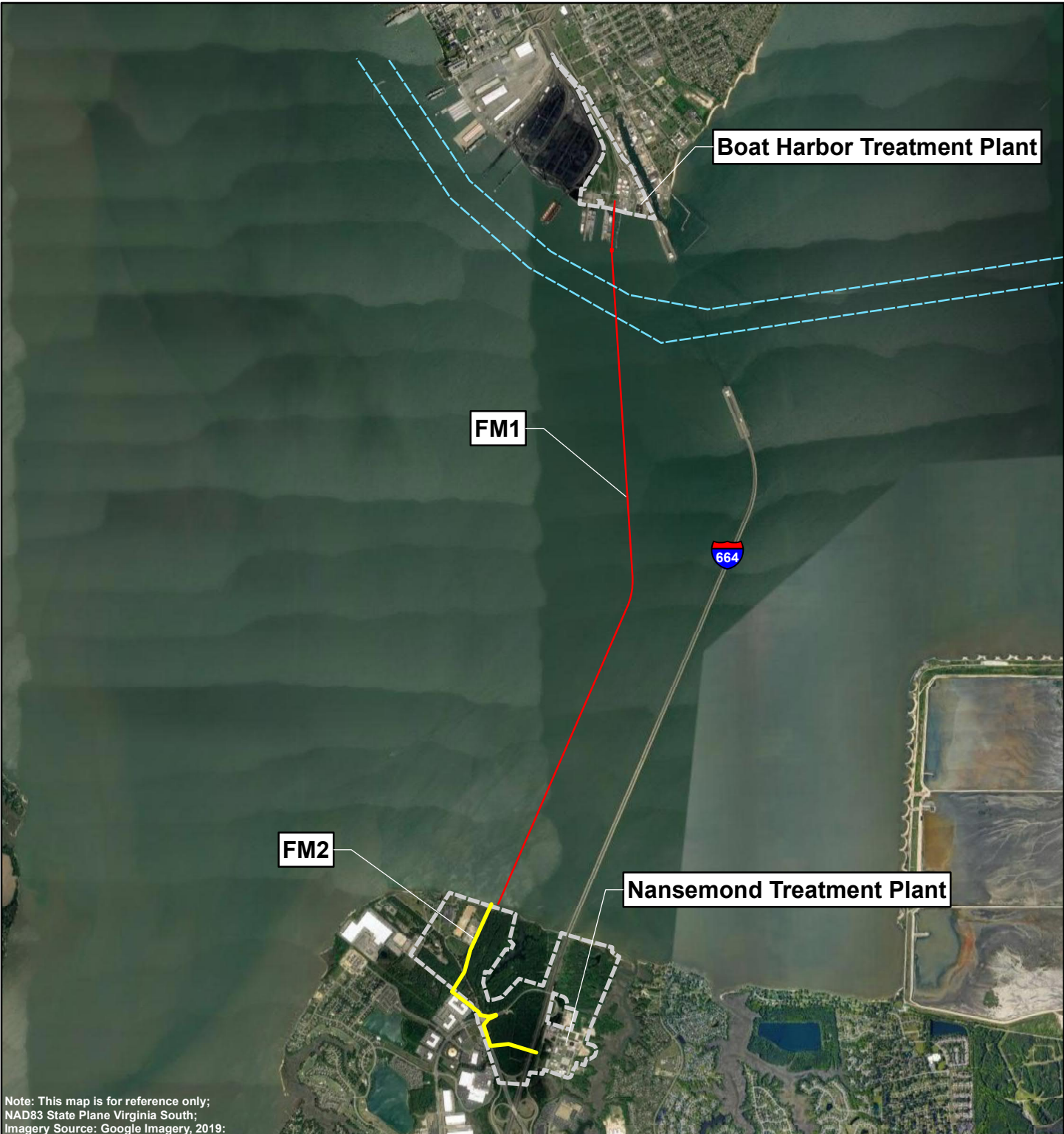
Legend

Project Area

**Figure 1
 Vicinity Map**

City of Newport News

City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019:

**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 11/1/2021

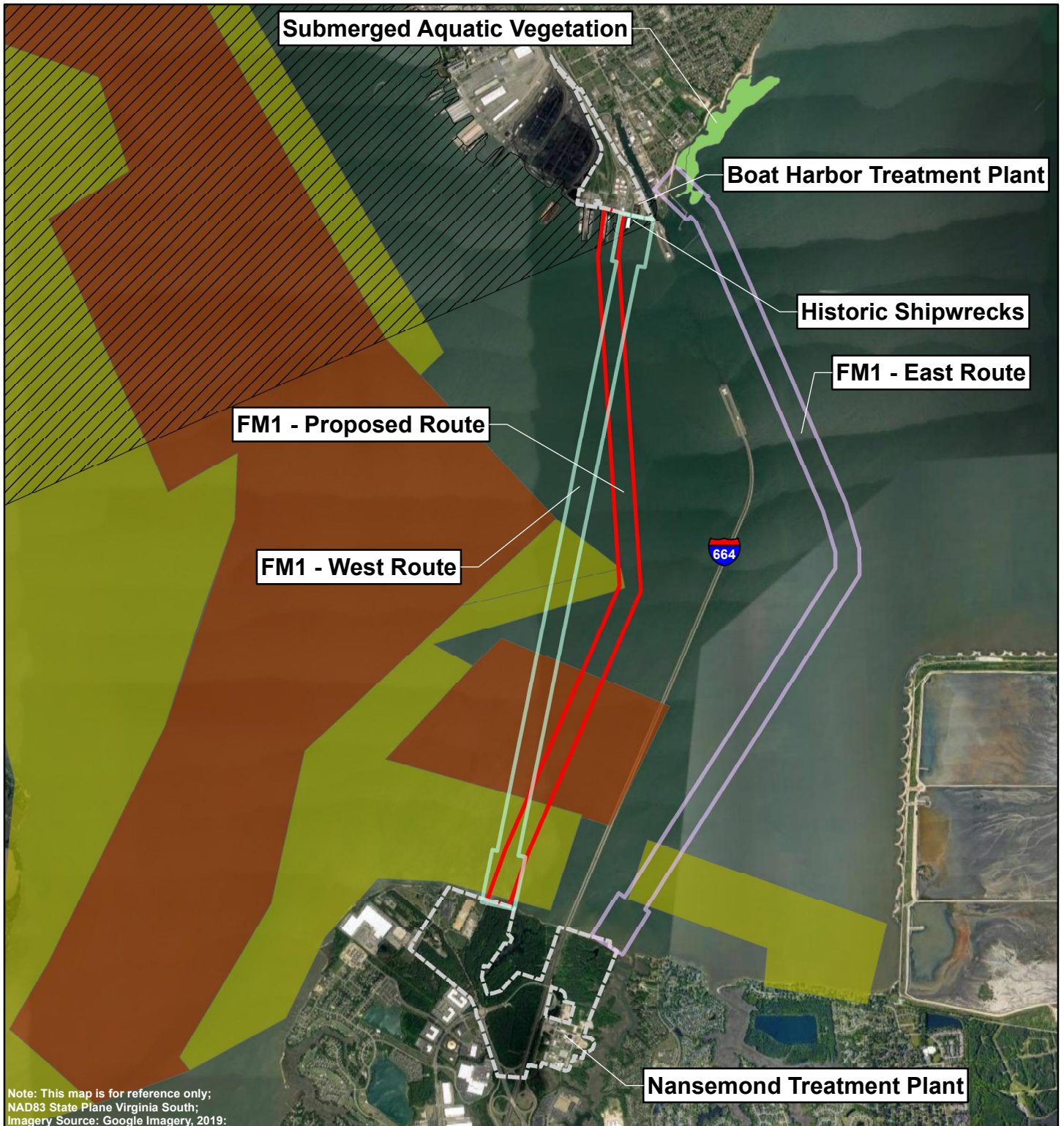
0 1 2
 Miles

Legend

- Study Area
- Force Main Section 1 (Subaqueous)
- Force Main Section 2 (Land)
- Newport News Federal Navigation Channel

**Figure 2
 Project Location Map**

- City of Newport News
- City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019;

HRSD-SWIFT Project 2021

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 11/1/2021

0 1 2
 Miles

Legend

- Study Area (dashed white line)
- FM1 - Proposed Route (red line)
- FM1 - East Route (purple line)
- FM1 - West Route (cyan line)
- Private Oyster Ground Leases (olive green)
- Public Oyster Grounds (brown)
- Atlantic Sturgeon Critical Habitat (diagonal hatching)
- Submerged Aquatic Vegetation (green)

Figure 3
FM1 Alternatives Map

- City of Newport News (blue square)
- City of Suffolk (red square)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

December 16, 2021

Karen Greene
Mid-Atlantic Field Office Supervisor and EFH Coordinator
Greater Atlantic Regional Fisheries Office
NOAA Fisheries Service
55 Great Republic Drive
Gloucester, Massachusetts 01930

Re: EFH Assessment -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Ms. Greene:

On May 5, 2021, the US Environmental Protection Agency (EPA), on behalf of Hampton Roads Sanitation District (HRSD), initiated consultation with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) regarding Essential Fish Habitat (EFH). Additional information was requested by NOAA Fisheries on May 18, 2021, including additional project details and a more detailed analysis of sediment transport resulting from the riverbed trenching activities and potential impacts on EFH. The information request was further discussed in subsequent calls held with David O'Brien, AECOM, and HRSD on June 7 and October 7, 2021. The purpose of this letter is to provide your office with the requested additional project details and a revised EFH assessment of the HRSD Boat Harbor/Nansemond Sustainable Water Initiative for Tomorrow (SWIFT) Project, and to request your concurrence with our determination regarding potential effects on EFH.

EPA selected HRSD to submit an application for credit assistance for the SWIFT Program under EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program, a federal credit program for eligible water and wastewater infrastructure projects. EPA developed a Programmatic Environmental Assessment (PEA) for the WIFIA program, and the PEA received a Finding of No Significant Impact (FONSI) on April 26, 2018. On behalf of EPA, HRSD prepared supplemental National Environmental Policy Act (NEPA) documents for the Boat Harbor/Nansemond SWIFT Project and EPA issued a

FONSI Adequacy Memorandum for the HRSD Boat Harbor/Nansemond SWIFT Project on August 31, 2021 and executed the WIFIA funding on September 10, 2021, with a condition precedent regarding final EFH concurrence from your office.

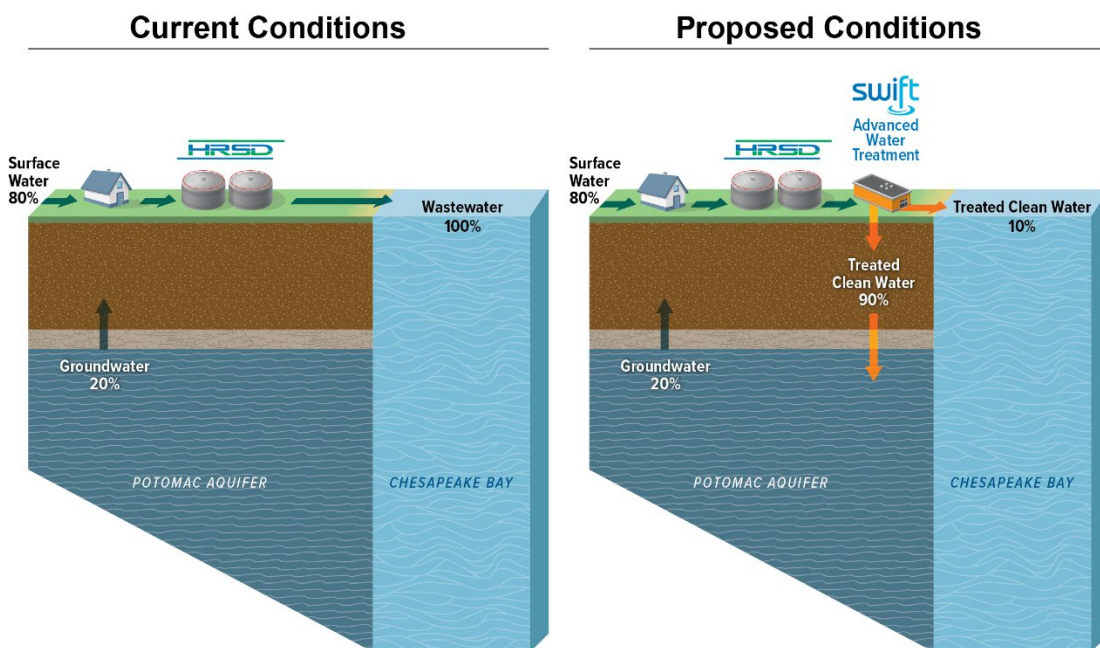
The EPA has evaluated the potential for the project to adversely affect EFH in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The EPA used the EFH Assessment Worksheet from the Greater Atlantic Regional Fisheries Office of NOAA Fisheries (NOAA Fisheries 2020a) to evaluate potentially affected EFH, and we are submitting our revised evaluation and findings for your review. The EFH Assessment Worksheet is provided as an attachment to this letter. We have determined that the impact of the Proposed Action on EFH would not be substantial and request an abbreviated EFH consultation.

Background

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; provide a sustainable source of groundwater to the Potomac Aquifer; increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and reduce future capital investment needs in wastewater treatment plant upgrades.

The Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (**Exhibit 1**).

Exhibit 1: Conceptual drawing depicting Pre and Post SWIFT Project Water Treatment



Description of the Proposed Action

As part of the HRSD SWIFT Program, HRSD is proposing to install a new, 36-inch-inside-diameter transmission force main beneath the James River to convey flow from a new pump station located near the site of the existing Boat Harbor Treatment Plant in the City of Newport News to the Nansemond Treatment Plant in the City of Suffolk (**Attachment A, Figure 1**). The construction of the transmission force main involves two phases: Force Main Section 1 (Subaqueous, FM1) and Force Main Section 2 (Land, FM2) (**Attachment A, Figure 2**); the SWIFT Project (the Project) also involves the construction of the new Boat Harbor pump station, upgrades and improvements to the Nansemond Treatment Plant, and the installation of 16 recharge wells. For purposes of the EFH consultation, this letter focuses primarily on FM1, the only portion of the Project with potential to directly effect EFH.

The proposed FM1 alignment would be approximately 24,693 feet (4.7 miles) in length and would be installed under the James River roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel (I-664) (**Attachment B**). Installation of the force main would include a combination of approximately 18,300 feet (3.5 miles) of riverbed trenching (i.e., 1,400 feet on the river's north shore and 16,900 feet on the south shore) and approximately 4,330 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. FM1 would continue on land on the Newport News side for approximately 1,545 (0.3 mile) to the new Boat Harbor pump station and on the Suffolk side for 518 feet (0.09 mile). On land sections would be installed via traditional open cut method. before its connection with FM2. The proposed construction methodology for the river crossing contains the following key criteria:

Shipping channel segment:

- Water-to-water HDD
- Temporary platforms for HDD drilling equipment set up in the river off the north shore and south of the channel to provide a length range of approximately 4,500 feet, (estimated as a feasible distance for installing high-density polyethylene (HDPE) pipe via HDD); platform options include barges—anchored or jack-up
- Entire river crossing to be HDPE with no dissimilar material connection
- HDD depth of approximately 60 feet below shipping channel bottom
- Pipe assembly on-land, float-out, and stringing in river for HDD pull-back operation

Riverbed trenching segment:

- Open-cut pipe burial depth of approximately 8 to 10 feet below river bottom over the 16,900-foot length from outside the shipping channel to the south shore
- Side casting of trench materials and back-filling
- Continuous positive slope from HDD section to south shore and north shore to avoid high and low points
- In-river trenched section of approximately 1,400 feet from the north side HDD platform to the north shore exit point
- In-water connection at the HDD temporary work platforms in river (outside shipping channel) for connection between trenched and trenchless segments.

Access and temporary workspace for construction equipment outside of the James River would be in uplands. Equipment en route to the river would use existing roadways or developed land. Performing the

work within the river would require barges and supporting marine equipment such as tugs and personnel/materials boats. Exact methods and equipment would be determined by the selected design-build contractor; however, a preliminary construction operations plan is provided in **Attachment C**.

The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. FM2 would connect to the FM1 section 518 feet south of the James River shoreline, then continue south, generally paralleling Jamestown Road, Park Drive, and College Drive, and terminate at the existing Nansemond Treatment Plant (**Attachment B**).

Alternatives

Route Alternatives

The start and end points of the force main were established during the concept development and engineering planning stage of work for the overall SWIFT program. The force main would start at a new pump station near the site of the Boat Harbor treatment plant and 11 potential pump station sites were initially identified as part of the pre-planning site selection screening exercise. Five sites were carried forward for further evaluation. Ultimately, a site adjacent to the existing Boat Harbor treatment plant was selected as the preferred site for the pump station. The route alternatives for the two sections of the force main are presented in the following subsections.

Force Main Section 1 (Subaqueous)

Three alternative routes were evaluated for the FM1 section of the force main, one on the east and two on the west side of the I-664 bridge tunnel (**Attachment A, Figure 3**). The preferred FM1 route (one of the west side options) was selected because of land access advantages and environmental advantages. First, the Boat Harbor pump station on the north shore would also be located on the west side facilitating the FM1 connection to this station. Second, there is open land on the south shore sufficient to allow the FM1 to FM2 connection and temporary workspace for a pipe laydown yard. Third, by locating the proposed FM1 route on the west side of the I-664 bridge tunnel, known submerged aquatic vegetation (SAV) beds, public parks, and archaeological sites located to the east side were avoided. Finally, the proposed FM1 alignment also represents an environmental advantage over the far-west alignment by avoiding remnants of historical shipwrecks and minimizing impacts on mapped oyster beds.

Force Main Section 2 (Land)

The FM2 section would connect to FM1 518 feet south of the James River and terminate at the NTP site. Five proposed alignment alternatives were considered for routing FM2; they are not discussed in detail here since FM2 would not affect EFH. The routing alternatives considered the sites' historical significance as well as recent residential, educational, and commercial development. All the alternatives utilize the same route between the Nansemond Treatment Plant and the traffic roundabout at College Drive.

Construction Method Alternatives

Force Main Section 1 (Subaqueous)

The proposed river crossing alternative on the west side of the I-664 bridge tunnel was evaluated to determine applicable construction methods for pipeline installation. The extensive length of the crossing at over 4 miles, the locations of a major, active shipping channel, and the variability of river depth along the profile required an evaluation of multiple construction techniques. Key construction and design factors, including characteristics of the river, pipeline mechanical design requirements, and

environmental setting were assessed to identify feasible methods. **Table 1** summarizes the key evaluation factors.

Table 1. Key Evaluation Factors for Construction Method Planning

Key Factor	Planning Consideration
River Crossing Characteristics	Riverbed topography, bathymetry, existing onshore and riverbed infrastructure/obstructions, offset from existing spans, subsoil characteristics, marine vessel passage and anchoring areas, shore approaches.
Pipeline Mechanical Design	Pipe material, size, wall thickness, corrosion protection, long-term integrity, operational considerations, anchor drop and drag protection.
Environmental Setting	Avoidance/minimization of oyster grounds impacts, cultural/historical areas.

Construction Methods and Design Options

The proposed river crossing alignment would traverse the Newport News Federal Navigation Channel, an active marine channel with commercial, military, and private/recreational vessel transport. The US Army Corps of Engineers (USACE) currently maintains the channel to a 1,000-foot width and 50-foot depth. Anchoring areas of various size exist on the south side of the channel. Given the depth of the channel and the necessity to minimize disruption to marine traffic, trenchless crossing methods were considered in addition to open-cut methods for pipeline installation. HDD was deemed the most appropriate and cost-effective trenchless technique for the channel crossing. The open-cut method would require a long construction time and specialized equipment, blocking the channel and disrupting shipping traffic for extended periods. Laying the FM1 on the channel bottom was not feasible due to periodic dredging and danger from anchor strikes.

While HDD technology provides an unobstructed crossing method under the main shipping channel, use of this technique to cross the entire river is not practical for several reasons. The maximum span length of each HDD depends on pipe material and diameter, and ranges from approximately 8,000 feet (steel pipe) to 4,500 feet (HDPE pipe). To achieve an HDD crossing beneath the entire river, between three and six HDDs would need to be stitched together. Doing so would create high and low points in the pipeline profile with the potential for trapping air and solids. Lack of a practical means of adding air release valves in an underwater environment, potential for solids settling in the pipe, the greater number of marine construction assets, and the longer on-water schedule needed for multiple HDDs were deemed significant disadvantages and, therefore, this approach was not considered feasible. Similarly, micro-tunneling and similar techniques that require intermediate shafts dug along the alignment were judged not feasible because of the increased construction time, greater disruption from the seven to nine intermediate shafts that would need to be placed and maintained for pipe installation and joining, and the higher safety risks to workers.

Beyond the main shipping channel, the river depth gradually decreases from approximately 30 feet to less than 2 feet at the southern end of the alignment. For this shallower section, open-cut or direct-bury techniques such as barge-mounted excavation with side casting, plowing, and jetting, were considered feasible. Based on preliminary engineering for a riverbed open-cut trench, the assumed trench geometry would include a trench bottom width of 8 feet, side slopes of 3:1, and average trench depth of 13 feet. Minimum burial depth was established based on USACE guidance for anchor and non-anchor areas. Estimates of temporary disturbance to the riverbed are provided in **Table 2**.

Table 2. Estimated Temporary Disturbance - FM1 Subaqueous River Crossing¹

Force Main Stationing		Section Length (ft)	Average Pipe Bury Depth (ft)	Average Trench Depth (ft)	Disturbed Riverbed Area (ft ²)	Disturbed Riverbed Area (ac)	Excavated Volume (yd ³)
-13+55.56	01+25.73	1,481	10	13	127,391	3	33,521
41+25.30	86+00.00	4,475	10	13	384,824	9	101,261
86+00.00	204+00.00	11,800	15	18	1,368,800	31	487,733
204+00.00	214+00.00	1,000	7	10	68,000	2	14,074
Totals:					1,949,015	45	636,589
1. Based on preliminary engineering for a marine open-cut trench, the assumed trench geometry would be approximately: the trench bottom width of 8 ft with a side slope of 3:1.							

Pipeline Mechanical Design

Pipe materials including steel, HDPE, and fusible polyvinyl chloride (fPVC) were evaluated. These pipe materials lend themselves to both trenched and trenchless construction techniques and are used by HRSD elsewhere in its conveyance system. Steel pipe has the advantage of superior strength, which allows for longer and deeper trenchless installations. However, steel pipe would require an impressed current corrosion protection system that could not be reliably maintained within the river environment. HDPE and fPVC were therefore considered. Based on key evaluation criteria that include suitability to the selected construction approach, expected subsurface conditions, ease of operations and maintenance (O&M), and desired long-term performance, HDPE was deemed the most appropriate material. Based on projected design flows, a 36-inch nominal inside diameter pipe was selected.

The HDPE pipe requires proper ballasting to prevent floatation. This is typically achieved by concrete anchors attached to the pipe and spaced at appropriate intervals. For this reason, the installation contractors could consider plowing and jetting techniques noted above as more complicated or impractical and opt for the open-cut technique using barge-mounted excavation. Additional site considerations that make plowing or jetting infeasible for this application include: the shallower water depth (large vessels with deep draft would be required to provide plowing installation forces), the large diameter of the pipeline would require larger bend radii (350 feet or more) to install, and the limitations on working space presented by river traffic.

Environmental Setting

The oyster grounds identified along the proposed pipe alignment include both private and publicly held areas. The alignment was adjusted in the center of the river to avoid two private lease grounds. The alignment does run through public grounds and two private lease areas for a total of approximately 7,500 feet. A shellfish survey was conducted to determine the existence and density of oysters, clams, and shells along the alignment (**Attachment D**). Findings indicated that no significant oyster or clam populations are located within the majority of the open cut area.

Disturbance of river bottom during open cut operations would create turbidity, temporarily impacting fish and benthic organisms. Potential mitigation options are available to minimize impacts and include

the use of best management practices (BMPs), such as silt curtains where practicable, construction during low current, low-impact excavating equipment (closed clam shell buckets) to reduce turbidity, and limiting work per time of year restrictions.

As part of the cultural resources survey conducted along the alternative alignments, a marine archaeology investigation identified the historical remnants of two shipwrecks near the north shore. Several of the alternative design options would have resulted in impacts to these historical resources; however, the proposed design and alignment avoid the shipwrecks, thereby avoiding impacts to cultural resources.

Force Main Section 2 (Land)

Both trenchless and open cut trench installation techniques were considered for the proposed FM2 route alignment, and the selected construction option would be a combination of the two methods, with open cut trench for the majority of the alignment, and trenchless crossings of I-664 and potentially the College Road roundabout. Construction method alternatives for FM2 are not discussed in detail in this EFH consultation.

Avoidance, Minimization, and Unavoidable Impacts

Avoidance and Minimization

The FM1 alignment was designed to avoid and minimize impacts to both environmental and cultural resources. By locating the proposed FM1 route on the west side of the I-664 bridge tunnel, known submerged aquatic vegetation (SAV) beds, public parks, and archeological sites located to the east side were avoided. The proposed FM1 route was also designed to avoid remnants of historical shipwrecks that are potentially eligible for the National Register of Historic Places (NRHP) and to minimize crossing known oyster beds. The HDD under the main river channel would allow marine mammals, fish, turtles, and other aquatic species, a zone of passage to swim up and down river during the 2-year construction period. In addition, sediment curtains would be installed where practicable to minimize turbidity from the riverbed trenching activities.

The proposed FM2 route and the remaining portions of the Project would avoid all impacts to tidal and non-tidal wetlands and waterbodies. HRSD anticipates no permanent impacts to jurisdictional Waters of the United States as a result of the Project. The land sections would be restored to pre-construction conditions and the trenched river section would be backfilled using excavated materials where practicable, with final riverbed grades achieved through the dynamic sediment transport in that portion of the river.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, and erosion control blankets. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, as necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

Effects on water quality in the James River from the incidental release of drilling mud during HDD (frac-out) and accidental spills or releases of materials, such as fuels or lubricants, would be minimized using sediment curtains and standard construction BMPs. The development of a Spill Prevention, Control, and Countermeasure Plan and HDD Inadvertent Returns Contingency Plan will be required by the selected design-build team.

Unavoidable Impacts

To meet the purpose and need of the proposed Project, the FM1 alignment must cross the James River. As such, trenching activities would result in direct and indirect impacts to the riverbed. The Project impacts would be temporary and are anticipated to have minimal adverse impacts on the aquatic ecosystem. Approximately 37.8 acres of riverbed sediment would be disturbed during the FM1 construction phase, including 15.8 acres of mapped oyster grounds, and 0.057 acre of nonvegetated wetlands between the Mean High Water (MHW) line and the Mean Low Water (MLW) line. No vegetated wetlands occur within the north and south sides of the James River shoreline within the Project area (**Exhibit 2**).

Exhibit 2: Photos of the James River shore near the Project area



2A. View looking at north side of James River 2B. View looking at south side of James River

Wetlands and Waters Boundary

A wetlands delineation was conducted by AECOM environmental scientists in May, June, August, and October 2020 to determine the extent of jurisdictional Waters of the United States within the Project area. The wetland field investigations identified several aquatic features within the study area. Potential jurisdictional features include 12 non-tidal vegetated wetlands, one tidal vegetated wetland, four open water features, four stormwater detention ponds, one ditch, and the James River. Within the Project area, no vegetated wetlands occur along the banks of the James River. Non-vegetated wetlands along the James River shoreline were delineated using the area between the MHW line and the MLW line. A jurisdictional determination from the USACE has not yet occurred.

Other than temporary impacts to the James River, the Project would avoid impacts to all wetlands and waterbodies.

Federally Listed Threatened and Endangered Species – NMFS

Two NOAA Fisheries Endangered Species Act (ESA)-listed species of fish (Atlantic and shortnose sturgeon) and four listed species of sea turtles (leatherback, loggerhead, Kemp’s ridley, and green) potentially could occur in the Project area. Designated critical habitat for the Atlantic sturgeon in the James River overlaps the northernmost end of the proposed pipeline alignment (**Attachment A, Figure 3**). Approximately 940 feet (0.18 mile) of the north end of FM1, extending south from the Newport News shoreline, would be installed within the boundary of the mapped critical habitat. On May 11, 2021, EPA initiated informal consultation with NMFS with a “may affect, not likely to adversely affect” determination for all identified species and critical habitat. On June 9, 2021, NMFS Protected Resources Division (PRD) concurred with EPA’s conclusion that the proposed action is not likely to adversely affect any NMFS ESA-listed species (**Attachment E**). NMFS PRD also concurred with the determination that effects to designated Atlantic sturgeon critical habitat, including increased turbidity and habitat modification, would be temporary and minimized by deployment of sediment curtains where practicable. NMFS PRD also stated that the effects of the action on Atlantic sturgeon critical habitat would be too small to be meaningfully measured or detected, are insignificant, and that no further Section 7 consultation is required.

Essential Fish Habitat

The MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity,” and it requires federal agencies to consult with NOAA Fisheries when proposing activities that may adversely affect EFH. To facilitate consultation, NOAA Fisheries provides an online mapping tool (the EFH Mapper) that can be queried to identify designated EFH species and life stages potentially occurring near the proposed project area (NOAA 2020b).

According to the NOAA EFH Mapper, EFH for one or more life stages of 12 federally managed fish species has been designated in the waters in the vicinity of the Project area (**Attachment F**). Proposed Project activities within the James River associated with installation of FM1 beneath the riverbed may impact EFH during the construction period. Any impacts during construction would be temporary and minimized using BMPs such as sediment curtains where practicable.

HDD would be used to install approximately 4,330 feet of the pipeline beneath the main river channel, precluding in-water work and sediment disturbance in the main channel. This would allow fish a zone of passage to move up and down river to avoid areas of construction activity and noise during the anticipated two year construction period.

Trenching for installation of the remaining 18,300 feet of pipeline beneath the river would directly damage the benthic community of an approximately 90-foot-wide corridor within the alignment, affecting a riverbed area of approximately 37.8 acres. Direct minor impacts to EFH from sediment disturbance, turbidity, and sedimentation may occur during the construction period associated with the installation of the proposed pipeline beneath the James River. However, impacts would be temporary and prevented or minimized using BMPs, such as sediment curtains where practicable. The area affected would be relatively small compared to the extensive habitats found throughout the James River and Chesapeake Bay. Long-term operation of the proposed Project would not affect EFH. Potential adverse effects of the proposed Project on EFH would be minimal and short-term, and the overall effects on EFH would not be substantial or significant.

Oyster Grounds

The proposed Project alignment would cross public and private oyster grounds off the south shoreline (**Attachment A, Figure 3, Attachment B**). Assuming the width of the corridor in which oyster beds may be directly impacted by trenching would be 90 feet, the total area of oyster ground leases potentially affected would be approximately 15.8 acres. In May 2021, a shellfish resources survey was conducted by the Virginia Institute of Marine Science (VIMS) (**Attachment D**). The survey found that no significant oyster populations were observed in the majority of the proposed trenching area, and clam densities were comparatively low as well, as shown by the comparison of 2001-2002 surveys. Project acknowledgement (with no objection to the project) has been obtained from one oyster ground leaseholder and is in the process of being obtained from the other.

EFH Assessment

On May 5, 2021, the EPA, on behalf of HRSD, initiated consultation with NOAA Fisheries regarding EFH. Additional information was requested by the NOAA Fisheries on May 18, 2021, including a more detailed analysis of sediment transport resulting from the riverbed trenching activities and potential impacts on EFH. As discussed during the October 7, 2021 call, AECOM reviewed existing hydrodynamic sediment studies conducted on the James River in and near the Project area and summarized the results in the enclosed Sediment Impact Assessment Summary Memorandum (**Attachment G**). The memorandum includes a discussion of sediment size and characteristics, and finds that sediments in the Project vicinity include a combination of primarily coarse and fine silt, as well as clay and sand. A geotechnical investigation of the subaqueous alignment is currently underway. The results of the geotechnical investigation are still pending; however, preliminary review of the samples corroborates the sediment data defined in the memorandum. The memorandum concludes that the area of the James River in which the Project lies is hydrodynamically complex, with near-shore sheltered areas, strong currents within the navigational channel, and a persistent eddy immediately downstream. The studies suggest that in the areas where the open-cut trenching approaches the higher currents of the navigational channel dredged sediments could become entrained; however once outside the influence of the navigational channel currents, dredged material and side-casted mounds are likely to stay relatively stable. Extending the length of HDD to include the trenched areas subject to higher currents is not feasible due to the installation stress limits of HDPE pipe. The HDD length is limited to approximately 4,500 feet when installing HDPE pipe via HDD.

The proposed transmission force main would be installed across the James River using trenching and trenchless methods (i.e., HDD). As noted in Table 2, approximately 636,589 cubic yards of riverbed sediment will be excavated and sidecast in temporary mounds as a result of trenching. EFH for one or more life stages of 12 federally managed fish species has been designated in the waters in the vicinity of the project area. These species and life stages are identified in **Table 3**.

Table 3. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)			X	X
Atlantic herring (<i>Clupea harengus</i>)			X	X
Black sea bass (<i>Centropristis striata</i>)			X	X

Table 3. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Bluefish (<i>Pomatomus saltatrix</i>)			X	X
Clearnose skate (<i>Raja eglanteria</i>)			X	X
Little skate (<i>Leucoraja erinacea</i>)				X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
Sand tiger shark (<i>Carcharias taurus</i>) ²		X	X	X
Sandbar shark (<i>Charcharinus plumbeus</i>) ²		X	X	
Summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
Windowpane flounder (<i>Scophthalmus aquosus</i>)			X	
Winter skate (<i>Leucoraja ocellata</i>)				X
1. An “X” indicates that EFH has been designated within the project area for that species and life stage. 2. The two shark species bear live young (neonates) and thus do not have a free-swimming larval stage. Source: NOAA (2020a)				

The EFH Mapper identified habitat areas of particular concern (HAPCs) for the sandbar shark and summer flounder in the action area. The alignment of the proposed pipeline approximately follows the western boundary of the sandbar shark HAPC in the James River estuary. Summer flounder HAPC is not a discrete area but a habitat type -- beds of SAV. Maps of SAV beds in Chesapeake Bay indicate that potential summer flounder HAPC is not present in the project area. The nearest SAV beds are approximately 2,000 feet northeast of the north end of the FM1 alignment (**Attachment A, Figure 3**) and would not be directly affected by pipeline installation.

In accordance with the EFH Final Rule published in the *Federal Register* on 17 January 2002, federal agencies may incorporate an EFH assessment into documents prepared for another purpose, such as an environmental assessment (EA), provided the EFH assessment is clearly identified as a separate and distinct section of the document. The information presented in this letter is based on the analysis provided in the EFH Assessment Worksheet (NOAA 2020a) prepared for this consultation (**Attachment H**). The four primary elements of the EFH assessment are summarized below:

1. Description of the proposed action.
 - Provided above.
2. An analysis of the potential adverse effects of the proposed action on EFH and the managed species.
 - Provided in the EFH Assessment Worksheet (**Attachment H**) and briefly summarized as follows:
 - The 36-inch transmission force main would be installed beneath the James River between the Boat Harbor and Nansemond Treatment Plants on the north and south shores of the James River,

respectively, in estuarine subtidal habitat. Direct, temporary, and minor impacts on EFH from sediment disturbance, turbidity, and sedimentation may occur during construction. Long-term operation of the proposed project would not affect EFH. BMPs would be used to the extent practicable to minimize or prevent erosion, sedimentation, and turbidity.

3. Conclusions regarding the effects of the proposed action on EFH.

- Provided in the EFH Assessment Worksheet and briefly summarized as follows:

- The EPA has determined that potential adverse effects on EFH from the proposed action would be minimal and temporary. The overall determination is that adverse effects on EFH would not be substantial.

4. Proposed mitigation measures.

- HRSD would implement BMPs to the extent practicable, described above and in **Attachment H**, to avoid and/or minimize temporary adverse effects, which are briefly summarized as follows:
 - Indirect impacts from sediment disturbance and erosion would be prevented or minimized through BMPs such as sediment curtains, silt fence, sandbags, earthen berms, and other approved measures to control erosion, turbidity, and sedimentation where practicable.
- No further mitigation measures are proposed because adverse effects would be minimal and temporary.

Conclusions

Based on this assessment, the EPA has determined that the effects of the proposed action on EFH would not be substantial. I certify that we have used the best scientific and commercial data available to complete this assessment and request your concurrence with this determination.

If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures (8)

- Attachment A: Figures 1-3
- Attachment B: Conceptual Construction Plans
- Attachment C: Preliminary Construction Sequencing and Operations Plan

Attachment D: Shellfish Survey
Attachment E: NMFS PRD Concurrence Letter
Attachment F: EFH Mapper Report
Attachment G: Sediment Impact Assessment Summary Memorandum
Attachment H: EFH Worksheet

cc: HRSD/ Mr. E. Girardi

Literature Cited

National Oceanic and Atmospheric Administration (NOAA). 2020a. Essential Fish Habitat Assessment Worksheet. EFH Consultation Guidance, Greater Atlantic Regional Fisheries Office, NOAA Fisheries. Accessed in December at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations>.

NOAA. 2020b. Essential Fish Habitat Mapper. NOAA Fisheries. Last updated 20 October 2020. <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

Attachment G: Sediment Impact Assessment Summary

Note: All other attachments are included elsewhere in this document; only Attachment G is attached here.

MEMORANDUM

Date: December 8, 2021

To: HRSD Boat Harbor SWIFT Project Team

From: Ryan Edison, PE, Senior Hydraulic Engineer, AECOM

Distribution: David O'Brien, NOAA Fisheries

Subject: **Sediment Impact Assessment Summary**

Date: December 8, 2021

Objective

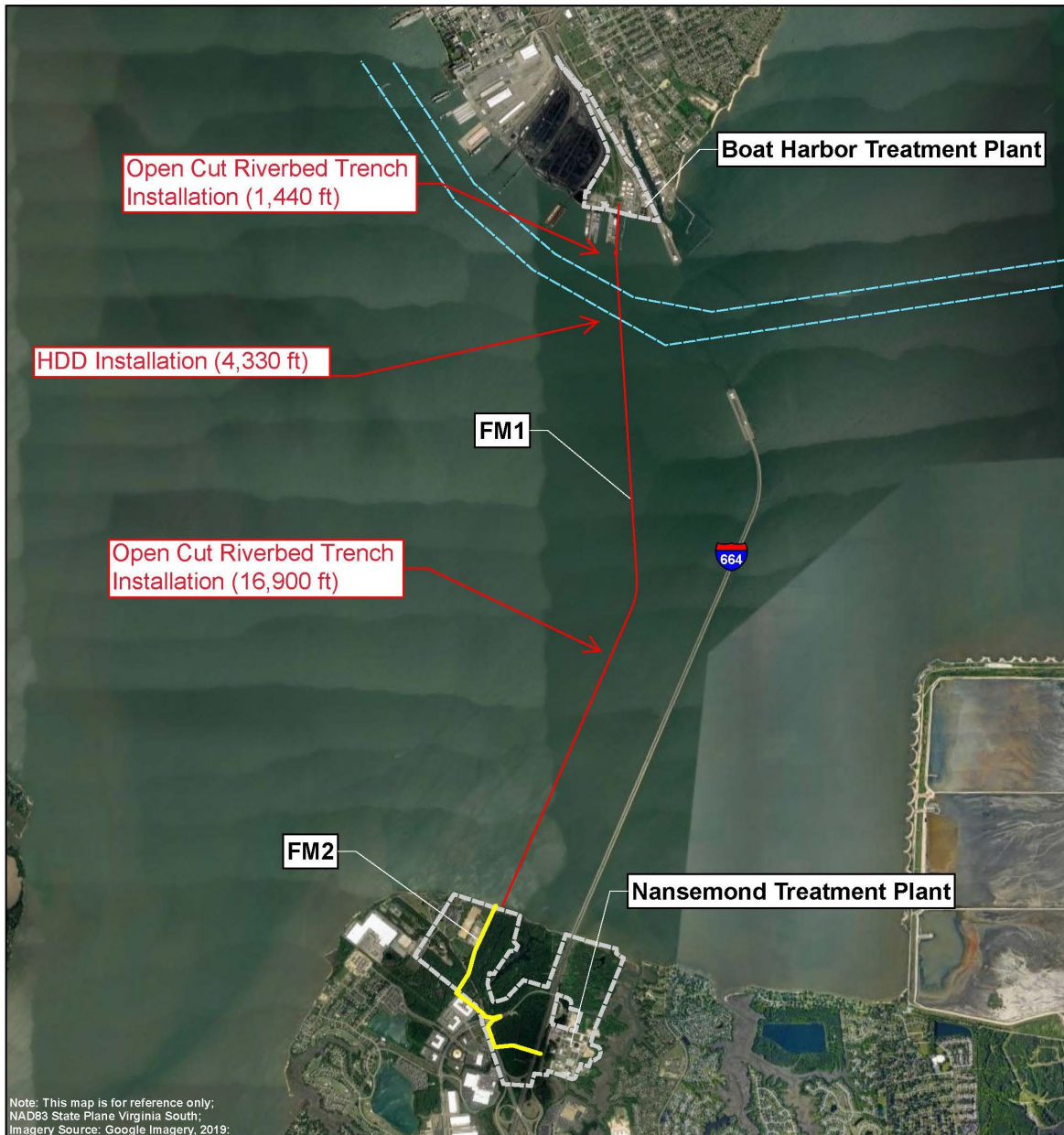
This memorandum is intended to provide additional information on the potential impacts to aquatic species and essential fish habitat from suspended sediments as a result of the proposed Hampton Roads Sanitation District (HRSD) Boat Harbor Treatment Plant Transmission Force Main project (Project) across the James River (see **Figure 1**). The Project is part of HRSD's Sustainable Water Initiative for Tomorrow (SWIFT) program.

Definitions of the proposed construction methods are presented along with an assessment of sediment impacts based on existing information and modeling studies of the James River. An assessment of the fate of sediment from dredging spoils that may be side-casted next to trenching operations is also presented.

Key Studies Identified

The three studies listed below provided information used to make a sediment impact assessment, including the general hydrodynamics (e.g., currents) of the Project site and the information needed to understand the impact of dredging in the James River.

- ERDC TR-20-21, *Hydrodynamic and Sediment Transport Modeling for James River Dredged Material Management*; prepared for the U.S. Army Corps of Engineers (USACE) (Lackey et al. 2020).
- "Development of the Hydrodynamic Model for Long-Term Simulation of Water Quality Processes of the Tidal James River, Virginia," *Journal of Marine Science and Engineering* 4(4):82 (Shen et al. 2016).
- *Hampton Roads Crossing Study Supplemental Environmental Impact Statement: Evaluation of Potential Impact on Surface Water Elevation, Flow, Salinity, and Bottom Shear Stress*; prepared for the Virginia Department of Transportation Environmental Division (Zhang et al. 2017).



Note: This map is for reference only;
NAD83 State Plane Virginia South;
Imagery Source: Google Imagery, 2019;



**HRSD-SWIFT Project
2021**

Boat Harbor Transmission
Force Main Section 1 and 2
City of Newport News, VA
City of Suffolk, VA

Last Date Edited: 11/1/2021

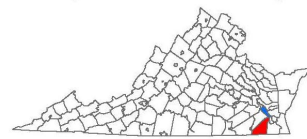


Legend

- Study Area
- Force Main Section 1 (Subaqueous)
- Force Main Section 2 (Land)
- Newport News Federal Navigation Channel



**Figure 1
Project Location Map**



- City of Newport News
- City of Suffolk

*Figure 1. Construction Segment Locations
(Project Location Map)*

James River Site Conditions

The proposed forcemain crossing is located in a portion of the James River that is hydrodynamically complex due to the presence of a salt wedge (or barocline) which influences transport. Lackey et al. (2020) found that both meteorological and astronomical tidal forcing strongly drives the dynamics in this reach of the river; as such, long-term calibrated ocean circulation models are needed to correctly define both currents and transport. Assessing James River conditions requires a well-calibrated and validated hydrodynamic model; such models require years of development and testing. Virginia Institute of Marine Science (VIMS) has studied the James River over many years and has continuously advanced well-calibrated and documented models. Two examples are Shen et al. (2016) and Zhang et al. (2017).

Overview of Construction Activities

As shown in **Figure 1**, construction is divided into three segments of riverbed trench installation or horizontal directional drilling (HDD) installation. The northern segment includes approximately 1,440 feet of open cut riverbed trench installation; the middle segment, under the federal navigational channel, includes approximately 4,330 feet of HDD installation; and the southern segment includes approximately 16,900 feet of open cut riverbed trench installation.

Table 1 summarizes the construction activities for the three segments. Notes and assumptions are listed in the table footnotes. A large dredge bucket (20 cubic yards) was used to better capture a likely accelerated construction schedule. A large bucket increases the release rate. The release rate in **Table 1** ($3 \text{ m}^3/\text{hr}$) is considered conservative in terms of suspended sediment impacts.

Table 1. Summary of Construction Activity

Segment	Zone	Construction Type	Major Equipment	Location ⁽¹⁾	Construction Duration ⁽²⁾ (in Water)	Dredging Description	Total Dredge Volume ⁽³⁾		Dredging Advance Rate ⁽²⁾ (m/hr)	Dredging Production Rate ⁽²⁾ (m ³ /hr)	Release (1%)	Release Rate (m ³ /hr)
							yd ³	m ³				
Northern	1	Open Cut	Barge-mounted clam shell (closed type), side casting of spoils followed by backfilling	Station -14+00 to 0+00 North Channel (1,400 ft length)	1–2 weeks	Mechanical dredging, trench, closed clamshell, average dimensions of trench: 16 ft deep, 12 ft wide	10,000	8,000	20	11	25%	3
Middle	2	HDD	N/A ⁽⁴⁾	Station 0+00 to 43+28	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾
Southern	3	Open Cut	Barge-mounted clam shell (closed type), side casting of spoils followed by backfilling	Station 43+28 to 172+00 South Channel (~12,900 ft length)	1–2 months	Mechanical dredging, trench, closed clamshell, average dimensions of trench: 16 ft deep, 12 ft wide	92,000	80,000	20	11	25%	3
	4	Cofferdam or Open Cut	Isolate alignment using cofferdam, piles, or bladder dam (open cut within). Alternative, open cut with dredged area for barge access (worst-case scenario for sediment)	Station 172+000 to South End of FM1 Contract (~3,950 ft length)	2–3 months ⁽⁵⁾	Mechanical dredging channel for barge (100 ft), pipe trench 16 ft deep, 12 ft wide	170,000	130,000	10	11	25%	3

(1) Refer to AECOM / Hazen drawings C-101, C-102, C-103, and C-104 issued April 2021. Minor changes in lengths have occurred since the April 2021 estimates.

(2) Construction duration and dredging advance rate will depend on equipment used. The estimates are based on a 20 yd³ bucket, 20 cycles per hour, and 12-hour shifts.

(3) Conservative estimate based on average trench volume equivalent to 12 ft wide and 18 ft deep in Zones 1 and 3, and 100 ft wide barge access, 10 ft deep in Zone 4 with a deeper pipe trench 12 ft deep and 8 ft wide. Trench width may be reduced depending on method and pipe laying sequencing.

(4) HDD construction not expected to have any impact on river sediment, except at point of entry and exit, which are covered by adjacent open cut sections (Zones 1 and 3).

(5) Based on a worst-case scenario construction method regarding sediment release. However, it is expected that contractors will propose an alternate means of construction (i.e., cofferdam area isolation), which may be completed within a shorter period; however, the alternate means will not be confirmed until after project award.

N/A = Not Applicable

Dredged Sediment Characteristics

Although the results of geotechnical borings are pending, sediment data from Lackey et al. (2020) provide insight into the sediment that is likely to be found along the alignment. Lackey et al. (2020) performed a detailed hydrodynamic and sediment transport modeling assessment of James River dredged material management. The area of proposed dredging was the Dancing Point-Swann Point reach of the James River, which is approximately 30 miles upstream of the Project. The modeling showed that the “transport of dredged sediment in the James River is dominated by cohesive transport processes ... [and that] cohesive sediments are generally a mixture of sand, silt, and clay-sized particles” (Lackey et al. 2020, p. 23). Grain size distribution results based on site samples (see **Table 2**) are associated with a solids concentration of approximately 103 g/L.

Table 2. Grain Size Distribution

	Method 1	Method 2
Particle soil type		
Sand	10.99%	1.56%
Course silt	33.15%	29.28%
Fine silt	42.59%	42.62%
Clay	13.27%	26.54%
Particle size		
D10 ⁽¹⁾	3.4 μm	1.2 μm
D35 ⁽¹⁾	8.4 μm	4.6 μm
D50 ⁽¹⁾	13.3 μm	8.0 μm
D90 ⁽¹⁾	68.1 μm	38.5 μm

Source: Lackey et al. (2020), Table 3-1

(1) Diameter of which x percentage of the particles are smaller

Lackey et al. (2020) states that adjusting the grain size distribution to account for aggregation of fine particles was warranted to develop the characteristics of source dredge material susceptible to transport. The adjustments are shown in Table 3.

Table 3. Adjusted Grain Size Distribution

Particle Soil Type	Method 1	Method 2	Method 2, Adjusted ⁽¹⁾
Sand	10.99%	1.56%	1.56%
Course silt	33.15%	29.28%	93.60%
Fine silt	42.59%	42.62%	2.98%
Clay	13.27%	26.54%	1.86%

Source: Lackey et al. (2020), Table 4-1

(1) Adjusted to account for particles in bed aggregates and flocs

Sediment Impact Assessment by Construction Segment

Each of the three segments listed in **Table 1** is sited within varied and unique hydrodynamic conditions in the James River. The sediment impacts of each segment are therefore evaluated separately.

Northern Segment (1,440-foot Open Cut)

The northern segment open cut trenching would extend approximately 1,440 feet into the river, perpendicular to the shoreline, as shown in **Figure 2**. In terms of exposure to currents, the northern segment lies within what appears to be a relatively sheltered area between the downstream landmass used for the Hampton Roads Beltway tunnel entrance/exit and the upstream River Port docks.

The main concern in this area is the southern end's proximity to the stronger currents associated with the navigational channel. NOAA (n.d.) shows an active current station (#cb0601) along the proposed alignment of the middle segment (HDD section). The location of the current station is shown in **Figure 3**. Along-channel currents (knots) were reported at the current station at 15, 21, and 31 feet below the surface on October 18, 2021 (see **Figure 4**). Zhang et al. (2017) used the current station to calibrate the Semi-implicit Cross-scale Hydroscience Integrated System Model (SCHISM). In March 2011, the current station recorded maximum currents of up to approximately 1 m/s (approximately 2 knots).

Current modeling output from the work presented in Zhang et al. (2017) shows that persistent average surface velocities of 0.50 m/s are predicted moving away from the protected areas near the shore in the northern segment (**Figure 5**). Zhang et al. (2017) also notes a persistent feature, referred to as the Hampton Roads Flat Eddy, which occurs on the downstream side of the Hampton Roads Beltway tunnel crossing.

Based on the above information, it seems possible that dredging activities in the last approximately 400 feet (see **Figure 2**) would be exposed to the higher navigational channel currents. Given the sustained strength of these currents and the tightness of their streamlines, little to no dispersion can be anticipated, and it is likely that the sediment impacts would reach and be entrained by the downstream Hampton Road Flats Eddy.

The current SCHISM model does not appear to include the effects of the River Port docks, but the effects of the docks are not anticipated to change the fundamental assessment that is provided above.



Figure 2. Northern Segment General Arrangement

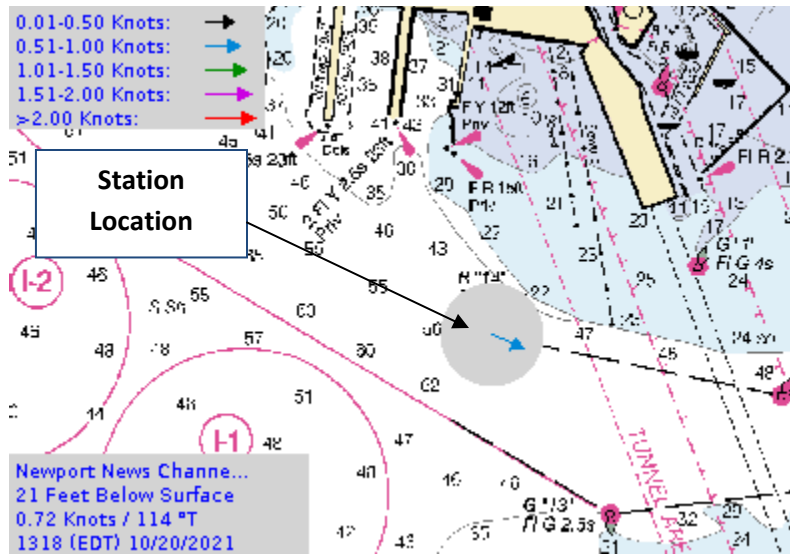


Figure 3. Location of NOAA Current Station (#cb0601)

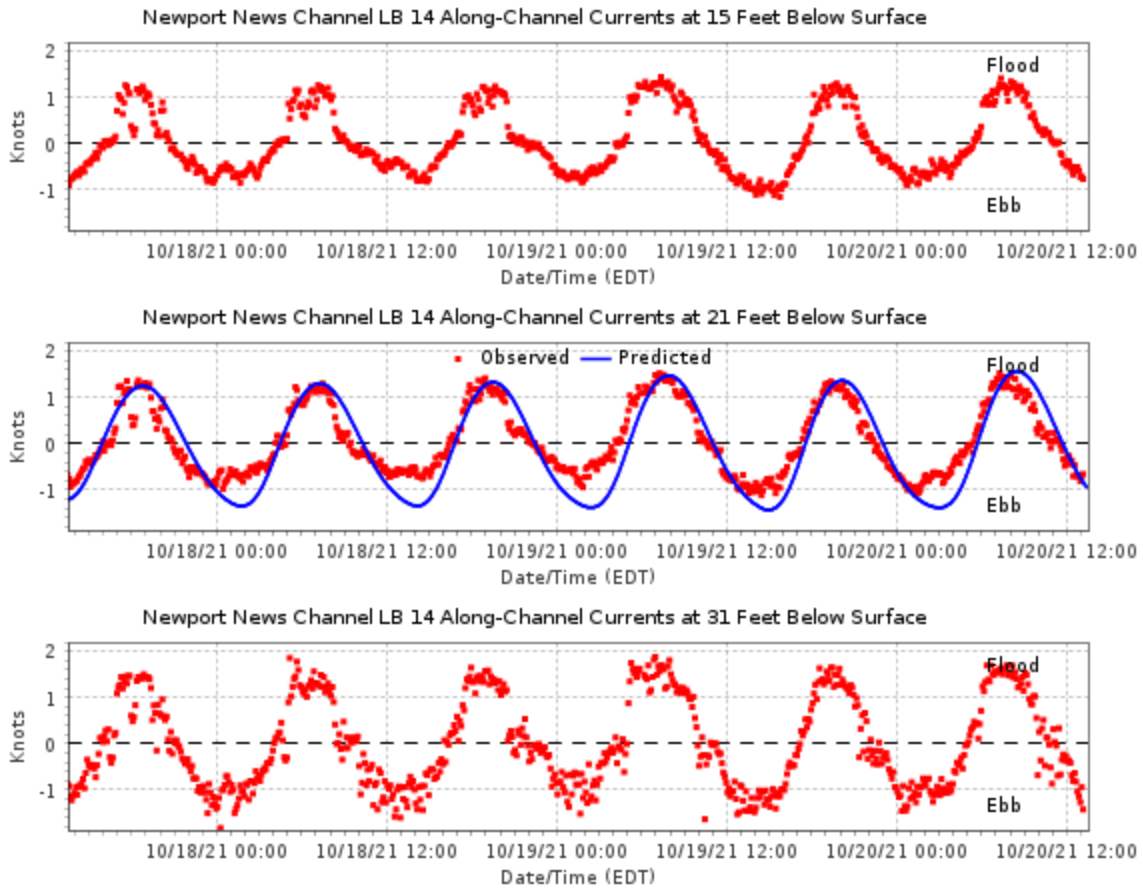


Figure 4. NOAA Current Measurements (from station #cb0601)

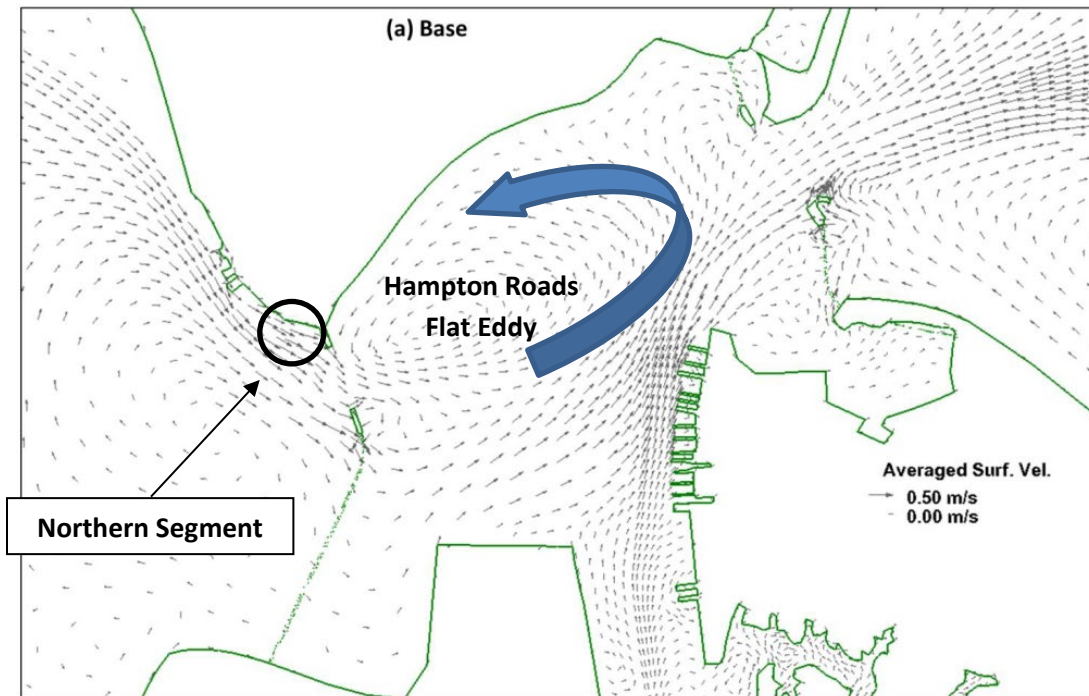


Figure 5. SCHISM Modeling Output from Zhang et al. (2017)

Middle Segment (4,330 feet HDD)

The middle segment of the Project would be a water-to-water HDD installation underneath the navigational channel and would extend for approximately 4,330 feet, roughly parallel with the Hampton Roads (I-664) tunnel (see **Figure 6**). Because HDD is being used in this area, no sediment assessment was considered. The activities associated with the launching and retrieval areas are considered part of the activities in the northern and southern segments.



Figure 6. Middle Segment General Arrangement

Southern Segment (16,900-foot Open Cut)

The southern segment open cut trenching would extend for approximately 16,900 feet from the terminus of the HDD (middle segment) to the southern shore shown (see **Figure 7**). In terms of exposure to currents, most of the trenching activities appear to be in relatively sheltered areas, as indicated by the SCHISM modeling results (see **Figure 8**) with persistent currents on the order of <0.2 m/s (0.4 knot).

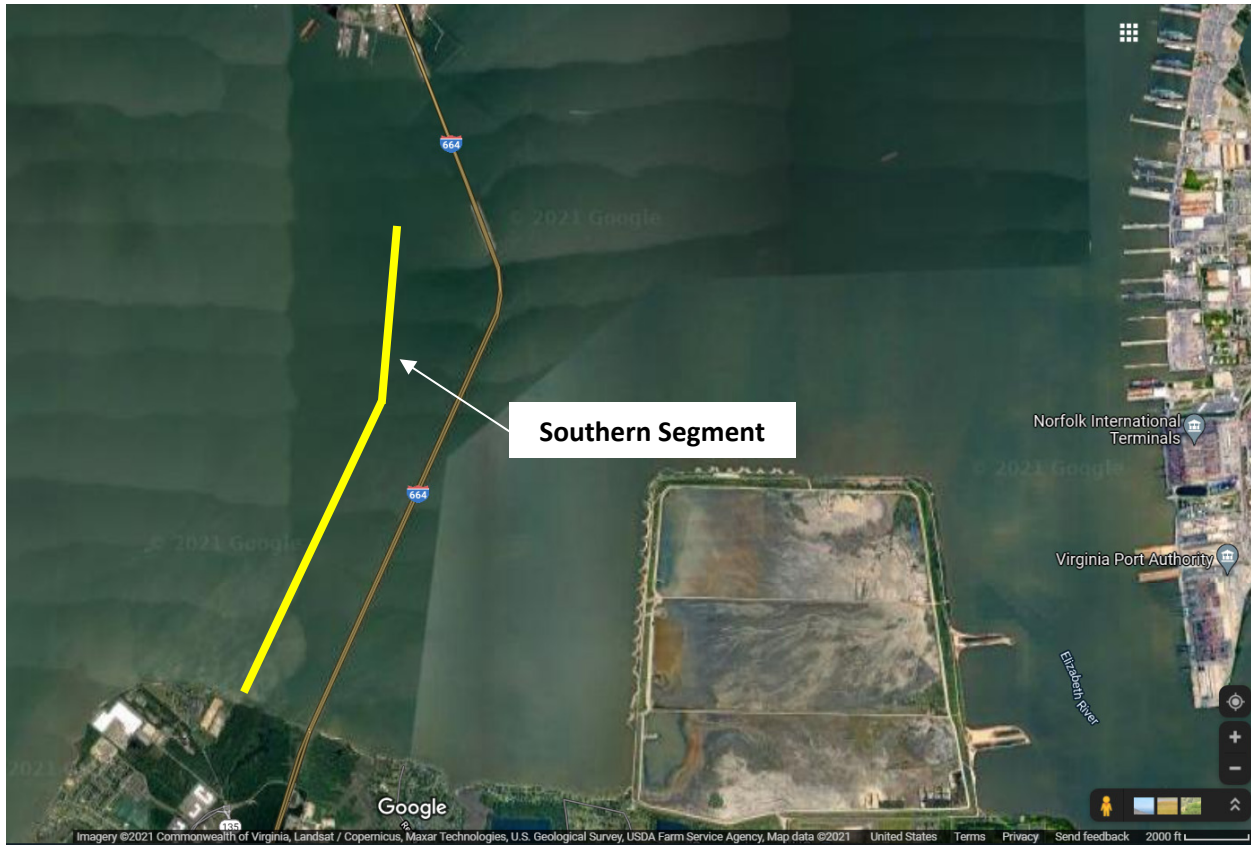


Figure 7. Southern Segment General Arrangement

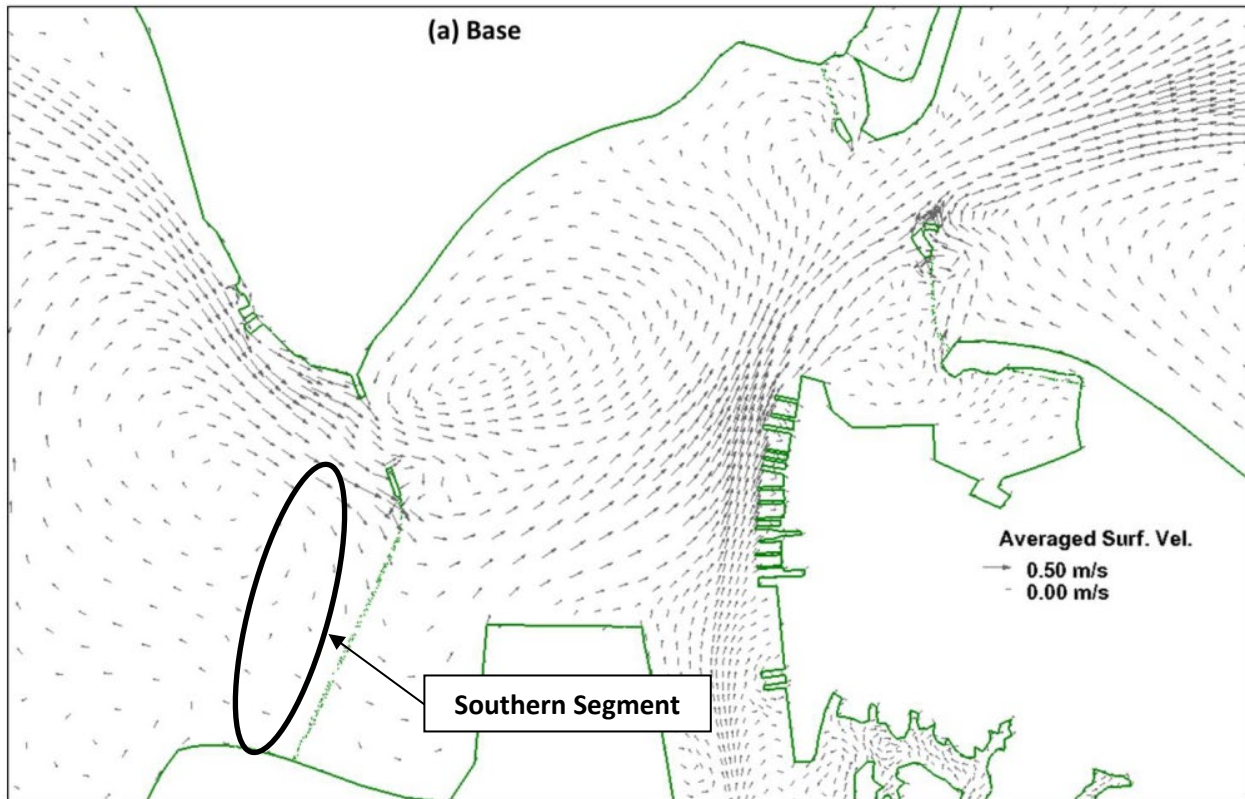


Figure 8. SCHISM Modeling Output (Zhang et al. 2017)

This area shares similar site conditions to the area of the river that was studied for dredging in Lackey et al. (2020). In the study, the Particle Tracking Model (PTM) was used to calculate the depth of deposited sediment and suspended sediment concentration (SSC) resulting from discharge of dredge material into the dredging spoils area. Results showed a maximum concentration of 100 mg/L SSC in the immediate release area. By the end of the simulated month, most of the sediment had deposited out of the water column or had been transported away. Maximum values of SSC outside the immediate release site were less than 30 mg/L, which was viewed as “relatively modest in comparison to background suspended sediment for this area, which can range from 5 mg/L to 300 mg/L, depending on the meteorological and hydrodynamic conditions” (Lackey et al. 2020, p. 63).

Figure 9 shows SSC concentrations from a dredge release at various times. It was found that 95% of the sediment deposited immediately in the placement area. The remaining transport sediment resulted in maximum depositional depths ranging from 0.2 to 0.5 cm, as shown in **Figure 10** Lackey et al. (2020).

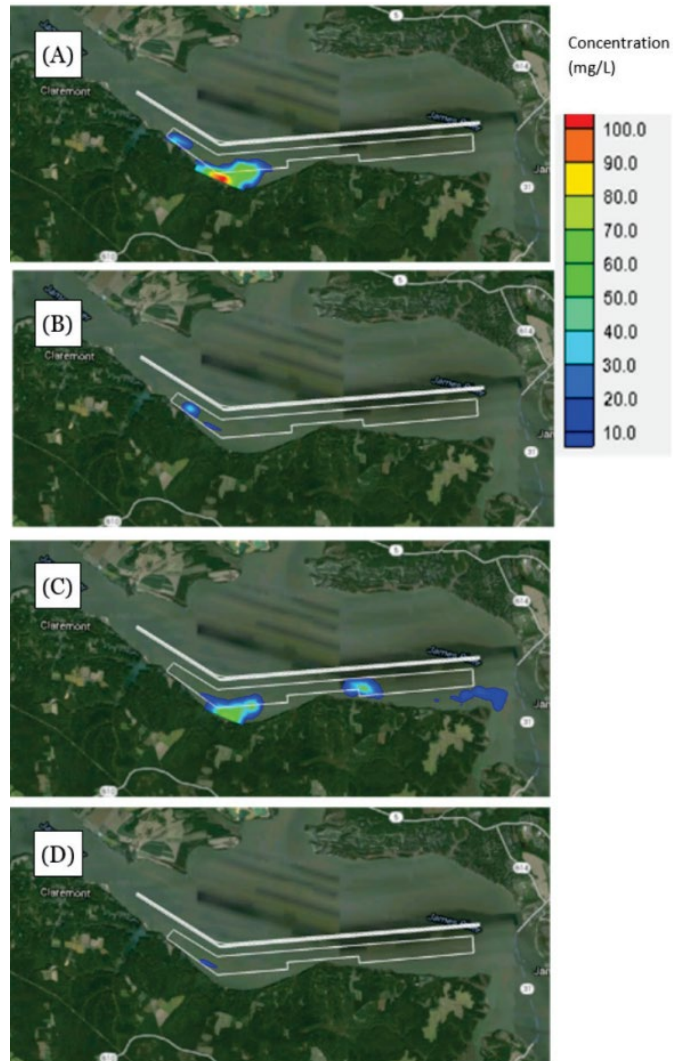


Figure 9. Suspended Sediment Concentrations
(Lackey et al. 2020, Figure 5-4)

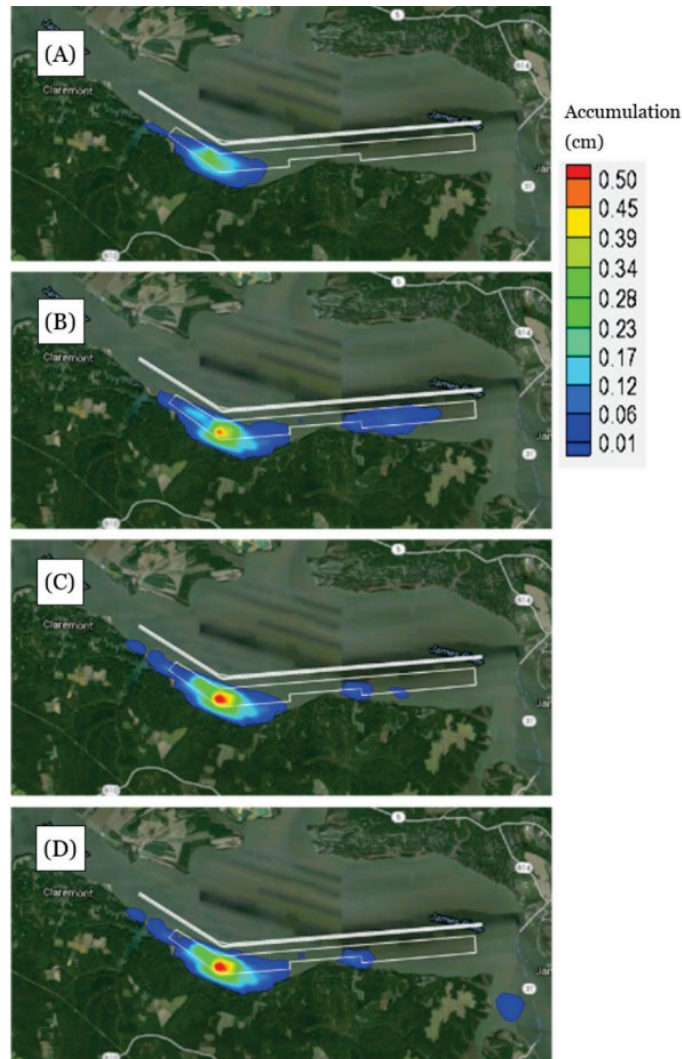


Figure 10. Sediment Depositional Depths (Lackey et al. 2020, Figure 5-7)

Similar to the northern segment, the main concern in this area is on the northern end of the segment where currents are still elevated from the navigational channel. Inspection of the SCHISM modeling results (see **Figure 8**) suggests that sediment from dredging activities would be transported downstream by elevated currents. It appears that these sediments would not be entrained into the Hampton Roads Flat Eddy because the release would be on the southern side of the navigational channel. Given this information, it seems possible that dredging activities in the first approximately 1,000 to 1,500 feet would be exposed to the higher navigational channel currents.

In addition to sediment impacts associated with direct dredging activities, dredged materials that are placed adjacent to the open cut trench are susceptible to transport through erosion and the subsequent resuspension. This process was studied in Lackey et al. (2020) by using the long-term fate of dredged material (LTFATE) model to investigate the fate of sediments and the morphology change from dredged material mounds. It was generally observed that these mounds reach a quasi-steady state, meaning that

there is a point where the deposition rate equals the erosion rate. Also, it was noted that during a spring freshet, the dredge channel starts to accrete sediment with sediment eroded from the bed upstream. These observations suggest that side-casted material during trenching will likely stay relatively stable, but its height will be limited by a quasi-steady state equilibrium. However, during spring flows, the trench will likely fill in with sediment rather quickly.

Summary

- This area of the James River is hydrodynamically complex. It can be characterized as having some near-shore sheltered areas of the north and south segments and a navigational channel with strong currents. A persistent Hampton Flats Eddy has been observed immediately downstream, which could entrain sediment into this area.
- VIMS has studied the hydrodynamics of the James River extensivity. As such, two VIMS reports were used in this sediment assessment (Zhang et al. 2017; Shen et al. 2016).
- Proposed construction activities consist of open-cut and HDD, as defined in **Table 1**.
- To assess potential sediment impacts from the anticipated construction activities, three segments were identified based on their construction type and position on the river: northern segment, middle segment, and southern segment.
- The northern and southern segments both have a risk of dredged sediments being exposed to larger currents as the extent of the sediments gets close to the navigational channel. On the northern side, sediment that is entrained by the navigational channel currents is likely to be caught in the Hampton Flats Eddy.
- Lackey et al. (2020) suggest that once outside the influence of the navigational channel currents, and in particular the southern segment, side-casted mounds will likely stay relatively stable, but their height will be limited by a quasi-steady state equilibrium. However, during spring flows, the trench will likely fill in with sediment rather quickly.
- In the areas where the open-cut trenching approaches the higher currents of the navigational channel, use of the PTM or similar models would provide information on the fate and transport of the sediment. This model could be used to design mitigation measures or potentially demonstrate that risks are below ambient SSC within the James River. Extending the length of HDD to include the trenched areas subject to higher currents is not feasible due to the installation stress limits of high-density polyethylene (HDPE) pipe. The HDD length is limited to approximately 4,500 feet when installing HDPE pipe via HDD.

References

- Lackey, T.C., Bailey, S. Gailani, J., Kim, S-C., and Schroeder, P. 2020. *Hydrodynamic and Sediment Transport Modeling for James River Dredged Material Management*. Engineer Research and Development Center (ERDC) TR-20-21. Prepared for USACE. <https://erdc-library.erdc.dren.mil/jspui/bitstream/11681/38255/1/ERDC%20TR-20-21.pdf>.
- NOAA (National Oceanic and Atmospheric Administration). n.d. "Tides & Currents." <https://tidesandcurrents.noaa.gov/>.
- Shen, J., Wang, Y., and Sisson, M. 2016. "Development of the Hydrodynamic Model for Long-Term Simulation of Water Quality Processes of the Tidal James River, Virginia." *Journal of Marine Science and Engineering* 4(4):82. https://www.researchgate.net/publication/310811881_Development_of_the_Hydrodynamic_Model_for_Long-Term_Simulation_of_Water_Quality_Processes_of_the_Tidal_James_River_Virginia.
- Zhang, J., Wang, H., Liu, Z., Sisson, M., and Shen, J. 2017. *Hampton Roads Crossing Study Supplemental Environmental Impact Statement: Evaluation of Potential Impact on Surface Water Elevation, Flow, Salinity, and Bottom Shear Stress*. Prepared for the Virginia Department of Transportation Environmental Division. https://www.hrbtexpansion.org/documents/2017/hydrodynamic-technical-report/hydrodynamic_tech_report.pdf.



COMMONWEALTH of VIRGINIA

Marine Resources Commission
380 Fenwick Road
Building 96
Fort Monroe, VA 23651

Ann F. Jennings
Secretary of Natural and Historic
Resources

Steven G. Bowman
Commissioner

January 6, 2022

Hampton Roads Sanitation District
c/o AECOM
Attn: Mr. David Steele
440 Monticello Avenue, Suite 1500
Norfolk, VA 23510
David.Steele1@aecom.com

Re: VMRC #21-2356

Dear Sir or Madam:

We received your application to construct a wastewater transfer pipeline across the James River from the City of Newport News to HRSD Nansemond Treatment Plant in the City of Suffolk. The proposal is part of the Sustainable Water Initiative for Tomorrow (SWIFT) project.

A review of your application reveals that additional information and/or drawings will be necessary to enable the regulatory agencies to thoroughly evaluate your project. Please provide the following information:

1. The application mentions both side casting and backfilling and letting the river currents naturally re-bury in the riverbed trenching segment. Which will occur and how will that determination be made? What areas (LF) will actually be backfilled? VMRC staff has not historically supported side casting of trenched material. Staff would encourage the consideration of barging the trenched material as was previously agreed to and required of HRSD for the York River Outfall Project.
2. Written consent of both oyster leaseholders that the project construction is permissible within their leases.
 - a. Lease #21997- Lake Packing Co. Inc & Bevans Oyster Co., 755 Lake Landing Rd, Lottsburg, VA 22511, (804) 529-5981
 - b. Lease #21559- Julie Ann Seafood Co., PO Box 113, Gloucester Point, VA 23602, (804) 642-4360

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www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD

3. Details and location of the collection, transport and disposal of material that is generated from HDD portion of the project. Disposal of HDD material and sidecasting backfill need to be added to the construction operations plan.
4. Details on the proposed sediment curtains and a cross sectional drawing. Graphic showing where the sediment curtains will be placed.
5. Details on the proposed concrete anchors used for ballasting. Will these remain on the bottom or are they only used for sinking the pipe?
6. A typical/schematic of the proposed concrete anchors.
7. Data from geotechnical borings conducted for JPA #21-0289 showing fossil shell deposits. Providing this data to VMRC was a condition of the issued permit.

Please include all items required for drawings associated with a JPA, as described in Appendix D of the Standard JPA. Appendix D also shows example drawings for each type of project that may be helpful to you.

Once this information is provided and found to be complete, we will resume processing the application request. If I may be of further assistance, please do not hesitate to contact me at (757) 247-2250 or lauren.pudvah@mrc.virginia.gov.

Sincerely,



Lauren Pudvah
Environmental Engineer

LP/lra
HM

cc: U.S. Army Corps of Engineers
Department of Environmental Quality #6
City of Newport News Wetlands Board
City of Suffolk Wetlands Board
Applicant

Appendix G: SHPO Correspondence



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

April 27, 2021

Julie V. Langan
State Historic Preservation Officer
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

RE: Initiation of Section 106 Consultation -- Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Ms. Langan:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 Code of Regulations [CFR] Part 800) "Protection of Historic Properties" (Section 106), the Environmental Protection Agency (EPA) is initiating the Section 106 consultation process and seeks concurrence from the Virginia Department of Historic Resources (DHR) for the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HRSD to submit an application for credit assistance for the Project.

The purpose of this letter is to inform your office about the proposed project and to request your concurrence with our determinations regarding potential effects on federally listed threatened and endangered species under USFWS jurisdiction in the proposed project area.

Background

The HRSD is a municipal wastewater treatment service, founded in 1940 as a political subdivision of the Commonwealth of Virginia. HRSD services 18 counties and cities, serving 1.7 million people. HRSD operates nine plants in the Hampton Roads/Virginia Beach region and four smaller plants located in the Middle Peninsula with the capacity to treat 249 million gallons per day (MGD) of wastewater.

HRSD intends to start a multi-phase effort to improve the water quality of the Chesapeake Bay under its SWIFT program initiative. The SWIFT program will add advanced water treatment processes, thereby producing highly treated water meeting drinking water standards. The SWIFT project is needed to aid in recharging the Potomac Aquifer by adding 100 MGD of SWIFT water. The goal of the SWIFT program is to:

- provide a sustainable source of groundwater to the Potomac Aquifer;
- increase the hydrostatic pressure within the aquifer to prevent saltwater contamination;
- slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and
- reduce future capital investment needs in wastewater treatment plant upgrades.

The SWIFT projects include design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells.

Description of the Undertaking

The purpose of HRSD's SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells.

Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project (also referred to as the Boat Harbor Project) components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat

Harbor TP, construction of a new 32-million gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansemond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components (also referred as the Nansemond Project) involve the preliminary engineering necessary to begin design and construction of improvements to Nansemond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansemond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansemond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Area of Potential Effects

The area of potential effects (APE), as defined in 36 CFR Part 800.16(d), is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.”

The APE consists of the area where the proposed undertaking has the potential to cause effects on historic properties, and has been delineated to reflect the nature, scale, and location of the Project.

The above-ground APE for the Nansemond project consists of the treatment plant and the area immediately surrounding the proposed Project work and staging area. The above-ground APE is depicted in Attachment 2b -Area of Potential Effects Maps.

The Nansemond APE for archaeological resources, also shown in Attachment 2a, was developed for areas where subsurface ground disturbance associated with the Project would occur.

The above-ground APE for the Boat Harbor project is depicted in Attachments 2c and 2d (Above-Ground Area of Potential Effects Maps)

The Boat Harbor APE for archaeological resources is the Project Limits of Disturbance in which the proposed undertaking could have the potential to cause effects on archaeological historic properties. The terrestrial archaeological APE is depicted in Attachment 2e and the marine archaeological APE is depicted in Attachment 2f. At present, the marine archaeological APE consists of two corridors, the proposed alignment, and an alternative alignment.

Identification of Historic Properties

To identify above-ground historic properties in the APE, HRSD’s consultants, who exceed the Secretary of the Interior’s Professional Qualification Standards, conducted a review of available information, including data provided by HRSD, National Register of Historic Places (NRHP) listings, and historic maps and images (e.g., Sanborn fire insurance maps, historic aerial photographs, historic topographic quadrangles, plat maps). They also conducted online research of various agencies, historical societies, and other sources. The records search included review of the site-specific records from geotechnical borings, county soil surveys, and the Virginia DHR online database, Virginia Cultural Resources Information System (V-CRIS) and other sources, and a Phase I marine archaeological remote sensing survey.

Above-Ground Historic Properties

The records search identified two (2) previously recorded architectural resources within the Nansemond APE: Nansemond Ordnance Depot Historic District (DHR ID: 133-5038), determined not NRHP-eligible by DHR; and Battle of Hampton Roads (DHR ID: 114-5471), determined potentially NRHP-eligible by DHR. Field surveys in October 2020 confirmed there are no other resources 50 years or older

within the APE. The Nansemond Plant was constructed in 1983 (confirmed through a records search and field verification), is less than 50 years old, and is not eligible for listing in the NRHP.

1. Nansemond Ordnance Depot Historic District (DHR ID: 133-5038)

Not NRHP eligible

The Nansemond Ordnance Depot Historic District, also known as Pig Point Ordnance Depot and Tidewater Community College Historic District, is the site of the former Nansemond Ordnance Depot (originally designated the Pig Point Ordnance Depot), an Army ammunition base acquired in 1917. A 2016 architectural survey identified five (5) remaining buildings as the only extant above-ground resources associated with this property; all of which are located well outside the Project APE. DHR determined the site not eligible in 2016.

2. Battle of Hampton Roads/Battle of the Ironclads (DHR ID: 114-5471)

Potentially NRHP Eligible

The Battle of Hampton Roads, also known as the Battle of the Ironclads, is the site of a Civil War naval battle fought in 1862 between the USS Monitor and the CSS Virginia (formerly USS Merrimack). A 2009 American Battlefield Protection Program I survey identified Forts Monroe and Wool as the only extant above-ground resources associated with this event; both forts are located well outside the Project APE. DHR determined the site potentially eligible in 2007.

The V-CRIS records search identified three previously recorded above-ground resources within the Boat Harbor Project APE: Battle of Hampton Roads/Battle of the Ironclads (DHR ID# 114-5471), Jefferson Avenue Commercial Historic District (DHR ID# 121-0038), and Pier 15 (DHR ID# 121-0084). These historic locations are depicted on Area of Potential Effects Maps in Attachment 2c and 2d.

1. Battle of Hampton Roads/Battle of the Ironclads (DHR ID# 114-5471)

Potentially NRHP Eligible

The Battle of Hampton Roads, also known as the Battle of the Ironclads, is the site of a Civil War naval battle fought March 8 and 9, 1862, between the USS Monitor and the CSS Virginia (formerly USS Merrimack) (Attachments 2c and 2d). A 2009 American Battlefield Protection Program survey identified Forts Monroe and Wool as the only extant above-ground resources associated with this event; both forts are located well outside the Project APE. DHR determined the site potentially eligible in 2007.

2. Jefferson Avenue Commercial Historic District (DHR ID #121-0038)

Not NRHP Eligible

The Jefferson Avenue Commercial Historic District is an area of approximately 56 residential, commercial, and industrial buildings located along I-664, with most buildings constructed in a

variety of architectural styles on level lots close to Jefferson Avenue (Attachments 2c and 2d). The district was surveyed in 1999, and again in 2016, with both surveys recommending the district not eligible for the NRHP due to lack of significance under Criteria A, B, and C. In 2016, DHR determined the Jefferson Avenue Commercial Historic District not eligible for the NRHP. The district has not been studied for significance under Criterion D.

3. Pier 15 (DHR ID# 121-0084)
Recommended Not NRHP Eligible
(Photograph 1)

Pier 15 is located on the southern tip of Newport News at the mouth of the James River (Attachments 2c and 2c). The resource consists of an early twentieth century steel-truss coal pier, a mid-century pier, and a gable-roofed building of unknown date. A 1990 survey identified Pier 15 and nine additional secondary resources. A 2016 survey identified only Pier 15 as extant, with the other secondary resources demolished; the 2016 survey recommended Pier 15 not eligible for the NRHP due to lack of integrity. The V-CRIS record does not indicate whether DHR concurred with this recommendation. Pier 15 has not been studied for significance under Criterion D.



Photograph 1: Pier 15, Looking West (AECOM 2020).

As a result of archival research and on-site fieldwork conducted on October 20, 2020, HRSD identified two previously unrecorded resources in the Project APE: Boat Harbor Treatment Plant (DHR ID# 121-5464) shown on Attachment 5 and Semmaterials Energy Company Plant (DHR ID# 121-5465).

1. Boat Harbor Treatment Plant (DHR ID# 121-5464)
Recommended Not NRHP Eligible
(Photographs 2-5)

The BHTP is located on a 5-acre site and is located at the confluence of the James River and the Newport News Creek (Attachments 2c and 2d). To the north is a storage facility and to the east is I-664, also known locally as Hampton Roads Beltway. To the south is the James River and to the west is a marina and energy (gas) company. The BHTP was constructed in two building campaigns, the first in 1948 and the second in 1978 (Attachment 6 – BHTP Facilities Map with Surveyed Resources). The 1978 building campaign demolished all but two of the original 1948 buildings and built 26 new buildings and structures. The two 1948 resources remaining include the one-story, masonry BHTP Administration Building (Photograph 2) and an abandoned concrete holding tank (Photograph 3). A communications tower was added in 2015.

The two BHTP buildings remaining from the 1948 building campaign were evaluated for NRHP eligibility both on an individual basis and as part of a potential BHTP historic district. Neither building is individually significant for its association with an event or person under NRHP Criteria A and B, nor is either significant for its architecture or craftsmanship under Criterion C. With the exception of the two 1948 buildings, the BHTP was built in 1978 and is less than 50 years old. Photographs 4 and 5 show aeration tanks and the Jefferson Avenue Pump Station, respectively. The demolition of all but two original 1948 buildings and construction of 26 additional buildings at the BHTP diminishes the integrity of setting, association, materials, workmanship, design, and feeling of the original 1948 complex. The BHTP plant is recommended not eligible for the NRHP as a historic district. The BHTP plant was not evaluated for significance under Criterion D.



Photograph 2: North and West Elevations of the 1948 Administration Building (AECOM 2020).



Photograph 3: Abandoned 1948 Holding Tank and Elevated I-664 in Background, Looking East (AECOM 2020).



Photograph 4: 1978 Aeration Tanks #1 and #2, Looking Southeast (AECOM 2020).



Photograph 5: Jefferson Avenue Pump Station, Looking Southwest (AECOM 2020).

2. Semmaterials Energy Company, LLC (DHR ID# 121-5465)
Recommended Not NRHP Eligible
(Photograph 6)

The Semmaterials Energy Company plant is located on a 13.4-acre property between Pier 15 to the west and the BHTP to the east (Attachments 2a and 2b). The facility was not accessible for field survey or photography, but aerial photographs indicate the plant currently consists of approximately 40 buildings and structures. According to USGS topographic maps, the site was constructed between 1952 and 1958, although it is unknown whether all these buildings are still extant. The construction dates for current plant buildings are unknown. Based on available data, the Semmaterials Energy Company plant is not associated with an event, pattern of event, or significant person and is not NRHP eligible under Criterion A or B. Although not accessible for detailed inspection or assessment of integrity, the architecture and/or craftsmanship of the Semmaterials Energy Company plant is not significant and is not NRHP eligible under Criterion C. The Semmaterials Energy Company plant has not been studied for significance under Criterion D.



Photograph 6: Semmaterials Energy Company plant, Looking West (AECOM 2020).

For additional information on the surveyed resources within the Project APE, see Attachment 7 – V-CRIS Survey Forms with Photographs.

Archaeological Historic Properties

To identify archaeological historic properties in the Nansemond APE, HRSD's consultants, who exceed the Secretary of the Interior's Professional Qualification Standards, conducted a Phase I archaeological survey pursuant to DHR's Guidelines for Conducting Historic Resources Survey in Virginia (DHR 2017). This survey covered three portions of the APE designated as Area 1, Area 2, and Area 3. The results of this survey are detailed in the Phase I Archaeological Survey of the Sustainable Water Initiative for Tomorrow Improvements to the Nansemond Treatment Plant, Tidewater Community College, and Former Nansemond Ordnance Depot, Hampton Roads Sanitation District, Suffolk, Virginia (2020) by Kelsey Johnson and Benjamin Stewart, which is provided as Attachment 4 to this letter. The portions of the APE not covered by the archaeological survey of Areas 1-3 will be subjected to archaeological survey at a later date, prior to the initiation of any ground disturbing activities, and the results of this additional survey will be described in an addendum to the report. This archaeological survey did not identify any archaeological historic properties within the APE.

Terrestrial Archaeology – Boat Harbor

The eastern edge of the terrestrial portion of the archaeological APE for the Boat Harbor Project is within the archaeological survey polygon for DHR Report No. CS-055, the *Cultural Resources Survey, Hampton Roads Crossing Study, Candidate Build Alternatives 1, 9, and 2, Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Suffolk, Virginia* by Louis Berger Group (1999) (See Attachment 3a for location of survey area). That project, however, did not include any field investigations within the BHTP terrestrial archaeological APE. No previously recorded terrestrial archaeological sites are located within, or in close proximity to, the BHTP.

The BHTP Project area is within DHR 114-5471, Battle of Hampton Roads/Battle of the Ironclads/Monitor vs. Virginia (Merrimack) (Attachment 3a). The Project area is also fully within the Study Area, mostly within the Core Area, and partially within the Potential National Register Area of the National Park Service American Battlefield Protection Program Civil War Battlefield VA008, Hampton Roads. These components represent the same resource. While the battlefield boundaries include terrestrial components, the potential for the Project area to contain evidence of the battle is considered low.

The terrestrial portion of the archaeological APE for the Boat Harbor Project is mapped by the United States Department of Agriculture Natural Resources Conservation Service as containing two soil units: Tomotley-Urban Land complex, 0-2% slopes, and Udorthents-Dumps complex (Attachment 3b). Tomotley-Urban Land complex is comprised of a mixture of Tomotley soils, which are a poorly drained soil formed in marine and fluvial sediments, while Urban land is classified as soils that may have been significantly changed by human impacts and may contain buildings or impervious surfaces. Udorthents-Dumps complex is comprised of a mixture of stockpiled overburden and waste rock, soil material cut or filled during road or building construction, or areas that have been cut or filled for disposal of waste and refuse. Both soil series are indicative of a high level of disturbance that is not conducive to the preservation of intact archaeological sites.

Historic maps and aerial photographs document the historic and modern evolution of the terrestrial portion of the archaeological APE, including the development of the port of Newport News during the late nineteenth and early twentieth centuries as well as the high degree of ground disturbance that has occurred since the mid-twentieth century. The first notable map showing historical development in the Project area is the 1893 nautical chart (Attachment 3c). As shown on this map, little development had occurred within the Project area; the focus of the port facilities at Newport News was farther upstream to the northwest. The creek that is now channelized as Boat Harbor was in a natural state and the only improvement depicted in the Project area is a single building on Newport News Point. A larger polygon depicted by a dashed line also is shown on the map within the northern and southwestern portions of the Project area, but there is no indication what the polygon represents.

The 1913 nautical chart (Attachment 3d) shows a generally north-south running road cutting through the northern portion of the Project area that led to a collection of buildings and road spurs just west of the Project area, one of which is depicted within the southwestern corner of the Project area. The 1913 nautical chart also shows a road running northwest from two buildings at the tip of Newport News Point towards the main port facilities at Newport News.

By 1931, the creek along the eastern edge of the Project area had been channelized and turned into Small Boat Harbor (Attachment 3e). Two piers and an inland dock had been built at the southern end of the Project area as well as a jetty protecting the mouth of Small Boat Harbor. Multiple rail lines spurred from the main rail yard west of the Project area into the Project Area to serve the piers and dock. Several new buildings are also depicted in the 1931 nautical chart, in addition to buildings at the southwestern edge of the Project area that were originally shown on the 1913 nautical chart, though numerous new cross streets had been built. Although not of a high resolution, a 1937 aerial photograph of this area (Attachment 3f) appears to depict the same built environment as the 1931 nautical chart.

The 1952 Newport News United States Geographical Survey (USGS) quadrangle (Attachment 3g) shows several changes within the Project area since 1937. By 1952, a series of rail lines had replaced the road and buildings shown on earlier maps west of the Project area and a new pier was added; only a single building is depicted at the landward side of this new pier. Along the west side of Small Boat Harbor, the road and rail lines were extended to the two piers, new buildings were built at the south side of the Project area, and a road was built to run along the shoreline towards the main port facilities and to the main rail lines west of the Project area. A single tank is also depicted on the in the southwest corner of the proposed Project area. The map also shows a shipwreck (circled in RED) that corresponds to Target 1, documented as part of a Phase I marine archaeological remote sensing survey discussed below.

A 1959 aerial photograph shows a notable change in the built environment within the Project area as compared the 1952 USGS quadrangle, and more clearly identifies buildings within the Project area (Attachment 3h). The map also shows a shipwreck (circled in RED) that corresponds to Target 1, documented as part of a Phase I marine archaeological remote sensing survey discussed below. Additional rail lines had been built, as well as a large collection of storage tanks and a new pier. Numerous buildings are shown at the southern end of the Project area that appear to represent warehouses. The photograph also reveals that none of the buildings along the west side of Small Boat Harbor were within the Project area. But the most notable change is that the southwest corner of the

Project area, which was originally water, is now a built land area between the two westernmost piers. This additional pier and build land area are also depicted in the 1966 nautical chart, which also appears to show that the rail line leading to the western pier had been removed by this time (Attachment 3i). The 1966 nautical chart also shows a shipwreck (circled in RED) that corresponds to Target 1, documented as part of a Phase I marine archaeological remote sensing survey discussed below.

As shown on the 1994 Newport News South quadrangle (Attachment 3j) and the 1994 aerial photograph (Attachment 3k), all of the rail lines that once led to the two piers had been removed by this time; the area is now crossed by a variety of dirt and gravel roads. The extant BHTP has been built, labeled as Sewage Disposal on the quadrangle map, and the tank farm depicted on aerials and maps since 1959 is also still extant. The Project area is still very similar in form and function today as it was in 1994.

Based on this information, the terrestrial portion of the archaeological APE is interpreted as having a low potential to contain significant, intact archaeological sites due to a wide variety of twentieth century disturbances, and it is recommended that there will be No Effect to terrestrial archaeological historic properties by the undertaking.

Marine Archaeology for the Boat Harbor Project

In 2020, AECOM conducted a Phase I marine archaeological remote sensing survey of two corridors proposed for the 36-inch diameter transmission force main beneath the James River to convey flow from the new pump station to HRSD's Nansemond Treatment Plant. The report for this survey is included as Attachment 5: *Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 5700), Hampton and Norfolk, Virginia* (2020) by Chris Cartellone, J.B. Pelletier, and Pete Regan.

The survey identified 757 magnetic and 88 acoustic contacts grouped in 94 spatially modelled targets. One of these targets, Target 1, consists of two shipwrecks located near the northern terminus of the route, along the west side of the Monitor-Merrimac Bridge-Tunnel. These two shipwrecks are recommended as potentially eligible for listing in the NRHP. Information regarding engineering and construction techniques for the marine portion of the undertaking is currently being reviewed to ascertain if adverse effects to Target 1 can be avoided or minimized.

Due to engineering changes of the transmission force main alignment since the 2020 survey, the marine archaeological APE shifted and now includes the new proposed alignment and an alternative alignment; portions of both alignments intersect the original marine APE. A Phase I marine archaeological remote sensing survey of the revised alignments was conducted in January 2021. The January 2021 survey produced 322 magnetic and 62 acoustic contacts that resulted in clusters of 58 spatially modelled targets. The targets were all associated with isolated debris, channel markers, shoreline armoring, or hardware from submerged maritime infrastructure. No other potentially significant submerged cultural resources were identified within the marine APE. The addendum report is included as part of Attachment 5.

Assessment of Effects and Request for Section 106 Concurrence

In accordance with 36 CFR 800.4(d)(1), the EPA has determined that there are no historic properties present in the terrestrial archaeological APE and the above-ground APE for the Boat Harbor Project. Additional study is needed to fully determine if historic properties are located within the marine archaeological APE, and if so, whether the project can be designed to avoid or minimize any potential effects; this will be further addressed in the forthcoming addendum to the marine archaeological survey report.

Additionally, the EPA has determined that there are historic properties present (the potentially NRHP-eligible Battle of Hampton Roads), but that the undertaking will have no effect upon them, as the proposed Project construction would occur outside the footprint of the forts, would not be visible from the forts, and would not otherwise impact the integrity of the forts.

The EPA seeks the concurrence of your office with the definition of the Nansemond and Boat Harbor Projects APE for archaeological and above-ground resources, the findings of the assessment of the low archaeological potential of the terrestrial portion of the archaeological APE for the Boat Harbor Project, the findings of the Phase I marine archaeological remote sensing survey report, and the NRHP eligibility determinations for Pier 15, the BHTP, and the Semmaterials Energy Company Plant within the Boat Harbor APE. The EPA further seeks concurrence with the finding of no historic properties affected within the terrestrial archaeological APE and the above-ground APE for the Boat Harbor Project, and the finding of no effect to historic properties for the Nansemond Project, pursuant to 36 CFR §800.11(d). In the event your office disagrees, please notify us within 30 days.

If you have any questions or require additional information regarding this undertaking, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

- Attachment 1 – Project Location Map
- Attachment 2 – Area of Potential Effects Maps
- Attachment 3 – Terrestrial Archaeological Assessment Figures
- Attachment 4 – Nansemond Phase I Archaeological Survey Report

Attachment 5 – Phase I Marine Archaeological Remote Sensing Report and Addendum Report

Attachment 6 – BHTP Facilities Map with Surveyed Resources

Attachment 7 – V-CRIS Survey Forms with Photographs

cc: Mr. Erin Girardi, PMP - HRSD Capital Program Manager



COMMONWEALTH of VIRGINIA

Matthew Strickler
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

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May 28, 2021

Alaina McCurdy
Environmental Protection Agency
1200 Pennsylvania AVE, NW
Washington, DC 20460

Re: Boat Harbor and Nansemond SWIFT Facilities Project
Suffolk and Newport News Virginia
DHR Project No. 2021-3743

Dear Ms. McCurdy:

We have received for review three reports, *Phase I Archaeological Investigation for the Sustainable Water Initiative for Tomorrow Improvements to the Nansemond Treatment Plant, Tidewater Community College, and Former Nansemond Ordnance Depot, Hampton Roads Sanitation District* (Report 1) and *Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 2), and *Report addendum :Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 3) prepared by AECOM, on behalf of the Hampton Roads Sanitation District (HRSD) in support of the SWIFT program, funded in part by a loan financed the U.S. Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program.

The undertaking consists of improvements to the existing Nansemond Treatment Plant, acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP and installation of a new 36-inch transmission force main beneath the James River. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore

Archaeology

Report 1 documents an archaeological survey of the proposed undertaking's terrestrial footprint. Three archaeological sites had been previously identified within the project area. These include: 44SK0377, a scatter of prehistoric flakes and fire-cracked rock; 44SK0378, a scatter including prehistoric flakes and firecracked rock

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as well as historic glass fragments; and 44SK0379, a scatter of prehistoric flakes and fire-cracked rock. During the course of the survey, 44SK0379, was re-identified and four (4) new archaeological sites (44SK0633-44SK0636 *inclusive*) were identified. No evidence of the previously recorded sites 44SK0377 or 44SK0378 were identified during this study. AECOM recommends **44SK0379** and **44SK0633-44SK0636 (inclusive)** as *not eligible* for listing in the National Register of Historic Places. *DHR concurs with these recommendations.*

Please note that hard copy of this report lists the new sites as “44SKXXXX” in several places throughout the report. **Please send a revised hard copy with the correct site numbers.**

Report 2 documents an underwater cultural resources survey along three potential project routes (East, West, and Tanner Point), totaling 1,084 acres. The survey results produced 757 magnetic and 88 acoustic contacts that resulted in clusters of 94 targets. One of these targets is two shipwrecks adjacent to one another in the northern terminus of the West route (Target 1). These wrecks were recommended as *potentially eligible* for inclusion in the National Register of Historic Places (NRHP). AECOM recommends avoidance of Target 1. If avoidance is not possible, additional investigations may be necessary.

According to Report 2, the 93 remaining targets were all associated with isolated debris, channel markers, shoreline armoring, or hardware from submerged maritime infrastructure. No additional investigations were recommended for these targets and anomalies.

In order for DHR to provide comments regarding the eligibility of Target 1, the wrecks should be recorded as an archaeological site and be given a site number. **Please complete an archaeological VCRIS form for the wrecks and submit a revised report (digital and hard copy) with the appropriate site number.**

Report 3 documents an additional underwater cultural resources survey along two proposed alternative routes, totally approximately 765.84 acres. The survey results produced 322 magnetic and 62 acoustic contacts that were aggregated into 58 targets. The targets and anomalies were determined to be modern shoreline structures, engineering features, fishing gear, and/or modern trash. No additional investigations were recommended for these targets and anomalies. *DHR concurs with these recommendations.*

Please note that it appears the addendum report was not uploaded through the ePIX system. **Please submit a digital copy of the addendum report.**

Architecture

The architecture portion of the project will be addressed in a follow-up letter.

We look forward to receiving the revised reports and continuing our review. If you have any questions regarding these comments, please contact me at 804-482-8091 or via email, jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,



Jenny Bellville-Marrion, Project Review Archaeologist
Review and Compliance Division

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COMMONWEALTH of VIRGINIA

Matthew Strickler
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July 9, 2021

Scott Seibel
AECOM
12420 Milestone Center Drive, Suite 150
Germantown, Maryland 20876

Re: Boat Harbor and Nansemond SWIFT Facilities Project
Suffolk and Newport News Virginia
DHR Project No. 2021-3743

Dear Mr. Seibel:

We have received for review three revised reports, *Phase I Archaeological Investigation for the Sustainable Water Initiative for Tomorrow Improvements to the Nansemond Treatment Plant, Tidewater Community College, and Former Nansemond Ordnance Depot, Hampton Roads Sanitation District* (Report 1) and *Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 2), and *Report addendum :Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 3) prepared by AECOM, on behalf of the Hampton Roads Sanitation District (HRSD) in support of the SWIFT program, funded in part by a loan financed the U.S. Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program.

The undertaking consists of improvements to the existing Nansemond Treatment Plant, acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP and installation of a new 36-inch transmission force main beneath the James River. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft. (3.2 miles) of riverbed trenching to the river's south shore

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Archaeology

Report 1 documents an archaeological survey of the proposed undertaking's terrestrial footprint. Three archaeological sites had been previously identified within the project area. These include: 44SK0377, a scatter of prehistoric flakes and fire-cracked rock; 44SK0378, a scatter including prehistoric flakes and firecracked rock as well as historic glass fragments; and 44SK0379, a scatter of prehistoric flakes and fire-cracked rock. During the course of the survey, 44SK0379, was re-identified and four (4) new archaeological sites (44SK0633-44SK0636 *inclusive*) were identified. No evidence of the previously recorded sites 44SK0377 or 44SK0378 were identified during this study. AECOM recommends **44SK0379** and **44SK0633-44SK0636 (inclusive)** as *not eligible* for listing in the National Register of Historic Places. *DHR concurs with these recommendations.*

Thank you for addressing our previous comments in the revised report.

Report 2 documents an underwater cultural resources survey along three potential project routes (East, West, and Tanner Point), totaling 1,084 acres. The survey results produced 757 magnetic and 88 acoustic contacts that resulted in clusters of 94 targets. One of these targets is two shipwrecks adjacent to one another in the northern terminus of the West route (44NN0368). Site **44NN0368** was recommended as *potentially eligible* for inclusion in the National Register of Historic Places (NRHP). AECOM recommends avoidance of 44NN0368. If avoidance is not possible, additional investigations may be necessary. *DHR concurs with these recommendations.*

According to Report 2, the 93 remaining targets were all associated with isolated debris, channel markers, shoreline armoring, or hardware from submerged maritime infrastructure. No additional investigations were recommended for these targets and anomalies. *DHR concurs with these recommendations.*

Thank you for addressing our previous comments in the revised report.

Report 3 documents an additional underwater cultural resources survey along two proposed alternative routes, totally approximately 765.84 acres. The survey results produced 322 magnetic and 62 acoustic contacts that were aggregated into 58 targets. The targets and anomalies were determined to be modern shoreline structures, engineering features, fishing gear, and/or modern trash. No additional investigations were recommended for these targets and anomalies. *DHR concurs with these recommendations.*

Thank you for sending the digital report.

Architecture

According to our records, there are four (4) previously recorded architectural resources within the Area of Potential Effects (APE): Nansemond Ordnance Depot Historic District (DHR ID# 133-5038), previously determined not eligible; Battle of Hampton Roads (DHR ID #114-5471), previously determined potentially eligible for listing in the NRHP; Jefferson Avenue Commercial Historic District (DHR ID# 121-0038) previously determined not eligible, and Pier 15 (DHR ID# 121-0084), unevaluated.

Additionally, HRSD identified two previously unrecorded resources in the Project APE: Boat Harbor Treatment Plant (DHR ID# 121- 5464) and Semmaterials Energy Company Plant (DHR ID# 121-5465). AECOM recommend that **DHR ID #121-0084, 121-5464, and 121-5465** are *not eligible* for listing in the NRHP. DHR *concur*s Pier 15 (DHR ID# 121-0084), Boat Harbor Treatment Plant (DHR ID# 121-5464) and Semmaterials Energy Company, LLC (DHR ID# 121-5465) are *not eligible* for listing in the NRHP.

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If you have any questions regarding these comments, please contact me at 804-482-8091 or via email, jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,



Jenny Bellville-Marrion, Project Review Archaeologist
Review and Compliance Division

CC:
Alaina McCurdy; EPA

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Appendix F: Agency Comments



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Travis A. Voyles
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

June 16, 2022

Melissa Josey-White
Chief of Compliance
Hampton Roads Sanitation District
1434 Air Rail Avenue
Virginia Beach, Virginia 23455

via email: MJoseywhite@hrsdc.com

**Re: Hampton Roads Sanitation District – VCWRLF Project C-515751
DEQ Environmental Assessment Review Comments
SWIFT Full Scale Implementation-Boat Harbor Projects (BH015700, BH015710, BH015720)**

Dear Ms. Josey-White:

Thank you for the opportunity to review the Environmental Assessment (EA) for the above referenced project. Attached to this letter are the comments from the Department of Environmental Quality's Air, Water, and Land Divisions. Comments from the Clean Water Financing and Assistance Program are listed below.

- Additional information is needed on the VMRC coordination on the construction methodology requested by VMRC 1/6/22 (Section 5.1.2.6 of the EA)
- Once the construction methods that NOAA requested are submitted for review, the comments are needed for incorporation into the final EA. (Section 5.1.2.5 of the EA)
- The jurisdictional delineation request from the USACE on wetlands was not included. (Section 5.2. of the EA)

Upon completion of your review of comments attached and the comments listed above, the EA shall be revised as needed. Hampton Roads Sanitation District will need to hold a public hearing for the purpose of receiving local comment on the project, the alternatives considered, their environmental impacts, the estimated cost of the project, and the associated user charge impact. **The public hearing will have to be noticed once a week for two consecutive weeks and the first notice publication must be 30 days prior to the date of the public hearing.** After the hearing is held, you shall submit the following information to the regional office:

1. Copies of the letters transmitting the EA to the review agencies
2. Copies of all review agency comments
3. Response(s), as necessary, to the review agency comments
4. A summary or record of the public hearings along with the verification of public notice for the hearing

Upon completion of the revisions, if any, please submit two copies of revised Environmental Assessments to Deanna Austin in the DEQ's Tidewater Regional Office. Upon receipt of the above documentation, we will develop and issue a Statement of Environmental Review (SER). Once this document has been completed, we will provide you with a Public Notice for final publication.

If you have any questions regarding this process, please feel free to contact me at (804) 929-5635.

Sincerely,



Mike Crocker, Regional Team Manager
Clean Water Financing and Assistance Program

Enclosure

pc:

Ms. Molly Notestine – AECOM
Mr. Lauren Zuravnsky. – HRSD-PM
Ms. Deanna Austin - DEQ/TRO-PM
Mr. Kotur Narasimhan - DEQ/OADA
Mr. Michelle Henicheck - DEQ/OWSP
Mr. Carlos A. Martinez - DEQ/DLPR

**DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION**

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: Kenneth E. Savko

We thank **OEIR** for providing DEQ-AIR an opportunity to review the following project:
Accordingly, I am providing following comments for consideration.

Project Sponsor: Hampton Roads Sanitation District

Project Title: Boat Harbor wastewater pump station and force main conversion

Location: Hampton Roads

Project Number: DEQ: Water Division

**PROJECT LOCATION: X OZONE ATTAINMENT
 AND EMISSION CONTROL AREA FOR NOX & VOC**

**REGULATORY REQUIREMENTS MAY BE APPLICABLE TO: X CONSTRUCTION
 OPERATION**

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. 9 VAC 5-45-760 et seq. – Asphalt Paving operations
3. **X 9 VAC 5-130 et seq. – Open Burning**
4. **X 9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
5. 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to _____
6. 9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7. 9 VAC 5-50-400 Subpart _____, Standards of Performance for New Stationary Sources, designates standards of performance for the _____
8. 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9. 9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
10. 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11. 9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

All precautions are to be taken to restrict emissions of NOX and VOC during construction.



**(Kotur S. Narasimhan)
Office of Air Data Analysis**

DATE: June 7, 2022

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION

TO: Kenneth E. Savko

FROM: Michelle Henicheck *Michelle Henicheck*
Office of Wetlands and Stream Protection

DATE: June 3, 2022

SUBJECT: Environmental Assessment
HRSD Swift Boat Harbor Projects
Hampton Roads, Virginia

We have reviewed the information provided in the Environmental Assessment for the above referenced project.

The DEQ's Office of Wetlands and Stream Protection (OWSP) has reviewed the information concerning the above-referenced project. According to the information provided with the Environmental Assessment (EA) the proposed projects involve the construction of a new 36.5 million gallons per day (MGD) pump station, and the installation of a new 36-inch diameter transmission force main beneath the James River to convey flow from the new Boat Harbor pump station to new treatment facilities at HRSD's existing Nansemond TP. The construction of the transmission force main involves two components: Transmission Force Main Section 1 (Subaqueous) and Transmission Force Main Section 2 (LAND).

The proposed Transmission Force Main Section 1 (FM1) alignment would be approximately 24,394 feet (4.6 miles) in length under the river, and would roughly parallel, to the west side, the Monitor-Merrimac Bridge-Tunnel (I-664). Installation of FM1 would include a combination of approximately 16,772 feet (3.2 miles) of riverbed trenching on the south shore and 5,678 feet (1.1 miles) of horizontal directional drilling (HDD) from the Newport News shoreline to a temporary water platform south of the federal shipping channel. FM1 would also involve an additional 1,546 linear feet of on-land force main on the Newport News side to connect to the Boat Harbor pump station, and it would continue for an additional 398 feet on land on the Suffolk shore before its connection with Transmission Force Main Section 2 (FM2).

The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. FM2 would connect to the FM1 section approximately 398 feet south of the James River shoreline, then continue south, generally paralleling Jamestown Road, Park Drive, and College Drive, and terminate at the Nansemond TP.

According to the Environmental Assessment report dated May 2022 and prepared by AECOM; under the Proposed Action Alternative, HDD and riverbed trenching of the James River may result in a temporary increase in erosion and sedimentation in the James River, but no direct adverse impacts to vegetated wetlands are anticipated. To meet the purpose and need of the Project, the FM1 alignment must cross the James River. As such, trenching activities would result in direct and indirect impacts to the riverbed under the Proposed Action Alternative. The impacts would be temporary and are anticipated to have minimal adverse impacts on the aquatic ecosystem. Approximately 34.7 acres of

riverbed sediment would be disturbed during the FM1 construction phase, including 15.8 acres of mapped oyster grounds, and 0.057 acre of non-vegetated wetlands between the Mean High Water (MHW) line and the Mean Low Water (MLW) line. No vegetated wetlands occur within the north and south sides of the James River shoreline within the Project area.

Water Quality and Wetlands. Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs). If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact the DEQ-TRO. Based on the information provided, the project does not appear to need a VWP permit IF the project obtains a permit from Virginia Marine Resources Commission (VMRC).

Erosion and Sediment Control and Storm Water Management. DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at <https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-construction>. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. Stormwater management planning and permitting is required through DEQ should your land disturbing activities be greater than one acre or more or lie within the boundaries of a common plan of development. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

Recommendations and Potential Permits

Based upon review of the information provided, DEQ's OWSP offers the following general recommendations concerning potential surface water impacts:

1. Prior to commencing project work, all surface waters on the project site should be delineated by a qualified professional and verified by the U.S. Army Corps of Engineers (the Corps) for federal jurisdictional waters and by DEQ for state jurisdictional waters.
2. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable.
3. If the scope of the project changes, additional review will be necessary by one or more offices in the Commonwealth's Secretariat of Natural Resources and/or the Corps.
4. At a minimum, any required compensation for impacts to State Waters, including the compensation for permanent conversion of forested wetlands to emergent wetlands, should be in accordance with all applicable state regulations and laws. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.
5. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.

6. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. Furthermore the activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows.
7. Erosion and sedimentation controls should be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.
8. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage.
9. Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work.
10. Activities should be conducted in accordance with any Time-of-Year restriction(s) as recommended by the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, or the Virginia Marine Resources Commission. The permittee should retain a copy of the agency correspondence concerning the Time-of-Year restriction(s), or the lack thereof, for the duration of the construction phase of the project.
11. All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage. Wet, excess, or waste concrete should be prohibited from entering surface waters.
12. Herbicides used in or around any surface water should be approved for aquatic use by the United States Environmental Protection Agency (EPA) or the U.S. Fish & Wildlife Service. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters.



MEMORANDUM

TO: Kenneth E. Savko, Project Officer, Clean Water Financing and Assistance Program

FROM: Carlos A. Martinez, Division of Land Protection & Revitalization Review Coordinator

DATE: May 25, 2022

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: HSRD Environmental Assessment - Proposed Boat Harbor Wastewater Pump Station and Forcemain Conversion Project in the Cities of Suffolk and Newport News, Virginia.

The Division of Land Protection & Revitalization (DLPR) has completed its review of the HSRD Environmental Assessment for Proposed Boat Harbor Wastewater Pump Station and Forcemain Conversion Project in the Cities of Suffolk and Newport News, Virginia.

DLPR staff conducted a search (200 ft. radius) of the project area of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project area. DLPR identified five (5) RCRA Small Quantity Generators and twelve (12) petroleum release sites within the project area which might impact the project.

DLPR staff has reviewed the submittal and offers the following comments:

Hazardous Waste/RCRA Facilities – Five (5) Small Quantity Generator in close proximity to the project area

- 1. RegistryID: 110017867003, Former Nansmond Ordnance Depot (FNOD), 7000 College Drive, Suffolk City, Virginia 51800.**
- 2. RegistryID: 110071193057, United Parcel Service - VASFK, 6701 College Drive, Suffolk City, Virginia 51800.**

3. *RegistryID: 110039944442, Nansemond Wastewater Treatment Plant, 6909 Armstead Rd, Suffolk, Virginia 51800.*
4. *RegistryID: 110070863264, East Coast Repair & Fabrication LLC, 1201 Terminal Ave, Newport News, Virginia 51700.*
5. *RegistryID: 110005253661, NNRHA HARBOR HOMES SCETON 08, 1530-1542 Terminal Ave, Newport News, Virginia 51700.*

CERCLA Sites – none in close proximity to the project area

Formerly Used Defense Sites (FUDS) – none in close proximity to the project area.

Solid Waste – none in close proximity to the project area

Virginia Remediation Program (VRP) – none in close proximity to the project area

Petroleum Releases – Twelve (12) found in close proximity to the project area.

1. *PC Number 19922352, Tidewater Community College, 7000 College Dr, Suffolk, Virginia, Release Date: 06/18/1992, Status: Closed.*
2. *PC Number 20195054, Former Nansemond Ordnance Depot-Tanks 107 A and B, Monitor Ave, Suffolk, Virginia, Release Date: 09/05/2018, Status: Closed.*
3. *PC Number 20185140, Former Nansemond Ordnance Depot – Bldg ZB-7, Monitor Ave, Suffolk, Virginia, Release Date: 12/21/2017, Status: Closed.*
4. *PC Number 19870096, Tidewater Community College, 7000 College Dr, Suffolk, Virginia, Release Date: 08/03/1986, Status: Closed.*
5. *PC Number 19952295, Tidewater Community College, 7000 College Dr, Suffolk, Virginia, Release Date: 12/01/1994, Status: Closed.*
6. *PC Number 19910040, Nansemond Treatment Plant, 6909 Armstead Rd, Suffolk, Virginia, Release Date: 07/08/1990, Status: Closed.*
7. *PC Number 19911066, Nansemond Treatment Plant, 6909 Armstead Rd, Suffolk, Virginia, Release Date: 01/17/1991, Status: Closed.*
8. *PC Number 19911679, Nansemond Treatment Plant, 6909 Armstead Rd, Suffolk, Virginia, Release Date: 03/11/1992, Status: Closed.*
9. *PC Number 20095100, Nansemond Sewage Treatment Plant, 6909 Armstead Rd, Suffolk, Virginia, Release Date: 03/12/2009, Status: Closed.*

10. PC Number 19911033, Boat Harbor Treatment Plant, 300 Terminal Ave, Newport News, Virginia, Release Date: 01/15/1991, Status: Closed.

11. PC Number 19982348, Boat Harbor Treatment Plant, 300 Terminal Ave, Newport News, Virginia, Release Date: 03/24/1998, Status: Closed.

12. PC Number 20055186, VDOT Right of Way – Between 19th 21st and Terminal, Between 19th and 21st Sts and Terminal Ave, Newport News, Virginia, Release Date: 05/31/2005, Status: Closed.

Please note that the DEQ's Pollution Complaint (PC) cases identified should be further evaluated by the project engineer or manager to establish the exact location, nature and extent of the petroleum release and the potential to impact the proposed project. In addition, the project engineer or manager should contact the DEQ's Tidewater Regional Office at (757) 518-2000 (Tanks Program) for further information about the PC cases.

PROJECT SPECIFIC COMMENTS

None

GENERAL COMMENTS

Soil, Sediment, Groundwater, and Waste Management

Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

Asbestos and/or Lead-based Paint

All structures being demolished/renovated/removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. Questions may be directed to Melinda Woodruff at the DEQ's Tidewater Regional Office at (757) 518-2000.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Carlos A. Martinez by phone at (804) 350-9962 or email Carlos.Martinez@DEQ.Virginia.Gov.



COMMONWEALTH of VIRGINIA

Matthew Strickler
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.virginia.gov

June 15, 2022

Molly Notestine
AECOM
12420 Milestone Center Drive, Suite 150
Germantown, Maryland 20876

Re: Boat Harbor and Nansemond SWIFT Facilities Project- Draft Environmental Assessment
Suffolk and Newport News Virginia
DHR Project No. 2021-3743

Dear Ms. Notestine:

We have received for review the Draft Environmental Assessment *SWIFT Full Scale Implementation- Boat Harbor Projects: Boat Harbor Treatment Plant Pump Station Conversion (BH015700), Boat Harbor Treatment Plant Transmission Force Main Section 1 – Subaqueous (BH015710) Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720)*, prepared by AECOM, on behalf of the Hampton Roads Sanitation District (HRSD) in support of the SWIFT program, funded in part by a loan financed the U.S. Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program.

The proposed Project includes construction of a new 36.5-million gallons per day (MGD) pump station, and installation of a new transmission force main beneath the James River to convey flow from the new Boat Harbor pump station to new advanced treatment facilities at HRSD's existing Nansemond treatment Plant. The construction of the transmission force main involves two components: Transmission Force Main Section 1 (Subaqueous) and Transmission Force Main Section 2 (Land). The proposed Transmission Force Main Section 1 (FM1) alignment would be approximately 24,394 feet (4.6 miles) in length under the river, and would roughly parallel, to the west side, the Monitor-Merrimac Bridge-Tunnel (I-664). Installation of FM1 would include a combination of approximately 16,772 feet (3.2 miles) of riverbed trenching on the south shore and 5,678 feet (1.1 miles) of horizontal directional drilling (HDD) from the Newport News shoreline to a temporary water platform south of the federal shipping channel. FM1 would also involve an additional 1,546 linear feet of on-land force main on the Newport News side to connect to the Boat Harbor pump station, and it would continue for an additional 398 feet on land on the Suffolk shore before its connection with Transmission Force Main Section 2 (FM2). The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. FM2 would connect to the FM1 section approximately 398 feet south of the James River shoreline, then continue south and terminate at the Nansemond treatment plant.

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

AECOM previously conducted cultural resources surveys to identify and evaluated historic properties located within the Area of Potential Effects (APE). Sites **44SK0379** and **44SK0633-44SK0636 (inclusive)** and architectural resources DHR ID #**121-0084**, **121-5464**, and **121-5465** were found to be *not eligible* for listing in the National Register of Historic Places (NRHP). One archaeological site, **44NN0368**, consisting of two shipwrecks located within the APE, has been found to be *Potentially Eligible* for listing in the NRHP.

Under Alternative A, there would be no impacts to historic properties. Under Alternative B, the proposed alignment would avoid impacts to the shipwrecks by trenching to the west of 44NN0368. To ensure adequate protection of the cultural resource, a 50-meter buffer would be established between the FM1 limit of disturbance and the shipwrecks. Under Alternative C, the proposed alignment would avoid impacts to the site as well.

Consistent with our July 9, 2021 correspondence, we concur that the Boat Harbor and Nansmond SWIFT Facilities Project (DHR Project # 2021-3743) will likely result in no adverse effects to historic properties.

Implementation of the undertaking in accordance with the finding of No Adverse Effects as documented fulfills the Federal agency's responsibilities under Section 106 of the National Historic Preservation Act. If for any reason the undertaking is not or cannot be conducted as proposed in the finding, consultation under Section 106 must be reopened.

If you have any questions regarding these comments, please contact me at 804-482-8091 or via email, jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,



Jenny Bellville-Marrion, Project Review Archaeologist
Review and Compliance Division

Robert Farrell
State Forester



COMMONWEALTH of VIRGINIA

Department of Forestry

900 Natural Resources Drive, Suite 800 • Charlottesville, Virginia 22903
(434) 977-6555 • Fax: (434) 296-2369 • www.dof.virginia.gov

Wednesday, June 8, 2022

Molly Notestine
Senior Ecologist, PWS
Environment
Impact Assessment & Permitting (IAP)

Subject: HRSD SWIFT Boat Harbor Projects

Dear Molly,

Thank you for the opportunity to comment on the proposed HRSD SWIFT Boat Harbor Projects in Newport News and Suffolk, Virginia as described in the cover letter and project summary from Jay Bernas, HRSD, May 20th, 2022 and December 15th, 2021 respectively.

The Boat Harbor Treatment Plant Pump Station Conversion (BH015700) and Boat Harbor Treatment Plant Transmission Force Main Section 1 - Subaqueous (BH015710) will not have any discernable impact on the forest resources of the area. The Boat Harbor Treatment Plan Transmission Force Main Section 2 - Land (BH015720) may have some impacts on coastal forest in Suffolk County.

Forest resources contribute to the maintenance of water quality, clean air, a healthy climate, forest and aquatic biodiversity, and scenic values¹. The Department of Forestry recommends that existing ROWs be utilized wherever possible and that if ROW's must be established, that every effort be made to avoid or minimize disturbance to high conservation value forest, streams or wetlands, and conserved lands. In instances where trees or forest vegetation needs to be removed, converted, or otherwise negatively impacted by project activities, we recommend mitigating these impacts by establishing new trees, forests, or forest vegetation on site or in the general vicinity in such a way as to maintain or improve overall water quality, ecosystem functions, scenic value, and timber value.

¹ D Cumbia, et al. 2017. Virginia Department of Forestry, Forest Stewardship Plan Appendix.

Should you require any advice or assistance with forest management, pre-harvest planning, or mitigation efforts, please feel free to contact me or other staff at the Department of Forestry.

Sincerely,

Sarah Parmelee

Sarah Parmelee

Forestland Conservation Coordinator

June 7, 2022

Molly Notestine
Senior Ecologist
AECOM - Impact Assessment and Permitting
HRSD SWIFT FSIP Permitting Lead
222 Central Park Avenue, Suite 300
Virginia Beach, VA 23462, United States

Dear Ms. Notestine,

This letter provides the conclusions of the Virginia Institute of Marine Science (VIMS) review of the Hampton Roads Sanitation District SWIFT Draft Environmental Assessment (DEA), Boat Harbor Treatment Plant Transmission Force Maine Section 1 – Subaqueous (BH015710). Our comments are relevant to both Alternatives B and C. Only those sections of the DEA related to VIMS' expertise are included in this review. The outcomes of the SWIFT initiative show great promise for significant future environmental benefits; however, we forward concerns regarding the potential adverse effects of force main placement as outlined in the DEA.

In summary, the DEA does not contain data or analyses sufficient to support the determinations of minimal and temporary adverse environmental impacts to the James River. There also is important information necessary to conduct a proper assessment not included in the DEA, and some statements appear contradictory or require clarification. We are aware that decisions on many construction options reside with those chosen through the design-build contract process, and thus are currently not available for review. Specifics for construction methods, longevity, and seasonal timing can be critical in the proper environmental assessment of a project in the marine environment and we recommend that the applicant provide details on all in-water aspects of the project to allow proper technical review prior to project authorization.

Clarification of the extent of dredging is necessary to accurately determine dredge volume; an important metric in scaling potential adverse environmental impacts. Trench widths presented in the DEA vary from 90 feet (PDF pages 16, 171, and 212), to <90 feet (PDF page 190), to <50 feet (PDF page 186), and to 12 feet (PDF page 220). Trenching depths also are presented inconsistently as 8 to 10 feet below river bottom (PDF pages 11 and 205), from 7 to 15 feet (PDF page 208, Table 2), and 16 and 18 feet deep (PDF page 220).

Additional information that is necessary to conduct thorough environmental impacts analyses include:

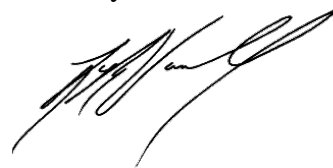
- Results of sediment analyses within the footprint of the project. This information is critical in determining the fate/longevity of the spoil material and potential effects to local water quality.
- Lateral extent of overboard disposal placement. This information is necessary to show the dimensions of the spoil pile and determine the volume expected to survive storage until replacement.

- Project sequencing. This information is necessary to determine the expected extent and duration of the overboard disposal pile.
- An analytical determination of the potential fate of overboard disposal material and the extent of dispersal plumes. This information is necessary to determine the extent and scale of potential adverse effects to local and migrating living resources and water quality.
- Methods to relocate the spoil into the trench should the material be available when needed. This information is needed to determine the potential for local water quality sedimentation.
- Alternative strategies for trench filling should the overboard disposal material, in whole or in part, be unavailable when needed. This information is also needed to determine the potential for sedimentation that could affect local water quality.
- Plans to address and/or mitigate potential effects to living resources through seasonal construction scheduling. This information is necessary to assess the potential impacts to spawning migratory behavior and early life stages of aquatic living resources.

The above comments are provided in the interest of having accurate and complete information available to decision makers on the potential adverse environmental impacts resulting from the placement of the force main under state owned subaqueous bottomland. We offer to provide further assistance to all parties if requested.

Please contact me if you have questions or require further information.

Sincerely,



Lyle Varnell
Associate Director for Advisory Services



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Darryl Glover
Deputy Director for
Dam Safety,
Floodplain Management and
Soil and Water Conservation

Laura Ellis
Interim Deputy Director for
Administration and Finance

July 22, 2022

Bohdan Bodniewicz
AECOM
440 Monticello Avenue
Norfolk, VA 23510

Re: HRSD Swift Boat Harbor Treatment Plant Pump Station Conversion

Dear Mr. Bodniewicz:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100-foot buffer. Please note, a predictive model identifying potential habitat for natural heritage resources intersects the project boundary. However, based on DCR biologist's review of the proposed project a survey is not recommended for the resource.

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

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of \$90.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not

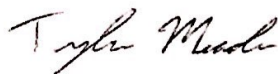
600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

*State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Amy Martin at (804-367-2211) or amy.martin@dwr.virginia.gov. According to the information currently in our files, the James River, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the Atlantic sturgeon is within the submitted project boundary including a 100-foot buffer. Therefore, DCR recommends coordination with the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) and Virginia's regulatory authority for the management and protection of this species, the VDWR, to ensure compliance with protected species legislation.

Should you have any questions or concerns, please contact me at 804-225-2429. Thank you for the opportunity to comment on this project.

Sincerely,



Tyler Meader
Natural Heritage Locality Liaison

Cc: Christine Vaccaro, NOAA Fisheries-Protected Species Division
Amy Martin, VDWR

Literature Cited

Handley, C.O., and D. Schwab. 1991. Eastern big-eared bat. In *Virginia's Endangered Species: Proceedings of a Symposium*. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia. p. 571-573.

Harvey, M.J. 1992. *Bats of the Eastern United States*. Arkansas Game and Fish Commission, Little Rock, Arkansas. pp.46

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: March 31, 2010).



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 FAX (804) 698-4178
www.deq.virginia.gov

Travis A. Voyles
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

Craig R. Nicol
Regional Director

November 16, 2022

SENT VIA E-MAIL: david.steele1@aecom.com

Re: Notification that a Virginia Water Protection (VWP) Individual Permit or General Permit Coverage is Not Required
NP No. 22-001729 / JPA No. 21-2356
HRSD Boat Harbor Terminal Plant Force Main Section 1 & Section 2

The Virginia Department of Environmental Quality (DEQ) has received your JPA, PCN, and/or project notification on November 15, 2021. Based on the information provided, the project meets one of the following criteria, and therefore, will not require a VWP individual permit or general permit coverage:

- The project is not proposing impacts to surface waters.
- The project qualifies for an exclusion from the permitting requirements per 9VAC25-210-60 and/or the provisions noted:
 - Discharges of dredged or fill material into state waters, except wetlands, which are addressed under a U.S. Army Corps of Engineers (USACE) Regional, General or Nationwide Permit, and for which no § 401 Water Quality Certificate is required.
 - Any stormwater discharge from municipal separate storm sewer systems or land disturbing activities authorized by 9VAC25-870, or discharges authorized by a Virginia Pollutant Discharge Elimination System (VPDES) permit in accordance with 9VAC25-31 or a Virginia Pollution Abatement (VPA) permit in accordance with 9VAC25-32.
 - Any activity in a wetland governed under Chapter 13 (§ 28.2-1300 et seq.) of Title 28.2 of the Code of Virginia, unless state certification is required by § 401 of the Clean Water Act. Even where such certification is required due to a pending USACE permit action, such certification is waived if the activity meets the provisions of subdivision 10.a of 9VAC25-210-60 - see below. (§ 62.1-44.15:21.G; 9VAC25-210-220.C)

Notification that a VWP Individual Permit or General Permit Coverage is Not Required

Page 2 of 3

(9VAC25-210-60.10.a) Construction or maintenance of farm ponds or impoundments, stock ponds or impoundments, or irrigation ditches that are operated for normal agricultural or silvicultural purposes, and are less than 25 feet in height or create a maximum impoundment capacity smaller than 100 acre-feet.

- Normal residential gardening and lawn and landscape maintenance in a wetland. (§ 62.1-44.15:21.G)
- Maintenance of currently serviceable structures.
- Impacts to open waters that do not have a detrimental effect on public health, animal life, or aquatic life or to the designated uses of such waters.
- Flooding or back-flooding impacts to surface waters resulting from the construction of temporary sedimentation basins on a construction site.
- Normal agriculture and silviculture activities in a wetland. (§ 62.1-44.15:21.G)
- Construction or maintenance of farm ponds or impoundments, stock ponds or impoundments, or irrigation ditches, or the maintenance (but not construction) of drainage ditches, provided the following:
 - no surface water withdrawal is proposed;
 - the final dimensions of the maintained ditch do not exceed the average dimensions of the original ditch; and,
 - the farm or stock pond or impoundment does not fall under the authority of the Virginia Soil and Water Conservation Board pursuant to Article 2 (§ 10.1-604 et seq.) of Chapter 6 pursuant to normal agricultural or silvicultural activities. (§ 62.1-44.15:21.H)
- Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining equipment.
- Wetland and open water impacts to a stormwater management facility that was created on dry land for the purpose of conveying, treating, or storing stormwater. (§ 62.1-44.15:21.I)
- The activities cause impacts to an isolated wetland of minimal ecological value as defined in 9VAC25-210-10 (§ 62.1-44.15:21.D; 9VAC25-210-220.A).
- The activity does not impact instream flows; qualifies for a permit issued by the USACE; and receives a permit from the Virginia Marine Resources Commission or wetlands boards, pursuant to Chapter 12 (§ 28.2-1200 et seq.) or Chapter 13 (§ 28.2-1300 et seq.) of Title 28.2 of the Code of Virginia (9VAC25-210-220.B).
- Provided that the project is authorized by the USACE under a Regional permit and meets any applicable § 401 Certification Conditions, a VWP individual permit or general permit coverage will not be required for this project.

- Provided that the project is authorized by the USACE under a Nationwide permit and the applicant has certified that the project complies or will comply with all of VDEQ's General § 401 Water Quality Certification Conditions (A.1-A.12 listed in Appendix A - Norfolk District's Final Regional Conditions for the 2021 Nationwide permits, issued February 25, 2022) and any NWP-specific, General § 401 Water Quality Certification Conditions, if applicable, a VWP individual permit or general permit coverage will not be required for this project.

DEQ waives the issuance of a Virginia Water Protection (VWP) individual permit or general permit coverage for one or more of the reasons listed above. This letter also serves as a waiver of individual § 401 water quality certification for purposes of the USACE Nationwide Permits, when applicable.

Should the size or scope of the project change, a VWP individual permit or general permit coverage may be required.

If unauthorized impacts occur, you **must** contact DEQ at or 757-518-2077 (TRO) or fax 804-698-4178 within 24 hours of discovery. Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery at 757-518-2077 (TRO). If DEQ cannot be reached, the spill or fish kill shall be reported to the Virginia Department of Emergency Management (VDEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802. Any spill of oil as defined in § 62.1-44.34:14 of the Code of Virginia that is less than 25 gallons and that reaches, or that is expected to reach, land only is not reportable, if recorded per § 62.1-44.34:19.2 of the Code of Virginia and if properly cleaned up.

Please contact Kim Phan at kim.phan@deq.virignia.gov or by phone at 757-705-9250 if you have any questions.

Respectfully,



Jeffrey M. Hannah
Regional VWPP Program Manager

cc: David Steele, AECOM
Molly Notestine, AECOM
Lauren Zuravnsky, HRSD
Steven Wicks, U.S. Army Corps of Engineers
Lauren Chartrand, Virginia Marine Resources Commission



May 20, 2022

Electronic Submittal

Kimberly S. Butler, P.E.
Virginia DEQ Clean Water Financing and Assistance Program
Regional Project Manager
5636 Southern Blvd.
Virginia Beach, VA 23462

Re: Notice of Agency Review Period for Hampton Roads Sanitation District's Boat Harbor SWIFT Projects: Boat Harbor Treatment Plant Pump Station Conversion, Boat Harbor Treatment Plant Transmission Force Main Section 1 – Subaqueous, and Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land

Dear Ms. Butler:

In compliance with Section 7 of the Virginia Clean Water Revolving Loan Fund's *Procedural Guidelines*, Hampton Roads Sanitation District (HRSD) is providing the Commonwealth of Virginia with the opportunity to review the enclosed Draft Environmental Assessment (EA) and to provide comments for a period of 30 days. The Draft EA includes HRSD's Sustainable Water Initiative for Tomorrow (SWIFT) three Boat Harbor Projects: Boat Harbor Treatment Plant Pump Station Conversion (BH015700), Boat Harbor Treatment Plant Transmission Force Main Section 1 – Subaqueous (BH015710), and Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720).

U.S. Environmental Protection Agency (EPA) selected HRSD to submit an application for credit assistance for the SWIFT Program, which includes the Boat Harbor and Nansemond SWIFT projects. An Environmental Questionnaire was prepared by HRSD on behalf of the EPA as part of EPA's obligations under the National Environmental Policy Act of 1969 for the issuance of financing to HRSD under the Water Infrastructure Finance and Innovation Act (WIFIA). The environmental analyses presented in the WIFIA Environmental Questionnaire has been reformatted into the enclosed document to meet the Virginia Department of Environmental Quality's (VDEQ's) EA guidelines. EPA developed a Programmatic Environmental Assessment (PEA) to analyze potential environmental impacts of projects under the WIFIA program, for which a Finding of No Significant Impact (FONSI) was finalized on April 27, 2018. EPA issued a FONSI Adequacy Memorandum for the HRSD Boat Harbor/Nansemond SWIFT Projects on August 31, 2021. The PEA and supplemental Environmental Questionnaires provides a streamlined NEPA compliance path for WIFIA applicants.

HRSD has also applied and been approved for state funding of the Boat Harbor projects via the Virginia Clean Water Revolving Loan Fund (Fund), which was established as a renewing source of low-interest loan funding for improvements to publicly owned wastewater systems. The Fund is separate, permanent, and perpetual with all principal and interest repaid into the Fund used to finance other projects. The

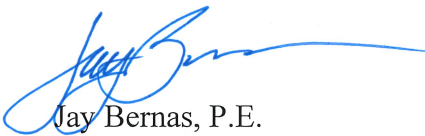
PO Box 5911, Virginia Beach, VA 23471-0911 • 757.460.7000

State Water Control Board (SWCB) is responsible for developing the policies and procedures for the Fund and has delegated responsibility for management of the day-to-day operations of the Fund to the Clean Water Financing and Assistance Program (CWFAP) of the VDEQ.

The proposed Boat Harbor projects include the construction of a new 36.5-million gallons per day (MGD) pump station (BH015700) and installation of a new transmission force main beneath the James River to convey flow from the new Boat Harbor pump station to new advanced treatment facilities at HRSD's existing Nansemond TP (Figure 1). The construction of the transmission force main involves two components: Transmission Force Main Section 1 - Subaqueous (BH015710) and Transmission Force Main Section 2 - Land (BH015720).

Pursuant to Section 7 of the Virginia Clean Water Revolving Loan Fund's *Procedural Guidelines*, the agencies to which this letter is addressed and copied have 30 days from the receipt of this letter in which to comment on the proposed set of projects. Agency concurrence will be presumed if a response is not received by the 30th day from receipt of this notice. Responses should be sent electronically to our Program Permitting Specialist, Molly Notestine, at molly.notestine@aecom.com. Thank you for your coordination on this project.

Sincerely,



Jay Bernas, P.E.
General Manager

Enclosures:

Figure 1 - Boat Harbor Graphical Overview Figure

Draft Environmental Assessment, SWIFT Full Scale Implementation - Boat Harbor Projects:

Boat Harbor Treatment Plant Pump Station Conversion (BH015700),

Boat Harbor Treatment Plant Transmission Force Main Section 1 – Subaqueous (BH015710),

Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720).

CC:

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eir.coordination@vdot.virginia.gov

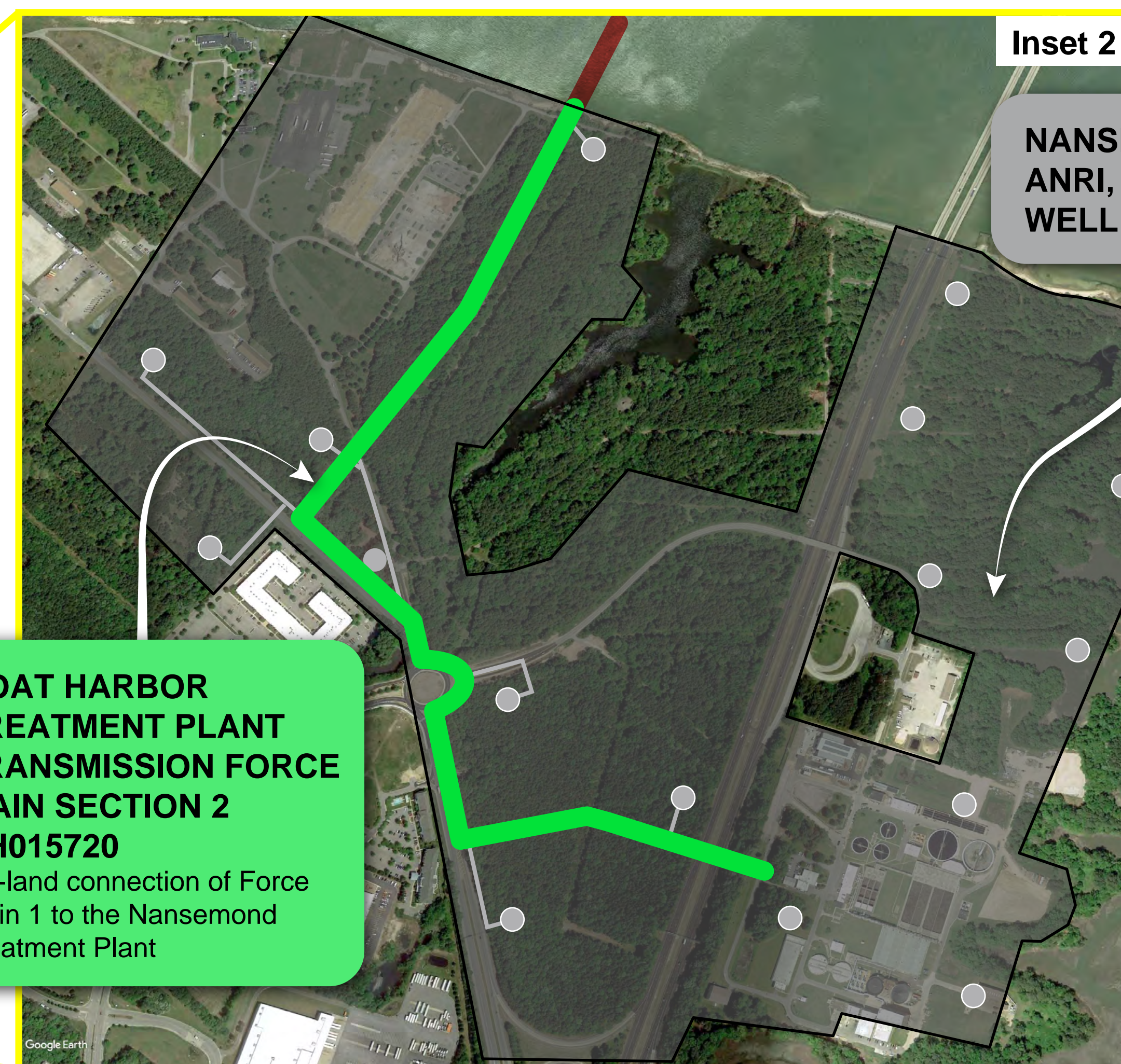
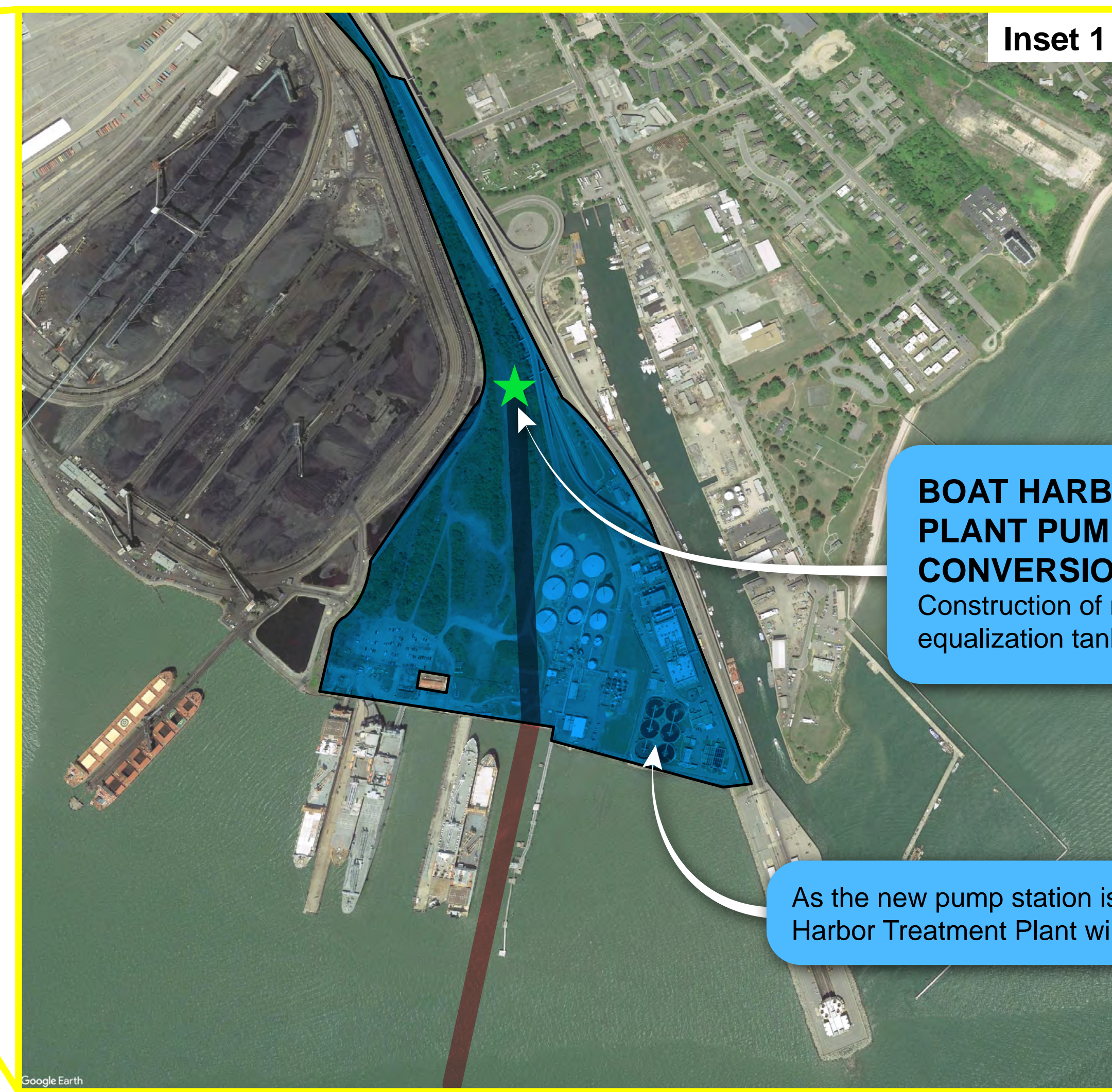
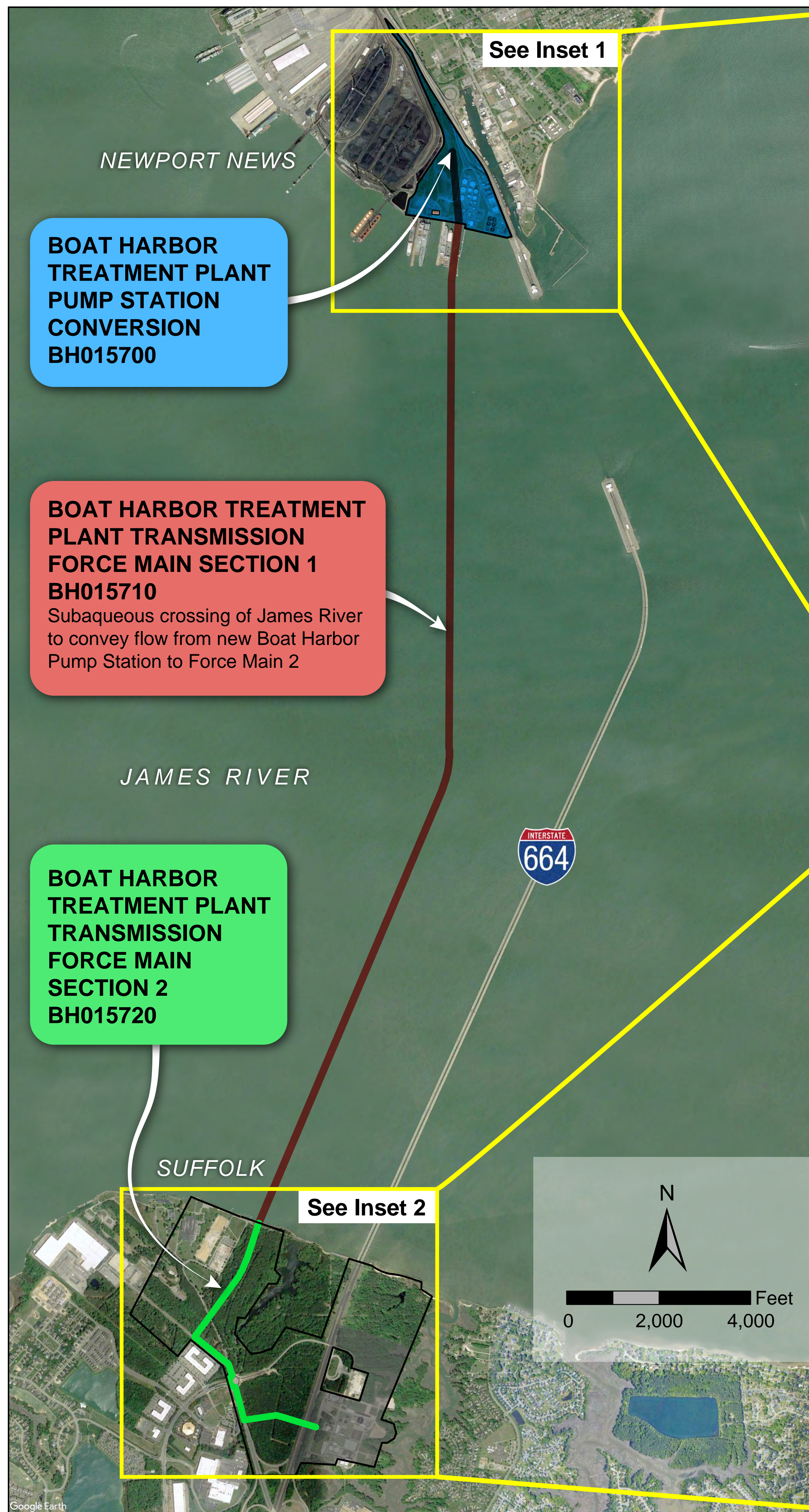
Environmental Division

1401 East Broad Street

Richmond, VA 23219

HRSD SWIFT Boat Harbor Projects Summary

December 15, 2021



BOAT HARBOR TREATMENT PLANT PUMP STATION CONVERSION BH015700

BOAT HARBOR TREATMENT PLANT TRANSMISSION FORCE MAIN SECTION 1 BH015710
Subaqueous crossing of James River to convey flow from new Boat Harbor Pump Station to Force Main 2

BOAT HARBOR TREATMENT PLANT TRANSMISSION FORCE MAIN SECTION 2 BH015720

BOAT HARBOR TREATMENT PLANT PUMP STATION CONVERSION BH015700
Construction of new Pump Station and equalization tanks

As the new pump station is brought on-line, Boat Harbor Treatment Plant will be taken off-line

BOAT HARBOR TREATMENT PLANT TRANSMISSION FORCE MAIN SECTION 2 BH015720
On-land connection of Force Main 1 to the Nansemond Treatment Plant

NANSEMOND SWIFT, ANRI, AND RECHARGE WELL PROJECTS

Agency Approvals and Consultations

- USEPA NEPA Review and Approval, Federal Cross-Cutting Authorities Review Memorandum, 8/31/2021
- VDHR NHPA Section 106 Concurrence, 9/7/2021
- CZMA Consistency Letter and Intergovernmental Review, 8/25/2021
- USFWS Section 7 Informal Consultation No Effect Determination; Self-Verification and Consistency Letters for NLEB, 6/27/2021
- NOAA Fisheries Service, Section 7 ESA Concurrence, 6/9/2021
- NOAA Fisheries Service, Essential Fish Habitat Consultation, pending.
- Wetlands Delineations on all parcels conducted by AECOM, Hazen & Sawyer, and others. May-Oct 2020
- USACE NWP(6) issued for FM1 geotechnical investigation 8/16/2021
- USACE Section 408 Letter of Permission for FM1 geotechnical investigation, 7/30/2021
- USACE, VDEQ, & VMRC Joint Permit Application for FM1 & FM2, submitted 11/15/2021.

Legend

- Onshore project boundary
- Proposed managed aquifer recharge well building
- Proposed managed aquifer recharge well piping
- ★ Proposed Boat Harbor Pump Station

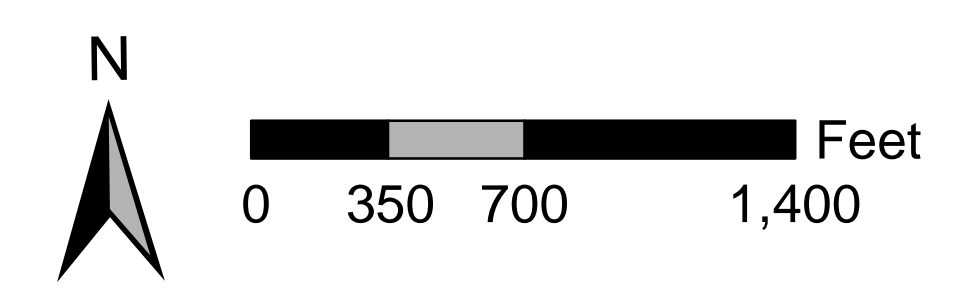




Photo Credit: VDOT

Draft Environmental Assessment SWIFT Full Scale Implementation - Boat Harbor Projects:

- Boat Harbor Treatment Plant Pump Station Conversion (BH015700),
- Boat Harbor Treatment Plant Transmission Force Main Section 1 – Subaqueous (BH015710),
- Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720).

Prepared for:

Hampton Roads Sanitation District



May 2022

Virginia Department of Environmental Quality
Clean Water Revolving Loan Fund Program
VCWRLF Project Number C-515751

This document was prepared by:



440 Monticello Avenue
Norfolk, Virginia 23510

AECOM Project/Contract No.: 60664107

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Acronyms and Abbreviations

ADT	Average Daily Traffic	HRSD	Hampton Road Sanitation District
APE	Area of Potential Effects	HUD	U.S. Department of Housing and Urban Development
BCC	Birds of Conservation Concern	IDA	Intensely Developed Area
BGEPA	Bald and Golden Eagle Protection Act	IPaC	Information for Planning and Consultation
BMP	Best Management Practice	LOD	Limits of Disturbance
CAA	Clean Air Act	MBTA	Migratory Bird Treaty Act
CBPA	Chesapeake Bay Preservation Area	MCF	One Thousand Cubic Feet per Day
CBRS	Coastal Barrier Resources System	MGD	Million Gallons per Day
CCB	Center for Conservation Biology	MMPA	Marine Mammal Protection Act
CFR	Code of Federal Regulations	MS4	Multiple Separate Storm Sewer System
CO	Carbon monoxide	MSA	Magnuson-Stevens Fishery Conservation and Management Act
CWA	Clean Water Act	NAAQS	National Ambient Air Quality Standards
CWRLF	Clean Water Revolving Loan Fund	NEPA	National Environmental Policy Act
CZMA	Coastal Zone Management Act	NFIP	National Flood Insurance Program
CZMP	Coastal Zone Management Program	NHPA	National Historic Preservation Act
dB	Decibels	NLEB	Northern Long-Eared Bat
dba	A-weighted Decibels	NMFS	National Marine Fisheries Service
DCR	Department of Conservation and Recreation	NO ₂	Nitrogen Dioxide
DHR	Virginia Department of Historic Resources	NOAA	National Oceanic and Atmospheric Administration
DNL	Day-Night Average Sound Level	NPDES	National Pollution Discharge Elimination System
E&S	Erosion and Sediment	NPS	National Park Service
EA	Environmental Assessment	NRCS	Natural Resources Conservation Service
EDA	Economic Development Authority	NRHP	National Register of Historic Places
EFH	Essential Fish Habitat	NWSRS	National Wild and Scenic Rivers System
EJSCREEN	Environmental Justice Screening and Mapping tool	O ₃	Ozone
EO	Executive Order	Pb	Lead
EPA	Environmental Protection Agency	PEA	Programmatic Environmental Assessment
ESA	Endangered Species Act	PM	Particulate Matter
FEMA	Federal Emergency Management Agency	PM _{2.5}	Particulate Matter 2.5 Microns or Smaller
FIRM	Flood Insurance Rate Map	PM ₁₀	Particulate Matter 10 Microns or smaller
FNOD	Former Nansemond Ordnance Depot		
FONSI	Finding of No Significant Impact		
FSIP	Full Scale Implementation Program		
HDD	Horizontal Directional Drilling		
HDPE	High-Density Polyethylene		

May 2022

ROW	Right of Way	USFWS	U.S. Fish and Wildlife Service
RMA	Resource Management Area	VaFWIS	Virginia Fish and Wildlife Information System
RPA	Resource Protection Area	VDEQ	Virginia Department of Environmental Quality
SIP	State Implementation Plan	VDGIF	Virginia Department of Game and Inland Fisheries
SHPO	State Historic Preservation Office	VDOT	Virginia Department of Transportation
SO ₂	Sulfur Dioxide	VFRIS	Virginia Flood Risk Information System
SPCCP	Spill Prevention Control and Countermeasure Plan	VIMS	Virginia Institute of Marine Science
SSA	Sole Source Aquifer	VMRC	Virginia Marine Resources Commission
SWIFT	Sustainable Water Initiative for Tomorrow	VPDES	Virginia Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan	VSMP	Virginia Stormwater Management Program
TCC	Tidewater Community College	WOTUS	Waters of the U.S.
TMDLs	Total Maximum Daily Loads		
TP	Treatment Plant		
U.S.	United States		
USACE	U.S. Army Corps of Engineers		
USDA	United States Department of Agriculture		

1. Introduction

Hampton Roads Sanitation District (HRSD) has been approved for programmatic financing through the Virginia Clean Water Revolving Loan Fund (CWRLF) Program of the Virginia Department of Environmental Quality (VDEQ) for funding of the Boat Harbor Treatment Plant Pump Station Conversion (BH015700), the Boat Harbor Treatment Plant Transmission Force Main Section 1 - Subaqueous (BH015710), and the Boat Harbor Treatment Plant Transmission Force Main Section 2 - Land (BH015720), collectively referred to herein as “the Project” due to their coordinated delivery and shared programmatic funding approach. The Project is located within the cities of Newport News and Suffolk, Virginia (Appendix A, Figure 1) and is being carried out as part of HRSD’ Sustainable Water Initiative for Tomorrow (SWIFT).

VDEQ requires an environmental review and evaluation of a project’s potential environmental impacts. The purpose of this Environmental Assessment (EA) is to analyze the potential environmental impacts of the proposed Project. VDEQ will use the findings in this EA to determine whether an Environmental Impact Statement or a Finding of No Significant Impact should be prepared.

The U.S. Environmental Protection Agency (EPA) selected HRSD to submit an application for credit assistance for the SWIFT Program under EPA’s Water Infrastructure Finance and Innovation Act (WIFIA) program, a federal credit program for eligible water and wastewater infrastructure projects. EPA developed a Programmatic Environmental Assessment (PEA) for the WIFIA program, and the PEA received a Finding of No Significant Impact (FONSI) on April 26, 2018. On behalf of EPA, HRSD prepared a supplemental National Environmental Policy Act (NEPA) document (i.e., WIFIA Environmental Questionnaire) for a larger subset of SWIFT projects, the Boat Harbor/Nansemond SWIFT Projects, which include the Boat Harbor Projects upon which this document is focused, as well as Nansemond SWIFT projects that may be included in a future VDEQ loan request and environmental assessment. The environmental analyses presented in the WIFIA Environmental Questionnaire has been reformatted to meet VDEQ’s EA guidelines, and is the analysis that follows in Section 5. EPA issued a FONSI Adequacy Memorandum for the HRSD Boat Harbor/Nansemond SWIFT Projects on August 31, 2021 (Appendix B). The Boat Harbor/Nansemond SWIFT Projects also received a Federal Consistency Determination from VDEQ (Appendix B).

2. Purpose and Need

The Project is a critical part of the SWIFT Full Scale Implementation Program (FSIP). The planned closure of the Boat Harbor TP by the end of 2025 is an essential component of HRSD’s strategy to cost-effectively comply with the legislatively required nutrient reductions imposed on HRSD’s James River aggregate nutrient allocation. The purpose of HRSD SWIFT is to support restoration of the Chesapeake Bay by reducing surface water discharge of treated effluent; provide a sustainable source of groundwater to the Potomac Aquifer; and increase the hydrostatic pressure within the aquifer to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia.

The SWIFT FSIP includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The resulting SWIFT Water™ will subsequently be used to recharge the Potomac Aquifer via managed aquifer recharge wells (Exhibit 1).

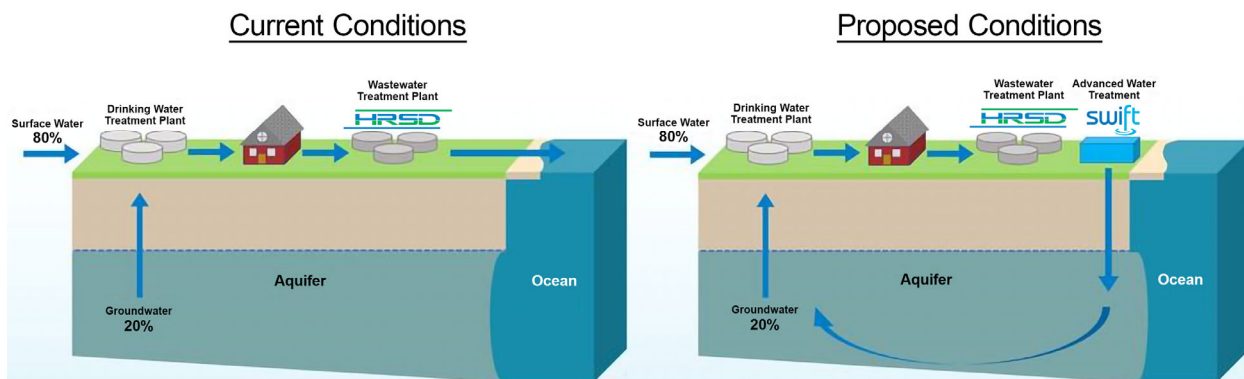


Exhibit 1: Conceptual Drawing Depicting Pre- and Post-SWIFT Project Water Treatment

The need for the Project is to provide the infrastructure necessary to allow for the closure of the Boat Harbor TP and the conveyance of wastewater effluent from the new Boat Harbor pump station to the Nansemond TP facility to support the SWIFT FSIP. Portions of the existing Boat Harbor Treatment Plant currently lie within the 100-year floodplain and are subject to regular flooding. The SWIFT master planning effort has determined that advanced water treatment and recharge at the existing Boat Harbor TP has significant physical limitations, including site availability and resiliency to sea level rise. In addition, a financial analysis indicates there is significant long-term cost savings associated with closure of the Boat Harbor TP and construction of the Project.

3. Project Description

The proposed Project includes construction of a new 36.5-million gallons per day (MGD) pump station, and installation of a new 36-inch diameter transmission force main beneath the James River to convey flow from the new Boat Harbor pump station to new advanced treatment facilities at HRSD's existing Nansemond TP (Appendix A, Figure 2). The construction of the transmission force main involves two components: Transmission Force Main Section 1 (Subaqueous) and Transmission Force Main Section 2 (Land) (Appendix A, Figure 2).

The proposed Transmission Force Main Section 1 (FM1) alignment would be approximately 24,394 feet (4.6 miles) in length under the river, and would roughly parallel, to the west side, the Monitor-Merrimac Bridge-Tunnel (I-664) (Appendix A, Figure 2). Installation of FM1 would include a combination of approximately 16,772 feet (3.2 miles) of riverbed trenching on the south shore and 5,678 feet (1.1 miles) of horizontal directional drilling (HDD) from the Newport News shoreline to a temporary water platform south of the federal shipping channel. FM1 would also involve an additional 1,546 linear feet of on-land force main on the Newport News side to connect to the Boat Harbor pump station, and it would continue for an additional 398 feet on land on the Suffolk shore before its connection with Transmission Force Main Section 2 (FM2).

The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. FM2 would connect to the FM1 section approximately 398 feet south of the James River shoreline, then continue south, generally paralleling Jamestown Road, Park Drive, and College Drive, and terminate at the Nansemond TP (Appendix A, Figure 2).

4. Alternatives

In accordance with VDEQ CWRLF regulations, the EA process for a proposed action that does not fall into a category for potential exclusion must include an evaluation of alternatives and a discussion of the potential environmental impacts. This section describes the alternatives that were considered in addressing the purpose and need stated in Section 2 above. Three alternatives are summarized in this EA: the No Action Alternative (Alternative A), the Proposed Action Alternative (Alternative B), which is the construction of the transmission force main and pump station, and the Alternate Alignment (Alternative C), which is a variation of Alternative B in which FM2 takes a more westerly route on the Suffolk side of the Project area.

Several alternative alignments for both FM1 and FM2 were evaluated and ultimately dismissed in favor of the Proposed Action Alternative, as shown on Figures 3 and 4, respectively, in Appendix A. Those alternatives were considered and dismissed and therefore are not discussed in detail in this document. The Proposed Action Alternative was selected in consideration of both environmental and cultural resources.

4.1 Alternative A: No Action Alternative

The No Action Alternative is defined as maintaining the status quo (baseline conditions). The No Action Alternative is used to provide a benchmark against which other alternatives may be evaluated. Under the No Action Alternative, no modifications would be made to the existing wastewater treatment system, and portions of the existing Boat Harbor TP that lie within the 100-year floodplain would be subject to continued regular flooding. The Project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure; saltwater intrusion and land subsidence would continue. The existing Boat Harbor TP incinerator would continue to be used, requiring approximately 67,000 MCF (one thousand cubic feet) of natural gas per year to remain operational, and it would continue to release carbon dioxide, sulfur dioxide, and nitrogen oxides into the air, at levels within regulatory requirements. HRSD would not meet its goal of closing the Boat Harbor TP. The Boat Harbor TP would remain in operation and HRSD would be required to keep the TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply and other ancillary benefits of SWIFT. The No Action Alternative does not meet the purpose and need for the proposed project.

4.2 Alternative B: Construction of Boat Harbor Pump Station and Boat Harbor Transmission Force Mains 1 and 2 (Proposed Action Alternative)

Under the Proposed Action Alternative (proposed Project), HRSD proposes to construct a new 36.5 MGD pump station and installation of a new 36-inch diameter transmission force main beneath the James River to convey flow from the new Boat Harbor pump station to new advanced treatment facilities at HRSD's existing Nansemond TP. This will provide more effective treatment of wastewater in the region. The Proposed Action would also recharge the Potomac Aquifer, reduce the amount of nutrients released into the James River basin, and

provide long-term cost savings associated with consolidating wastewater treatment and SWIFT facilities at the Nansemond TP.

Boat Harbor Treatment Plant Pump Station Conversion

Under the Proposed Action Alternative, the existing Boat Harbor TP will be converted to a pumping station. The existing Boat Harbor TP and associated incinerator would be closed. A new pump station, including equalization and headworks facilities, would be constructed on the Newport News side of the Project area, northwest of the existing treatment plant. The proposed site of the new pump station is within a heavily disturbed, industrialized area. The new infrastructure would be designed to meet HRSD's resiliency standards and consider remote operation and access in future conditions, including sea level rise.

Boat Harbor Transmission Force Main Section 1

Under the Proposed Action Alternative, the proposed FM1 alignment would be approximately 24,394 feet (4.6 miles) in length under the James River, and would roughly parallel, to the west side, the Monitor-Merrimac Bridge-Tunnel (I-664) (Appendix C). Installation of the force main would include a combination of approximately 16,772 feet (3.2 miles) of riverbed trenching on the south shore and 5,678 feet (1.1 miles) of horizontal directional drilling (HDD) from the Newport News shoreline to a temporary water platform south of the federal shipping channel. FM1 would also involve an additional 1,546 linear feet of on-land force main on the Newport News side to connect to the Boat Harbor pump station, and it would continue for an additional 398 feet on land on the Suffolk shore before its connection with FM2.

The total limit of disturbance would include approximately 106 acres. The proposed construction method for the river crossing contains the following key criteria:

Shipping channel segment:

- Land-to-water HDD from the Newport News shoreline to a temporary platform south of the federal shipping channel
- A temporary platform for HDD drilling equipment set up in the river south of the shipping channel to provide a length range of 4,000 to 5,000 feet (estimated as a feasible distance for installing high-density polyethylene [HDPE] pipe via HDD); platform options include barges—anchored or jack-up
- Entire river crossing to be HDPE with no dissimilar material connection
- HDD depth of approximately 60 feet below shipping channel bottom
- Pipe assembly on-land for HDD pull-back operation

Riverbed trenching segment:

- Open-cut pipe burial depth of approximately 8 to 10 feet below river bottom over the 16,772-foot length from outside the shipping channel to the south shore
- Side casting of trench materials and back-filling
- Continuous positive slope from HDD section to south shore to avoid high and low points

- In-water connection point at the HDD temporary work platform in river (south of shipping channel) for connection between trenched and trenchless segments

Access and temporary workspace for construction equipment outside of the James River would be in uplands. Equipment en route to the river would use existing roadways or developed land. Performing the work within the river would require barges and supporting marine equipment such as tugs and personnel/materials boats. Exact methods and equipment would be determined by the selected design-build contractor.

Boat Harbor Transmission Force Main Section 2

The FM2 section would connect to FM1 approximately 398 feet south of the James River and terminate at the Nansemond TP site. HRSD has been involved in active stakeholder engagement throughout the preliminary engineering phase of work, including coordinating with the Gee's Group (land developer / property owner), Tidewater Community College (TCC) (landowner), City of Suffolk, BCP Suffolk LLC (land developer / property owner), the U.S. Army Corps of Engineers (USACE), and the Virginia Department of Transportation (VDOT). The routing alternatives also considered the site's historical significance as well as the recent residential, educational, and commercial development (Appendix A, Figure 4).

The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. FM2 would connect to the FM1 section approximately 398 feet south of the James River shoreline, then continue south, and terminate at the Nansemond TP (Appendix C). From the point of connection with FM1, FM2 would follow the proposed TCC right-of-way along Jamestown Road, continue south through TCC's future access road to Wellner/Park Drive and extend southeasterly to College Drive. From there, it would be routed on the eastern side of the traffic roundabout and cross Armstead Road before transitioning onto College Drive. From College Drive, the pipeline would continue east through the Gee's Group property easement, beneath I-664, and terminate at the Nansemond TP.

Under Proposed Action Alternative, construction would be along existing corridors and would require limited clearing or access within undeveloped upland areas; it would avoid impacts to tidal and non-tidal wetlands. This alternative would minimize conflicts with future TCC development plans. Moreover, this alignment limits the FM2 easement within the Former Nansemond Ordnance Depot (FNOD) property, a listed Superfund site, which would minimize safety concerns related to the potential to encounter unexploded ordnance (UXO) during construction activities. FM2 does not traverse an FNOD area scheduled for USACE remediation by the end of 2022.

HRSD would acquire property for the construction of the new Boat Harbor pump station and would acquire easements for some areas along the force main as well as signatures from existing oyster ground leaseholders. HRSD will not require any property condemnations for this project. Much of the proposed FM2 alignment is within existing road rights-of-way (ROWs).

Project construction is anticipated to begin in January 2023 and last through 2025. Construction in any given location would be substantially shorter: construction of the pump station would take several months, while construction of the force mains would occur linearly, with construction lasting only a few days to a week in each 100 to 200-foot segment, depending on installation method and substrate. Schedule details will be finalized by the design-build team.

4.3 Alternative C: Construction of Boat Harbor Pump Station and Boat Harbor Force Mains 1 and 2 (Alternate Westerly Route of FM2)

Alternative C is identical to Alternative B except that the FM2 alignment takes a more westerly route. Alternative C is included as a contingency, should the FNOD areas through which FM2 traverses under Alternative B not be remediated prior to construction of the Project. To avoid the FNOD areas, FM2 would follow the same route as Alternative B until a point approximately 500 feet south along Jamestown Road, where FM2 would turn to the west, along a future roadway to be built by TCC. FM2 would proceed west for approximately 1,500 feet then turn south along another future TCC roadway. From there, FM2 would turn back east along Park Drive, and at Wellner Drive it would coincide with the Alternative B alignment to Nansemond TP (Appendix A, Figure 2). The total limit of disturbance would include approximately 111 acres.

5. Affected Environment and Potential Impacts

5.1 Wildlife and Marine Life

5.1.1 Affected Environment

5.1.1.1 Federally Listed Threatened and Endangered Species – USFWS

The Endangered Species Act (ESA) establishes a federal program to conserve, protect, and restore threatened and endangered plants and animals and their habitats. Section 7 of the ESA states that any project authorized, funded, or conducted by any Federal agency should not "... jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ... to be critical." The lead federal agency (for this Project, EPA) is required to "informally" consult with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitats occur near the proposed Project. Section 6 of the ESA mandates that all state agencies must ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction of critical habitat for these species. State agencies have the authority to enact their own programs for protecting threatened or endangered species as long as it meets the threshold of significance set by the ESA.

On March 12, 2021, the USFWS Information for Planning and Consultation (IPaC) online system was used to identify two federally listed species as having the potential to occur in the Project vicinity: the threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) and the threatened red-cockaded woodpecker (*Picoides borealis*). In May, June, August, and October 2020, AECOM performed site reconnaissance of the Project area to field-verify areas identified via desktop analyses as potentially suitable or marginal habitats for threatened or endangered species. An on-site, reconnaissance-level habitat assessment was performed for the red-cockaded woodpecker and NLEB. Neither species was observed within the Project area. According to the Virginia Fish and Wildlife Information System (VaFWIS) NLEB Winter Habitat and Roost Tree Application, the nearest known maternity roost for the NLEB is approximately 35 miles southeast of the Project area (VDGIF 2021a, 2021b; Appendix C). There are no documented maternity roosts or hibernacula within 150 feet and 0.25 mile of the Project area, respectively.

5.1.1.2 Federally Listed Threatened and Endangered Species – NMFS

Two National Marine Fisheries Service (NMFS) Endangered Species Act (ESA)-listed species of fish (Atlantic and shortnose sturgeon) and four listed species of sea turtles (leatherback, loggerhead, Kemp's ridley, and green) potentially could occur in the Project area. Designated critical habitat for the Atlantic sturgeon in the James River overlaps the northernmost end of the proposed pipeline alignment (Appendix A, Figure 3). Approximately 940 feet (0.18 mile) of the north end of FM1, extending south from the Newport News shoreline, would be installed within

the boundary of the critical habitat area; however, FM1 would be installed via HDD throughout this area and would have no impact on the designated critical habitat.

5.1.1.3 Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668–668C) and Migratory Bird Treaty Act

The Bald and Golden Eagle Protection Act (BGEPA) makes it unlawful to take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald or golden eagle, alive or dead, or any part, nest, or egg thereof without a permit. Since delisting of the Bald Eagle under ESA in 2007, bald eagles are now protected solely by the BGEPA along with the Migratory Bird Treaty Act (MBTA). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of Federal Regulations (CFR) 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandoning eggs or young) may be considered a take and is potentially punishable by fines and/or imprisonment. If an action is determined to cause a potential take of migratory birds, as described above, then consultation with the USFWS needs to be initiated to determine measures to minimize or avoid these impacts.

The state of Virginia is located within the Atlantic Flyway where forested and agricultural lands may provide resting, feeding, and breeding grounds for migratory birds and the bald eagle (*Haliaeetus leucocephalus*). No bald eagles were observed flying over the Project area, and no in-use bald eagle nests were observed in the vicinity of the Project area during the onsite investigations. The Center for Conservation Biology (CCB) Mapping Portal identified one nest, SU2003, on the Suffolk side of the James River (Appendix D). The USFWS Virginia Field Office's Bald Eagle Map Tool identified the nearest bald eagle concentration area approximately 4.2 miles northwest of the Project area (Appendix D). The Project area does not intersect with any bald eagle concentration areas identified by the USFWS Virginia Field Office's Bald Eagle Map Tool. Given the distance from the Project construction activities (i.e., greater than 660 feet from the documented nest), impacts to the bald eagle concentration area or bald eagle nests are not anticipated.

The proposed Project area is a combination of industrial areas, open water of the James River, mixed development, and mixed forested land, which has the potential to support habitat for many migratory species of birds of conservation concern (BCC). Most of the USFWS-listed BCCs with potential to occur within the Project area breed between the months of May and August. However, much of the proposed Project would be constructed within existing industrial areas and road ROWs, which are disturbed habitats that provide marginal habitat for these species.

5.1.1.4 Marine Mammal Protection Act (16 U.S.C. §§ 1361–1407)

The Marine Mammal Protection Act (MMPA) prohibits the “take” of marine mammals, with certain exceptions, in waters under U.S. jurisdiction and by U.S. citizens on the high seas. Under Section 3 of the MMPA, “take” is defined as “harass, capture, hunt, kill, or attempt to harass, capture, hunt, or kill any marine mammal.” “Harassment” is defined as “any act of pursuit, torment, or annoyance that has the potential to injure marine mammal stock in the wild;

or has the potential to disturb marine mammal stock in the wild by disrupting behavioral patterns, including migration, breathing, nursing, breeding, feeding, or sheltering.” The MMPA requires consultation with NOAA Fisheries if impacts on marine mammals are unavoidable.

According to mapping of marine mammal distributions by NMFS, marine mammals with the potential to occur in the waters of the James River estuary near the proposed pipeline alignment are the bottlenose dolphin and West Indian manatee. The West Indian manatee is federally listed as threatened and is under the jurisdiction of the USFWS. EPA included this species in the ESA coordination with USFWS discussed above.

The bottlenose dolphin (*Tursiops truncatus*) occurs in Virginia waters throughout the year; however, its presence increases substantially in the spring and summer months. Significant bottlenose dolphin presence in the Chesapeake Bay and coastal waters of Virginia typically begins in April or May and appears to be strongly correlated with water temperatures. Southward migration typically begins in August or September, with dolphin presence significantly reduced by October or November.

5.1.1.5 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), amended by the Sustainable Fisheries Act of 1996, establishes procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a Federal Fishery Management Plan. The MSA requires federal agencies to consult with NOAA Fisheries on all actions or proposed actions authorized, funded, or undertaken by the agency that might adversely affect EFH.

According to the NOAA EFH Mapper, EFH for one or more life stages of 12 federally managed fish species has been designated in the waters in the vicinity of the Project area (Appendix D).

5.1.1.6 Oyster Grounds

The proposed Project alignment would cross public and private oyster grounds off the south shoreline (Appendix A, Figure 3, Appendix B). Assuming the width of the corridor in which oyster beds may be directly impacted by trenching would be 90 feet, the total area of oyster ground leases potentially affected would be approximately 15.8 acres. In May 2021, a shellfish resources survey was conducted by the Virginia Institute of Marine Science (VIMS) (Appendix F). The survey found that no significant oyster populations were observed in the majority of the proposed trenching area, and clam densities were comparatively low as well, as shown by the comparison of 2001-2002 surveys.

5.1.1.7 Special-Status Species Under State Jurisdiction

The Virginia Department of Wildlife Resources maintains records of species known to occur or likely to occur throughout the Commonwealth of Virginia in the VaFWIS database. Review of this database identified several state-listed species with the potential to occur within a 2-mile radius of the Project area (Appendix D). Of these species, there are two species with documented occurrences within 2 miles of the Project area—the loggerhead sea turtle (federally and state listed as threatened) and the peregrine falcon (*Falco peregrinus*, state listed as threatened).

The loggerhead sea turtle is discussed above as a federally listed species under NMFS jurisdiction. The VAFWIS-documented occurrence of the peregrine falcon is mapped off-site and east of the Project location. Potentially suitable nesting and foraging habitats for the peregrine falcon are present within the Project area.

The VaFWIS habitat prediction model also identified four species without recorded occurrences but with the potential to occur within a 2-mile radius of the Project area: the piping plover (*Charadrius melodus*; federally and state listed as threatened); the Wilson's plover (*Charadrius wilsonia*; state listed as threatened), the canebrake rattlesnake (*Crotalus horridus*; state listed as endangered); and the Mabee's salamander (*Ambystoma mabeei*; state listed as threatened).

5.1.2 Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. No modifications would be made to the existing wastewater treatment system. The Boat Harbor/Nansemond SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure; saltwater intrusion and land subsidence would continue; and increased capital investment would be needed for ongoing wastewater treatment plant upgrades. The existing treatment facilities would continue to be used and HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply and other ancillary benefits of SWIFT. The Boat Harbor TP would be at risk from regular flooding, potentially jeopardizing aquatic and marine life as a result of water quality impacts or debris carried downstream during storm events.

Alternative B – Under the Proposed Action Alternative, the force main would be constructed primarily within industrial areas on the Newport News side, beneath the James River, and primarily along existing road ROWs and disturbed areas on the Suffolk side. Limited tree clearing would be required during construction activities, as the Project area is already largely cleared of large trees. As a result, minimal upland habitat disturbance would occur, having a negligible adverse impact on migratory birds and general wildlife species present in or surrounding the proposed Project area. Though the Boat Harbor TP effluent currently meets regulatory requirements, the SWIFT advanced water treatment facility would treat the effluent beyond the standards required for wastewater, resulting in higher quality water than achievable through wastewater treatment alone. This would result in even further pollutant reductions and an overall benefit to wildlife and marine life. Potential impacts to aquatic species, marine life, and special-status species as a result of the Proposed Action Alternative are discussed below.

5.1.2.1 Federally Listed Threatened and Endangered Species – USFWS

On April 27, 2021, EPA initiated informal consultation with USFWS with a no effect determination for the red-cockaded woodpecker, as well as a no effect to the West Indian manatee (*Trichechus manatus latirostris*) (Appendix D). EPA's letter also included the USFWS self-certification letter for the NLEB noting a may affect, not likely to adversely affect determination. The Project activities would comply with the USFWS NLEB 4(d) rule, and voluntary conservation measures, such as a time-of-year restrictions on tree removal (June 1 – July 31) and minimizing light pollution through downward adjusted light angles, would be implemented where practical. After 60 days, no objection was received from USFWS.

5.1.2.2 Federally Listed Threatened and Endangered Species – NMFS

Approximately 940 feet (0.18 mile) of the north end of FM1, extending south from the Newport News shoreline, would be installed within the boundary of the critical habitat area; however, FM1 would be installed via HDD throughout this area and would be expected to have no impact on the designated critical habitat. On May 11, 2021, EPA initiated informal consultation with NMFS with a “may affect, not likely to adversely affect” determination for all identified species and critical habitat. On June 9, 2021, NMFS concurred with EPA’s conclusion that the proposed action is not likely to adversely affect any NMFS ESA-listed species (Appendix E). NMFS also concurred with the determination that effects to designated Atlantic sturgeon critical habitat, including increased turbidity and habitat modification, would be temporary and minimized by deployment of sediment curtains where practicable. NMFS also stated that the effects of the action on Atlantic sturgeon critical habitat would be too small to be meaningfully measured or detected, are insignificant, and that no further Section 7 consultation is required.

5.1.2.3 Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668–668C)

Given the distance from the Project construction activities (i.e., greater than 660 feet from the documented nest), impacts to the bald eagle concentration area or bald eagle nests are not anticipated.

5.1.2.4 Marine Mammal Protection Act (16 U.S.C. §§ 1361–1407)

Proposed Project activities within the James River, associated with the installation of FM1 beneath the riverbed, may impact marine mammals (i.e., the bottlenose dolphin) during the construction period. However, potential occurrences of bottlenose dolphins in the Project area are infrequent and seasonal. Any impacts during construction would be temporary and prevented or minimized using Best Management Practices (BMPs), such as sediment curtains and protected species observers where practicable. The pipeline installation for the proposed Project would be in the estuary near the mouth of the James River. HDD would be used to install approximately 4,330 feet of the pipeline beneath the main river channel, precluding in-water work in the main channel. This would allow bottlenose dolphins a zone of passage to swim up and down river during the anticipated 2-year construction period. In addition, dolphins are highly mobile and able to avoid areas of construction activity and noise.

Trenching for installation of the remaining 16,772 feet of pipeline beneath the river would directly damage the benthic community of an approximately 90-foot-wide corridor within the alignment, affecting a riverbed area of approximately 34.7 acres. It could cause temporary impacts in the Project area and adjacent areas as a result of increased turbidity and sediment deposition. These impacts would temporarily reduce populations of fish and benthic invertebrates on which bottlenose dolphins may feed, but the area affected would be small compared to the extensive habitats where they could forage in nearby areas of the James River and Chesapeake Bay. Long-term operation of the proposed Project would not affect bottlenose dolphins or other marine mammals. Overall, the proposed Project has only a minimal potential to affect bottlenose dolphins, and any effects would be discountable.

5.1.2.5 Essential Fish Habitat

Direct and minor impacts on EFH from sediment disturbance, turbidity, and sedimentation may occur during the construction period associated with the installation of the proposed pipeline beneath the James River. However, impacts would be temporary and prevented or minimized using BMPs, such as sediment curtains where practicable. Long-term operation of the proposed Project would not affect EFH. Potential adverse effects of the proposed Project on EFH would be minimal and short-term, and the overall effects on EFH would not be substantial or significant.

On May 5, 2021, the EPA on behalf of HRSD, initiated consultation with NOAA Fisheries (Appendix E). Additional information was requested by NOAA Fisheries on May 18, 2021, including a more detailed analysis of sediment transport resulting from the riverbed trenching activities and potential impacts on EFH. Further information was provided to NOAA Fisheries on December 16, 2021, including a sediment impact analysis (Appendix E). On January 31, 2022, NOAA Fisheries requested additional information regarding construction methods. Upon HRSD's selection of a design-build contractor, details regarding construction methods will be provided and HRSD will coordinate with NOAA Fisheries to identify construction methods and mitigation measures that will ensure no significant adverse effect on EFH. Consultation with NOAA Fisheries is ongoing.

5.1.2.6 Oyster Grounds

In May 2021, VIMS conducted a shellfish survey of the proposed Project area and found that significant oyster populations do not occur along the majority of the proposed trenching area (Appendix F).

On November 15, 2021, HRSD submitted a Nationwide Permit #58 Joint Permit Application to the USACE, VDEQ, and Virginia Marine Resources Commission (VMRC). Additional information was requested by VMRC on January 6, 2022, including more detailed construction methodology of the proposed subaqueous force main installation, riverbed trenching activities, and potential impacts on aquatic and benthic species (Appendix E). Upon HRSD's selection of a design-build contractor, details regarding construction methods will be provided. Consultation with VMRC is ongoing.

5.1.2.7 Special-Status Species Under State Jurisdiction

The loggerhead sea turtle is discussed above as a federally listed species under NMFS jurisdiction. The documented occurrence of the peregrine falcon is mapped off-site and east of the Project location. Potentially suitable nesting and foraging habitats for the peregrine falcon are present within the Project area, but by abiding a tree-clearing restriction from 15 February through 15 July, proposed Project activities are not likely to adversely affect the peregrine falcon.

Piping plover habitat consists of sparsely vegetated, ocean-facing beaches, sandflats, and washovers. There are no sandy beaches within the action area and no positive observations have occurred within a 2-mile radius; therefore, the proposed action would have no effect on the piping plover. Wilson's plover habitat is open areas, including sandy beaches, estuaries, and tidal mudflats. A 100-foot resource protection area (RPA) buffer has been placed on the

estuarine emergent wetlands mapped along the eastern Project boundary, and no positive observations for Wilson's plover have been made within a 2-mile radius of the Project. Therefore, the proposed action would have no effect on Wilson's plover.

Canebrake rattlesnake habitat consists of mature hardwood, mixed hardwood-pine forests, forested cane thickets, and ridges adjacent to swampy areas. The forested areas throughout the Project area adjacent to delineated wetland features may provide suitable habitat for the canebrake rattlesnake. No positive observations have occurred within a 2-mile radius of the Project location. Given the species' mobility and the availability of suitable adjacent habitat that would not be impacted, the proposed action is not likely to adversely affect the canebrake rattlesnake.

Habitat for Mabee's salamander is described as savannas on the edges of bogs or ponds, low wet woods and swamps, and adjacent to ditches and pools. The Project area includes several wetland features that are free of fish with adjacent uplands that may provide suitable habitat. Given the avoidance of wetlands and the availability of suitable adjacent habitat that would not be impacted, the Project is not likely to adversely affect Mabee's salamander.

Alternative C – Under the Alternate Westerly Route of FM2, environmental consequences related to Wildlife and Marine Life would be very similar to those of the Proposed Action Alternative. The FM2 route would follow road ROWs that will have been recently constructed by TCC so impacts to wildlife would be minor and temporary.

Mitigation Measures

As discussed above in Section 4.2, the preliminary planning and design process evaluated several options for the FM1 and FM2 route alignments. The FM1 alignment was designed in consideration of both environmental and cultural resources. By locating the proposed FM1 route on the west side of the I-664 bridge tunnel, known SAV beds, public parks, and archaeological sites located to the east side were avoided. The proposed FM1 route was also designed to avoid remnants of historical shipwrecks that are potentially eligible for the National Register of Historic Places (NRHP) and to minimize crossing known oyster beds. The HDD under the main river channel would allow marine mammals, fish, turtles, and other aquatic species, a zone of passage to swim up and down river during the 2-year construction period. In addition, sediment curtains would be installed where practicable to minimize turbidity from the riverbed trenching activities. Additional mitigation measures regarding EFH and benthic species are being coordinated with NOAA Fisheries and VMRC.

An inadvertent returns (IR) contingency plan as well as material management and spill prevention plans are required submittals for the selected design-builder and would be carefully considered by HRSD prior to approving the start of work.

The proposed pump station and FM2 route would avoid all impacts to tidal and non-tidal wetlands. The Project would be constructed in accordance with Virginia Erosion and Sediment Control Regulations, and Virginia Stormwater Management Program Regulations. Appropriate erosion and sediment (E&S) controls and BMPs would be implemented (e.g., super silt fence, sediment basins, inlet protection, outlet protection, etc.) during construction and operations to further minimize the proposed Project's potential direct and indirect impacts to resources on-

and off-site. All E&S controls would be consistent with the Virginia Erosion and Sediment Control Handbook.

Since the Proposed Action Alternative would have no effect on the federally listed northern long-eared bat or on state listed species, no mitigation measures are required for these species. However, appropriate BMPs would be utilized to minimize habitat disturbance, including avoiding tree clearance during the breeding season for migratory BCCs potentially present in the proposed project area.

5.2 Marshland And Wetlands

Section 404 of the Clean Water Act regulates the discharges of dredged or fill material into all “waters of the U.S.,” including wetlands. Authorization to fill wetlands and waters are granted from the USACE. A permit through the USACE is necessary for any work in Waters of the U.S. (WOTUS) and the type of permit required is based on the proposed project’s level of impact.

Affected Environment

On behalf of HRSD, a wetlands delineation was conducted by AECOM environmental scientists in May, June, August, October, 2020 and January 2022 to determine the extent of jurisdictional WOTUS within the Project area (Appendix A, Figure 5). Portions of the study area were not available for field surveys because of a lack of access permissions. However, within these areas that were not field delineated, no wetlands are anticipated considering past and ongoing development, including the construction activities for the mixed-use *The Point at Harbour View* development. The wetland field investigations identified several aquatic features within the Project area. Potential jurisdictional features include five non-tidal vegetated wetlands, one non-tidal open water depression, and the James River. Within the Project area, no vegetated wetlands occur along the banks of the James River. A request for jurisdictional determination from the USACE has been submitted.

Three forested wetland depressions (identified as WA, WCCC, and WEEE) and two emergent wetland depressions (identified as WAA and WDDD) were identified within the aquatic resource review area. These five wetland areas are within the immediate proximity of the proposed Project, but no impacts to these features are proposed. The James River is the only stream feature identified within the Project area. The aquatic resources are depicted on the Aquatic Resources Map (Appendix A, Figure 5).

One open water feature (POW-A) was identified within the Project area. POW-A is a 0.38-acre open water depression. This feature appears to be used as a stormwater detention basin currently but may have been a natural feature prior to development within the area. No outlet was observed, and no wetland fringe was observed. Impacts to this feature will be avoided either by locating the force main to the northeast along Wellner Drive or by using boring construction techniques. Two other non-jurisdictional, man-made stormwater basins located within uplands were identified within the Project area. The approximate location and extent of the wetlands and other water features identified within the Project area are depicted on the Aquatic Resources Map (Appendix A, Figure 5).

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. Alternative A could result in long term adverse effects on water quality of marshlands and wetlands because the Boat Harbor/Nansemond SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure and saltwater intrusion and land subsidence would continue. The existing treatment facilities would continue to be used; HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply and other ancillary benefits of SWIFT. Under Alternative A, marshlands and wetlands would not benefit from pollutant reductions proposed under the SWIFT project.

Alternative B – Under the Proposed Action Alternative, HDD and riverbed trenching of the James River may result in a temporary increase in erosion and sedimentation in the James River, but no direct adverse impacts to vegetated wetlands are anticipated.

To meet the purpose and need of the Project, the FM1 alignment must cross the James River. As such, trenching activities would result in direct and indirect impacts to the riverbed under the Proposed Action Alternative. The impacts would be temporary and are anticipated to have minimal adverse impacts on the aquatic ecosystem. Approximately 34.7 acres of riverbed sediment would be disturbed during the FM1 construction phase, including 15.8 acres of mapped oyster grounds, and 0.057 acre of non-vegetated wetlands between the Mean High Water (MHW) line and the Mean Low Water (MLW) line. No vegetated wetlands occur within the north and south sides of the James River shoreline within the Project area (Exhibit 2).



2A. View looking at north side of James River



2B. View looking at south side of James River

Exhibit 2: Photographs of the north and south side of the James River shore near the Project area

The Project would have an overall long-term benefit on wetlands, flood risk, aquifers, and groundwater supply by reducing aquifer-related land subsidence in coastal Virginia and allowing additional time to adapt to sea level rise. The Project would also protect valuable coastal wetlands for decades longer than currently projected.

Alternative C – Under Alternative C, impacts to marshlands and wetlands would be the same as those of Alternative B, since the portion of the force main along the westerly alignment of FM2

that deviates from Alternative B would avoid all impacts to wetlands, just as would be the case with Alternative C.

Mitigation Measures

Many of the mitigation measures for marshlands and wetlands impacts are discussed above in Section 5.1.2, including avoidance and minimization measures taken during the project design phase, inadvertent release contingency plan, and E&S controls and BMPs.

HRSD anticipates no permanent impacts to the riverbed or the landside sections as the pipeline would be buried. The land sections would be restored to pre-construction conditions and the trenched river section would be backfilled using excavated materials, where practicable, with final riverbed grades achieved through the dynamic sediment transport in that portion of the river.

The project would be in compliance with all federal, state, and local wetland regulations. HRSD would develop a Stormwater Pollution Prevention Plan (SWPPP) and implement standard erosion and sediment control devices (e.g., sediment traps) to avoid or minimize off-site runoff of stormwater and sediment into nearby wetlands or marshlands.

5.3 Displacement of Households, Businesses, or Services

Displacement refers to the dislocation of people, businesses, institutions, or community facilities as a result of a project. Direct displacement is involuntary displacement of an occupant due to development of a project. Indirect displacement is a result of environmental, geographical, or socio-political consequences of project development.

Affected Environment

The proposed Project area is surrounded primarily by industrial and developed land and undeveloped mixed forest. There are no residences in the immediate vicinity of the Project area, although residential areas are located north and northeast of the Project on the Newport News side and southwest of the Project on the Suffolk side. The Proposed Action would occur primarily along existing ROWs. HRSD would negotiate with property owners, whose land the Project crosses, to acquire easements along the alignment as necessary. These property owners include the Gee's Group (land developer / property owner), TCC (landowner), City of Suffolk, BCP Suffolk LLC (land developer / property owner), the USACE, and VDOT. Additionally, FM1 crosses oyster grounds held by two private leaseholders.

Environmental Consequences

Alternative A – Under the No Action Alternative, no households, businesses, or services would be displaced.

Alternative B – Under the Proposed Action Alternative, HRSD would acquire easements along the proposed alignment to access and connect the new force main to the new pump station and future infrastructure. HRSD would purchase the Boat Harbor pump station property. These easements and property would be obtained from the existing landowners under voluntary, mutually agreeable terms. No households, businesses, or services would be displaced during construction or operation.

Alternative C– Under Alternative C, HRSD would require a similar set of landowner agreements as with the Proposed Action Alternative. Most of the alternate westerly route traverses property owned by TCC.

Mitigation Measures

The proposed Project is not expected to displace any households, businesses, or services. Therefore, no mitigation would be required.

5.4 Land Use Issues

The Farmland Protection Policy Act is in place to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of prime and other farmlands of statewide or local importance to non-agricultural uses.

Formally Classified Lands are parcels that have been given special protections through federal, state, or local agencies. They include, but are not limited to, national parks and monuments; national natural landmarks; national battlefield park sites; national historic sites and parks; wilderness areas; national seashores, lakes, and trails; wildlife refuges; national conservation areas; wild and scenic rivers; state parks; Bureau of Land Management administered lands; and national forests and grasslands.

Affected Environment

The proposed Project area encompasses approximately 106 acres in the cities of Newport News and Suffolk. The surrounding area includes a combination of land use types. As detailed in **Error! Reference source not found.**, the Virginia Land Cover Dataset classifies the Project area as a combination of open water, impervious surfaces, forested land, trees, and turf grass areas (Appendix A, Figure 6).

Table 1: Land Use / Land Cover Types within the Project Area

Alternative B: Preferred Action Alternative Project Area	
Land Use Class	Acres
Water	86.39
Impervious	5.55
Forest	4.18
Tree	2.72
Turf Grass	7.34
Alternative C: Alternate Westerly Alignment of FM2	
Land Use Class	Acres
Water	86.43
Impervious	9.01
Forest	4.14
Tree	3.73
Turf Grass	8.01

According to the City of Newport News 2040 Comprehensive Plan (City of Newport News 2018) and the City of Suffolk 2035 Comprehensive Plan (City of Suffolk 2015), the Project study area is mapped for future use as “Industrial” on the Newport News side and “Mixed Use Core District” on the Suffolk side. The proposed Project would be consistent with both cities’ future land use plans and mapping.

The Proposed Action would primarily occur along existing road ROWs and industrial areas, but includes a large open water area of the James River.

The US Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS) maintains a database of soils throughout the country. NRCS soil data was reviewed for soil and prime/unique farmland information: 15.4 acres of prime farmland occurs within the proposed Project area. Soil units present within the proposed project area are described in Table 2. The NRCS web soil survey map is included as Appendix A, Figure 7.

Table 2: Soil Types for the Proposed Project Area

Alternative B: Preferred Action Alternative Project Area				
Map Unit Symbol	Soil Type	Prime Farmland?	Farmland of Statewide Importance?	Acres
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	Yes	No	10.34
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	Yes	No	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	No	No	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	Yes	No	0.56
26	Udorthents-Dumps complex	No	No	3.63
29	Weston fine sandy loam	Yes*	No	0.09
6	Dragston fine sandy loam	Yes*	No	2.63
W	Water	No	No	86.43
Alternative C: Alternate Westerly Alignment of FM2				
Map Unit Symbol	Soil Type	Prime Farmland?	Farmland of Statewide Importance?	Acres
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	Yes	No	12.10
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	Yes	No	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	No	No	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	Yes	No	0.53
26	Udorthents-Dumps complex	No	No	3.63
27	Urban land	No	No	3.39
29	Weston fine sandy loam	Yes*	No	0.10
6	Dragston fine sandy loam	Yes*	No	2.62
W	Water	No	No	86.44
*prime farmland if drained				

The Newport News side of Project area was historically and currently used for industrial operations, while the Suffolk side of the study area includes the FNOD. As a result, there are numerous hazardous and toxic waste issues associated with the study area.

On the Newport News side, several recorded hazardous waste generators occur within the Project study area, including Kinder Morgan, Dominion, and HRSD (EPA NEPA assist 2020). No Superfund sites, brownfields, or active violations are documented on the Newport News side of the study area.

On the Suffolk side, the FNOD historically consisted of approximately 975 acres and was acquired by the Department of the Army between 1917 and 1928 and used primarily as an ammunition depot. FNOD was deactivated in 1960 and, in 1968, most of the property was bequeathed to the Commonwealth of Virginia (later TCC). TCC now occupies approximately 389 acres of FNOD. FNOD is currently owned by several property owners including the Suffolk Economic Development Authority (EDA), VDOT, and HRSD, among others (USACE 2018).

In 1984, the discovery of bulk explosives, small arms munitions, and other ordnance items, both spent and unexploded, and a several ton slab of crystalline 2,4,6-trinitrotoluene (TNT) prompted a remedial investigation and regulatory oversight by EPA (USACE 2016). In 1999, the EPA placed FNOD on the National Priorities List for private sites (64 Federal Register No. 140, 39878) and FNOD was listed as a non-federal facility Superfund site since the federal government no longer owned or operated any part of FNOD (USACE 2018). The initiation of the physical removal of identified munitions, explosives, and contaminants began in 1988 and was completed in 2004. The site is subject to activity and use limitations set by EPA that are aimed at reducing exposure to potential residual contamination (EPA 2020b). The Project proponents will coordinate with EPA to ensure the Project is in compliance with use limitations and to ensure hazardous and toxic materials are not exposed nor introduced as a result of the Project.

Based on a review of the National Parks Service (NPS) list of National Battlefields, National Parks, National Parkways, National Lakeshores, and other Formally Classified Lands, there are no designated lands in the proposed project area.

5.4.1 General Land Use

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no impacts to the land use in the proposed Project area and adjacent properties.

Alternative B – Under the Proposed Action Alternative, the Project could result in minor impacts to land use or zoning on the Suffolk side. However, any effects to land use or zoning would be minor relative to the larger development projects occurring in the Project vicinity (i.e., Suffolk EDA, Gee Group, and TCC developments). The proposed Project is expected to be substantially compatible with land use regulations, as it would not significantly change existing zoning classifications and would also support the surrounding land uses by providing a net benefit in wastewater treatment services to residences and businesses. As a result, the Proposed Action is anticipated to benefit residents in and adjacent to the proposed Project area.

HRSD will coordinate with USACE and VDEQ as necessary in order to identify any locations where hazardous materials or contamination may still be present, and to determine appropriate

control measures. While soils excavated during proposed construction activities are not anticipated to be contaminated, should any suspected contaminated soils be uncovered, they would be tested and disposed of in accordance with applicable federal, state, and local regulations.

Alternative C – Under Alternative C, the Project would have similar effects on land use and zoning as the Proposed Action Alternative. If the FNOD areas scheduled for remediation by the end of 2022 are not completed, HRSD would select Alternative C, where the potential for encountering contaminated soils associated with FNOD would be decreased. HRSD would coordinate with USACE and VDEQ regarding potential contamination concerns regardless of which FM2 alignment is selected.

Mitigation Measures

The Proposed Action is expected to be compatible with existing land use regulations; therefore, no mitigation measures are required. Should potentially contaminated soils be excavated, they would be tested and disposed of properly.

5.4.2 Important Farmland and Open Space

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to important farmland or open space.

Alternative B – Under the Proposed Action Alternative, approximately 15.4 acres of the proposed Project area would be located on prime farmland, most of which is located within existing ROWs. Many of these soils are already disturbed due to prior ROW construction (i.e., for the roads/railroad), but would undergo further disturbance during the proposed construction activities, resulting in a permanent loss of prime farmland. However, the location of the proposed Project area within an existing ROW and industrial/developed areas precludes these soils from agricultural use. Additionally, given the prevalence of prime farmland soils in the surrounding areas, the loss of prime farmland as a result of the Proposed Action would be minimal on a regional scale. Therefore, construction of the Proposed Action would have long-term, negligible impacts on prime farmland.

Some of the proposed Project area could be considered open space. However, throughout these areas, the Proposed Action would have no effect on potential open space uses, or any other open space benefits such as recreation since the force main would be belowground. Therefore, the Proposed Action would have no impacts to such areas.

Alternative C – Under Alternative C, the Project would have similar effects on farmland and open space as the Proposed Action Alternative. Under Alternative C, approximately 17.2 acres of the proposed Project area would be located on prime farmland, most of is located along future road ROWs.

Mitigation Measures

The Proposed Action is expected to have negligible impacts on prime farmland and no impacts on open space; therefore, no mitigation measures are required.

5.4.3 Formally Classified Lands

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to Formally Classified Lands.

Alternative B – Under the Proposed Action Alternative, there would be no impacts to Formally Classified Lands as these designated lands are not located within the proposed Project area.

Alternative C – Under Alternative C, there would be no impacts to Formally Classified Lands as these designated lands are not located within the proposed Project area.

Mitigation Measures

No Formally Classified Lands were identified within the proposed Project area; therefore, no mitigation measures are required.

5.5 Areas of Historical Significance and Lands Having Archaeological Significance

The National Historic Preservation Act (NHPA) of 1966 (16 U.S. Code 470 et seq.), as amended, outlines federal policy to protect historic properties and promote historic preservation in cooperation with states, tribal governments, local governments, and other consulting parties. The NHPA established the NRHP and designated the State Historic Preservation Office (SHPO) as the entity responsible for administering state-level programs. The Virginia Department of Historic Resources (DHR) serves as the state's SHPO. The NHPA also created the Advisory Council on Historic Preservation, the federal agency responsible for overseeing the Section 106 process and providing commentary on federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR 800) outline the procedures for federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to any federal undertaking that has the potential to affect historic properties, defined in the NHPA as those properties (archaeological sites, standing structures, or other historic resources) that are listed in or eligible for listing in the NRHP. Although buildings and archaeological sites are most readily recognizable as historic properties, a diverse range of resources are listed in the NRHP, including roads, landscapes, Traditional Cultural Properties, and vehicles. Under Section 106, federal agencies are responsible for identifying historic properties within the Area of Potential Effects (APE) for an undertaking, assessing the effects of the undertaking on those historic properties, if present, and considering ways to avoid, minimize, and mitigate any adverse effects of its undertaking on historic properties. Further, it is the primary regulatory framework that is used in the NEPA process to determine impacts on cultural resources.

As part of the NEPA process for WIFIA funding, HRSD followed the Section 106 framework for identifying potential historic properties in the project's APE and evaluating potential effects thereto.

Affected Environment

Reviews of the Virginia Cultural Resources Information System (VCRIS) maintained by the DHR, the Virginia Archaeological Site Survey Records, the Virginia Historic Inventory Property Forms, and the NRHP were conducted as part of a cultural resources desktop survey of the Project area. The Project area is generally located in an area of high archaeological potential given its proximity to several colonial settlements.

In June, August, and October 2020, AECOM conducted investigations to identify and evaluate historic properties on the Newport News and Suffolk sides of the study area. The surveys were conducted pursuant to Section 106 of the NHPA of 1966, as amended; the Advisory Council on Historic Preservation's *Protection of Historic and Cultural Properties*; the DHR *Guidelines for Conducting Historic Resources Survey in Virginia*; and the Secretary of the Interior's *Standards and Guidelines for Curation*. AECOM also conducted a Phase I marine cultural resources survey in April and May 2020, and January 2021 of the underwater portion of the Project area that crosses the James River. The 2020 marine survey recorded two historic shipwrecks, identified as "Target 1" along the Newport News shoreline.

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to areas of historical significance nor lands having potential archaeological significance.

Alternative B – On April 24, 2021, EPA initiated consultation with the SHPO and made a "no historic properties affected" determination for the Project. EPA also recommended that the two archaeological shipwreck sites were potentially eligible for the NRHP, and that no additional investigations were recommended for several terrestrial archaeological sites and subaqueous targets and anomalies (Appendix G). On May 28, 2021, DHR concurred with this recommendation that no additional investigations were recommended for the terrestrial archaeological sites and subaqueous targets and anomalies (Appendix G). Additional comments were provided by the SHPO in a letter on July 9, 2021 (Appendix G). In the July letter, DHR concurred with all of EPA's findings, including that all architectural resources are not eligible for listing, the two archaeological shipwreck sites are potentially eligible for the NRHP, and the summarized concurrences in the May letter, which concluded the Section 106 consultation.

The proposed alignment would avoid impacts to the shipwrecks by trenching to the west of Target 1. To ensure adequate protection of the cultural resource, a 50-meter buffer would be established between the FM1 limit of disturbance and the shipwrecks.

Alternative C – Under Alternative C, impacts to areas of historical significance nor lands having potential archaeological significance would be similar to those of Alternative B, since the portion of the force main along the westerly alignment of FM2 that deviates from Alternative B would avoid all impacts to historic resources, just as is the case with Alternative C.

Mitigation Measures

Practicable mitigation measures include consultation with the SHPO and/or Tribal Historic Preservation Office, minimization of adverse effects, and development of an unanticipated discoveries plan. The location and extent of cultural resources in the Project vicinity has been considered during the Project design, as discussed in Section 4.3.

5.6 Irretrievable Resources

Irretrievable resources represent resources that will not be returned to their original state, resources that will be unavailable for a period of time, the loss of future opportunities that are foregone for the period of the Proposed Action, or the use of renewable resources, such as timber or human efforts, as well as other utilization opportunities that are foregone in favor of the Proposed Action.

Affected Environment

The Proposed Action would result in the commitment of natural and man-made resources. The primary commitment of resources would come from construction, and minimal commitment of resources for the operation and maintenance of the new transmission force main and pump station.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. The SWIFT facilities would not be built, which would result in irretrievable commitments of water and stability of the Potomac Aquifer because the water supply would continue to be depleted.

Alternative B – Under the Proposed Action Alternative, the construction of new transmission force mains and pump station would result in the irretrievable commitment of construction materials, energy resources, human effort, vegetation, and land. Construction materials, energy resources, and human effort would be irretrievably committed during the planning, construction, and maintenance phases of the proposed project. Some trees and vegetation within the proposed project area would require clearing; however, this impact has been minimized by locating the alignment primarily within existing ROWs. As a renewable resource, any clearing of vegetation would constitute an irretrievable loss of this resource for as long as it is prevented from regrowing. Additionally, in areas where the force main would be constructed outside of existing ROWs, land would be irretrievably committed as placement of the force main would preclude future development in those sites unless the line is moved.

There are no anticipated irretrievable commitments of water resources, cultural resources, or visual resources. These irretrievable resource commitments are all temporary in nature and would result in the eventual return to a natural state. The Proposed Action provides substantial long-term benefits that are not offered by the No Action Alternative. These benefits, such as the improved treatment of wastewater and improved integrity of the Potomac Aquifer, outweigh the up-front irretrievable commitment of resources associated with the Proposed Action Alternative.

Alternative C – Under Alternative C, HRSD would involve similar irretrievable commitments of resources as with the Proposed Action Alternative. Alternative C also provides substantial long-term benefits that are not offered by the No Action Alternative, which outweigh the up-front irretrievable commitment of resources associated with the Project.

Mitigation Measures

There are no specific mitigation measures to the irretrievable commitment of resources required for the Proposed Action Alternative. However, the irretrievable commitment of resources is minimized through the mitigation measures established for other environmental consequences.

5.7 Noise

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. The EPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals, which may experience an increased degree of annoyance or disruption from elevated noise levels.

Affected Environment

The nearest noise-sensitive receptor would be Tidewater Community College, with some classroom buildings located within the study area. Residents and visitors of the newly constructed mixed-use development in the south-central portion of the study area could also be affected by noise. Students, teachers, and administrators at the college and residents and visitors of the mixed-use development could experience elevated noise levels; however, HRSD has established and would continue to demonstrate a strong commitment to its neighbors and the communities it serves. Proposed upgrades would incorporate elements such as noise abatement measures aimed at promoting quality of life, environmental stewardship, transparency, and community engagement.

The EPA guidance for noise levels affecting residential land use stipulates that noise should be less than 55 dBA for exterior levels and less than 45 dBA for interior levels (EPA 1974). The U.S. Department of Housing and Urban Development (HUD) also recommends that exterior areas of frequent human use follow the EPA guideline of 55 dBA (HUD 2009). The City of Newport News places general restrictions on excessively loud noise but does not provide specific guidance on construction noise (City of Newport News 2020). In the City of Suffolk, construction of public projects is exempt from the city’s excessive noise ordinance (City of Suffolk 2020). Hence, in the absence of a quantified sound level threshold from local regulations, 55 dBA would be considered a guidance-based threshold for determining potential sound level impacts at noise-sensitive receptors (e.g., residences and schools).

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no impacts to noise levels.

Alternative B – Under the Proposed Action Alternative, noise would be primarily associated with the construction phase of the Project; however, this noise would be relatively temporary in duration, ceasing at the end of each workday and upon completion of the construction phase of the Project. The construction phase is anticipated to begin in 2023 and last through 2025. The construction schedule would be limited to weekdays; however, if necessary, the contractor may choose to work weekend shifts with approval of a variance from the cities of Newport News and Suffolk.

Construction noise would cause temporary and short-term adverse impacts to the ambient sound environment. Typical noise levels from construction equipment are expected to be 85 dBA or less at a distance of 50 feet from the construction site. These types of noise levels would diminish with distance from the construction site at a rate of approximately 6 dBA per each doubling of distance.

Construction noise would be expected to attenuate to 65 dBA at approximately 500 feet. This noise would attenuate to the recommended EPA noise guideline of 55 dBA at approximately 1,600 feet and would attenuate to 50 dBA at approximately 3,200 feet. These distances could be shorter in the field as objects and topography would cause further noise attenuation.

The most significant noise sources on the Project would be the HDD installation; however, the proposed HDD operation would be 1,500 feet from shore so onshore noise above ambient levels associated with the Project would be unlikely.

The operation of wastewater facilities would produce relatively minor levels of noise that would be localized to the Project study area. During Project operation, noise generated shall comply with local ordinances and shall be in accordance with the land use designations. If required, general mitigation measures would be implemented, such as placing intakes and exhausts facing away from sensitive receivers, housing equipment in buildings, and attenuating fan, pump, and motor noise. In most cases, noise from vehicular traffic created by operations and maintenance of the Project would be incidental in relation to the existing traffic use of surrounding roadways.

Overall, minimal noise impacts would occur along most of the proposed Project area, as it is located within industrial areas, beneath the James River, and along ROWs geographically removed from residential communities. For segments of the Project located near noise-sensitive receptors, temporary increases in noise levels would occur during construction from operation of heavy equipment and machinery.

Alternative C – Under Alternative C, noise impacts would be similar to those of the Proposed Alternative. The alternate westerly route of Alternative C would site portions of the Project closer to potential noise-sensitive receptors to the west, including the TCC campus. Through the use of noise mitigation measures, this Alternative would have minimal impacts on noise.

Mitigation Measures

To mitigate noise impacts to identified sensitive receptors, most construction activities would take place during weekdays and daylight hours except when construction activities may extend beyond daylight hours to allow for the completion of an activity, which could be a safety issue if not completed. By limiting construction activities to weekdays and daylight hours, noise impacts would be reduced during peak times when outdoor activities take place (weekends) and limited to hours when ambient noise levels are typically louder. If any work is conducted at night, it would last only a couple days in any one location.

If necessary, to address HDD noise, HRSD's selected contractor will install temporary sound walls and acoustic panels around onshore HDD locations where noise levels would exceed the ambient sound levels. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

5.8 Traffic Circulation and Traffic Pattern Disruption

Traffic is defined as the movement of vehicles on a road or public highway. Existing roadway conditions are evaluated based on roadway capacity and traffic volume. The capacity depends on roadway width, number of lanes, and other physical factors. Traffic volumes can be reported as the number of vehicles averaged over a daily period (i.e., average daily traffic [ADT]). Impacts to traffic patterns are primarily addressed qualitatively and incorporate estimates of anticipated vehicle trips associated with the proposed action relative to baseline conditions.

Affected Environment

The proposed new pump station and force main would be located in primarily within industrial areas on the Newport News side, beneath the James River and along existing road ROWs on the Suffolk side. The proposed Project area also crosses beneath Interstate Highway I-664.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no impacts to traffic.

Alternative B – Under the Proposed Action Alternative, the primary impacts on transportation and traffic would be short-term and intermittent from the movement of construction trucks potentially reducing roadway capacity. Construction trucks and equipment would travel on local roads; traffic on I-664 would not be interrupted. Traffic-generating construction activities would include arrival and departure of construction workers, trucks hauling equipment and materials to the construction site, the hauling of excavated soils, and potential importing of new fill. Construction equipment used for the Project may include concrete trucks, back-hoes, front-end loaders, trenchers, paving equipment, and periodic delivery of pipes and materials.

Once construction is completed and the Project is operational, traffic levels and flow would return to original levels. As the Project aims to improve and upgrade water networks, it would ultimately result in less maintenance and fewer unscheduled repairs that would require road closures or detours, and thus, provide a long-term minor benefit.

Effects could include temporary street closures, lane closures, detours, traffic and parking restrictions, and reduced traffic speeds. Temporary increases in vehicular traffic volume would occur throughout the duration of the proposed construction activities due to construction workers accessing the sites. Such increases would be negligible, and would not contribute to traffic congestion, as these vehicles would primarily access the construction sites via the main roadways, which have sufficient capacity for the additional vehicles. Use of local roads to access sites would represent a higher increase in traffic on those roads due to the current low ADT values; however, these increases would still be very minor and are anticipated to last no longer than a couple of days in most areas. Construction of the pump station would result in additional construction vehicle traffic on the surrounding roadways for a longer period of time, but no road or lane closures would occur. Operation of the transmission line would not result in additional traffic in the long-term. Therefore, short-term negligible impacts are anticipated to occur to roadways and traffic during construction, and no long-term impacts would result from the Proposed Action.

Alternative C – Under Alternative C, impacts on traffic circulation would be very similar to those of the Proposed Alternative.

Mitigation Measures

During construction, the construction contractor would be responsible for installing any necessary signage and barricades and implementing any traffic safety measures where appropriate. All construction vehicles would drive the posted speed limit on existing roadways.

Measures to minimize congestion and delays would be implemented during construction, including warning signage, limitation of public rights-of-way for staging, use of flag persons, lane closures, and detours. Appropriate coordination with local entities and the implementation of mitigation measures would reduce the potential impacts of the Project's construction activities on traffic to less than significant.

5.9 Odor and Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards. The standards have been established to protect the public from potentially harmful amounts of pollutants. Under the CAA, the EPA establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of “sensitive populations, such as people with asthma, children, and older adults.” Secondary air quality standards protect public welfare by promoting ecosystems health and preventing decreased visibility and damage to crops and buildings.

The EPA has set national ambient air quality standards (NAAQS) for the following six criteria pollutants: ozone (O₃), particulate matter (PM_{2.5}, PM₁₀), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead (Pb). In Virginia, the Virginia State Implementation Plan (SIP) is the federal plan prepared for state compliance with the federal CAA (EPA, 2020a). The SIP is administered by the EPA.

According to the Virginia Department of Health, environmental odors are any odor caused by a substance in the air that you can smell. Most environmental odors in the outdoor air are not at levels that can cause serious health effects but can impact quality of life and well-being. There are no state-wide regulations regarding nuisance odors, however toxic air pollutants are regulated by the VDEQ.

Affected Environment

The entire Project area is listed as an *attainment area* for all criteria pollutants (EPA, 2021b) and therefore considered to be in compliance with the federal NAAQS as well as Virginia's SIP. The Project area is also within below the thresholds of VDEQ's toxic air pollutant criteria (VDEQ, 2021b).

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no construction and therefore no project-related emissions or release of odors, and current air quality conditions would continue. However, the outdated treatment system would remain, which would involve release of emissions and could result in odors in the immediate area if not properly maintained. The

existing treatment facilities, including the biosolids incinerator, would continue to be used. The use of the Boat Harbor TP incinerator would continue to require approximately 67,000 MCF (one thousand cubic feet) of natural gas per year to remain operational, and would continue to release carbon dioxide, sulfur dioxide, and nitrogen oxides into the air, at levels within regulatory requirements. Bio-ash would continue to be produced at the Boat Harbor TP incinerator and would continue to be transferred offsite for use as landfill cover, as it is not suitable for other beneficial re-use purposes. The continued use of the incinerating facility would involve ongoing costs to ratepayers and would not include the additional benefits of reduced emissions and beneficial reuse of solids at the Nansemond TP proposed under SWIFT.

Alternative B – Under the Proposed Action Alternative, closure of the Boat Harbor TP incinerator would lead to a reduction in emissions, including carbon dioxide, sulfur dioxide, and nitrogen oxides. As part of the Proposed Project, solids would be transferred from the new Boat Harbor pump station via FM1 and FM2 to the Nansemond TP for beneficial re-use purposes.

During the construction phase of the Project, it is unlikely that construction emissions would be greater than de minimis levels. Therefore, construction emissions are likely to be of only minimal impact to air quality. Overall, air quality impacts during construction would be localized and short-term, but less than significant with the implementation of practicable mitigation measures, including high efficiency engines and anti-idling BMPs.

During the operation phase of the Project, air emissions are likely to contribute only negligibly to regional emissions of criteria air pollutants, greenhouse gases, and ozone precursors (EPA 2018). Based on studies conducted at multiple facilities, the emissions of criteria air pollutants and ozone precursors would result in long-term regional emissions that are below applicable regional thresholds and would not result in considerable increases in, or substantially contribute to, emissions concentrations (Environmental Science Associates 2014, Orange County Water District 2011, San Francisco Planning Department 2017, EPA 2014). Operation of the Proposed Action Alternative is expected to result in occasional short-term negligible impacts on air quality, and no impacts on odors.

Some proposed facility improvements (i.e., upgrading to modern and efficient equipment and technologies) would result in reduced emission levels and would lead to positive benefits to air quality, including reduced greenhouse gas emissions (EPA 2018). Proposed improvements would be aimed at promoting overall quality of life for the communities HRSD serves, including safe operation, environmental stewardship, transparency, community engagement, education, resiliency, resource management, and affordability.

No significant impacts to air quality during construction or operation are anticipated. Effects could include generation of construction dust and emissions, and generation of operational emissions such as criteria air pollutants and ozone precursors due to treatment processes, power generation, and increased vehicular traffic; however, practicable mitigation measures would be employed to minimize any impacts on air quality.

Alternative C – Under Alternative C, impacts on odor and air quality would be nearly identical to those of the Proposed Alternative.

Mitigation Measures

To minimize air quality impacts during construction of the Proposed Action Alternative, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained; stockpiles of debris, soil, sand, or other materials would be watered or covered to minimize fugitive dust; construction areas and adjacent roads would be swept or cleared of mud and debris. All construction equipment would use approved emission control devices and limit unnecessary idling. Should odors be detected from the pump station following construction, HRSD would install odor control devices, such as carbon systems, at the pump stations to mitigate potential odor issues.

5.10 Surface Water

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into the Waters of the United States.

The EPA implements the CWA to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

Affected Environment

As described in Section 5.2, a wetland and WOTUS delineation of the proposed project area was completed in 2020 and 2022 (AECOM, 2022). The field survey identified only one stream crossing—the James River; one open water feature was also identified within the Project area, POW-A is a 0.38-acre open water depression, and two other non-jurisdictional, man-made stormwater basins located within uplands were also identified within the Project area (Appendix A, Figure 5).

Several wetlands also occur within the proposed Project area but impacts to wetlands will be avoided by the Project. Wetlands are discussed in Section 5.2.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur, which could result in long term adverse effects to surface waters. The Boat Harbor/Nansemond SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure and saltwater intrusion and land subsidence would continue. The existing treatment facilities would continue to be used; HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply, improved water quality, and other ancillary benefits of SWIFT. Under Alternative A, surface waters would not benefit from pollutant reductions proposed under the SWIFT project.

Alternative B – Under the Proposed Action Alternative, to meet the purpose and need of the proposed Project the FM1 alignment must cross the James River. Trenching activities would result in direct and indirect impacts to the riverbed. The Project impacts would be temporary and are anticipated to have minimal adverse impacts on surface waters. Approximately 37.9 acres of riverbed sediment and 0.057 acre of non-vegetated wetlands would be disturbed during the

FM1 construction phase. No vegetated wetlands would be directly impacted by the Project. HRSD would avoid direct impacts to all vegetated wetlands intersecting the proposed Project area by installing the force mains under them via HDD or jack and bore, and implementing BMPs to minimize or avoid potential impacts. The Project would require water withdrawals from nearby waterbodies for hydrostatic testing; HRSD would obtain all necessary permits related to withdrawals and discharge. Potential impacts to surface water quality, such as from stormwater and construction site runoff, are described in Section 5.15.

Operation of the Proposed Action Alternative would have an overall beneficial long-term effect on surface waters, as the amount of nutrients released into the James River basin would be reduced via the SWIFT program.

Alternative C – Under Alternative C, impacts to surface waters would be the same as those of Alternative B, since the portion of the force main along the westerly alignment of FM2 that deviates from Alternative B would avoid all impacts to wetlands and surface waters, just as is the case with Alternative C.

Mitigation Measures

Many of the mitigation measures related to surface water impacts are discussed above in **Section 5.1.2**, including avoidance and minimization measures taken during the project design phase, inadvertent release contingency plan, and E&S controls and BMPs.

The project would be in compliance with all federal, state, and local wetland regulations. HRSD would develop a project-specific SWPPP and implement standard erosion and sediment control devices (e.g., sediment traps) to avoid or minimize off-site runoff of stormwater and sediment into surface waters.

5.11 Aesthetic Concerns and Visual Impacts

Visual resources are generally defined as the natural and constructed features of the landscape that contribute to the visual quality of locations visible to the public. The evaluation of potential visual impacts in the context of environmental analysis typically addresses the contrast between visible landscape aspects. Collectively, these elements comprise the aesthetic environment. The existing aesthetic of the landscape is compared to the Proposed Action's visual qualities to determine the contrast resulting from the construction of the Proposed Action.

Affected Environment

The proposed project area is primarily located within an existing industrial area, beneath the James River, and along road ROWs adjacent to a community college and new mixed-use developments. The Project traverses a variety of land use types, including industrial, commercial, open space, forested areas, and open water. In developed areas and open spaces, the roadways are not buffered or concealed by any features and are considered part of the typical viewscape for those areas. The majority of the proposed Project area would be visible from nearby roadways.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur and there would be no change in visual impacts.

Alternative B – Under the Proposed Action Alternative, temporary negligible visual impacts along the entire extent of the proposed Project area, including the presence of construction equipment and land disturbance during construction. These visual impacts would be limited to the duration of the proposed construction activities and would not occur simultaneously along the entire length of the proposed force main. Proposed construction and associated visual impacts would be consistent with typical roadway construction activities, including limited tree clearing. Once construction concludes in an area, visual impacts in that area from construction would cease, as the proposed construction continues elsewhere. Following the completion of construction activities, heavy equipment would be removed, and the construction site would be returned to its previous condition, to the maximum extent practicable. Construction of the proposed FM1 would involve visual impacts from the shoreline of the James River, including several barges working to install the HDD and riverbed trenching sections of the force main. Construction of the proposed pump stations would last a few months, resulting in longer-term, but still temporary, visual impacts to those surrounding areas. The entire proposed force main would be installed underground, so there is no potential for visual impacts along most of the extent of the proposed project area during operation. The pump station would result in permanent visual impacts to the nearby area. However, the pump station would be consistent with other small, industrial-type features in the area. Minimal long-term visual impacts are anticipated as a result of the Proposed Action.

Alternative C – Under Alternative C, impacts on aesthetics and visual resources would be nearly identical to those of the Proposed Action Alternative.

Mitigation Measures

No mitigation measures are necessary for visual and aesthetic concerns. HRSD would optimize the construction schedule to complete construction in each area as quickly as possible so that visual impacts are minimized to a couple days in duration for most areas adjoining the project area.

5.12 Designated Wild, Scenic, and/or Recreational Rivers

The National Wild and Scenic Rivers System (NWSRS) was created by Congress (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve rivers deemed to have natural, cultural, and recreational significance. It safeguards the special character of these rivers by encouraging public participation in developing goals for river protection.

Affected Environment

No designated wild, scenic, or recreational rivers are located within or adjacent to the proposed Project area (NWSRS, 2021).

Environmental Consequences

Alternative A – Under the No Action Alternative, there would be no impacts to designated wild, scenic, and/or recreational rivers.

Alternative B – Under the Proposed Action Alternative, no impacts to wild, scenic, and/or recreational rivers would occur due to the absence of these features in the proposed project area.

Alternative C – Under Alternative C, no impacts to wild, scenic, and/or recreational rivers would occur due to the absence of these features in the proposed project area.

Mitigation Measures

No wild, scenic, or recreational rivers were identified within the proposed project area; therefore, no mitigation measures are required.

5.13 Socioeconomics and Environmental Justice

Executive Order (EO) 12898 requires federally funded projects to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. As defined by the EPA, environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Affected Environment

The EPA has developed an Environmental Justice Screening and Mapping tool (EJSCREEN) to provide the EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN was used to provide demographic and environmental information for the geographic area of the proposed project. According to the EJSCREEN report, both minority and low-income environmental justice communities occur within a 1-mile radius of the Project (i.e., 93 percent minority and 72 percent low-income populations near the Newport News side of the Project) (EPA 2020a).

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction activity would occur. The existing treatment facilities would continue to be used but would not include the additional water supply and other ancillary benefits of SWIFT. Under Alternative A, local water quality would not benefit from pollutant reductions proposed under the SWIFT project. Likewise, the existing incinerator would continue to be used, releasing carbon dioxide, sulfur dioxide, and nitrogen oxides into the air, at levels within regulatory requirements, but nonetheless contributing to air emissions. As a result, the No Action Alternative would have long-term, minor adverse impacts on the local population.

Alternative B – Under the Proposed Action Alternative, a new force main and pump station would be constructed. As described in Sections 5.7 and 5.9, there is the potential for noise and air quality impacts to nearby sensitive receptors; however, these impacts would be temporary and are not anticipated to result in disproportionate adverse effects to any population.

The Project would not be expected to have a significant adverse impact on per capita income, unemployment rate, poverty rate, local population size, or projected population growth. The Project is intended to have an overall beneficial effect on the environment and local population by providing improved water quality and mitigating potential water scarcity, which may induce localized population growth or indirectly induce growth by establishing new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises); however, any growth would likely be less than significant.

Overall, adverse impacts to socioeconomics and environmental justice communities, as a result of the Project construction and operation, are anticipated to be beneficial, including improved air and water quality. Minor effects could also include local economic benefits from construction and operation, and temporary disruption to communities from construction.

Alternative C – Under Alternative C, impacts to socioeconomics would be the same as those of Alternative B.

Mitigation Measures

The proposed project is expected to benefit all residents in and adjacent to the proposed project area. Practicable mitigation measures may include implementation of construction BMPs to minimize noise, traffic, air emissions, and impacts to surface waters.

5.14 Floodplain

EO 11988, *Floodplain Management*, requires federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. The Federal Emergency Management Agency (FEMA) uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program. The base flood elevations are depicted on FIRMs and represent the elevation to which floodwater is anticipated to rise during the base flood. FIRMs also depict 100- and 500-year floodplain boundaries within a given area, which are classified based on 1 percent and 0.2 percent annual flood chance, respectively, as well as minimal flood risk areas. The Virginia Department of Conservation and Recreation (DCR) also maintains the Virginia Flood Risk Information System (VFRIS), which maps floodplains in the state and is used for state regulatory actions.

Virginia EO 45 establishes standards for the development of state-owned properties in flood-prone areas, including Special Flood Hazard Areas and the 100- and 500-year floodplain. It defines development in accordance with definitions used under the National Flood Insurance Program (NFIP; 44 CFR §59.1), which considers development to be “any man-made change to improved or un-improved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.” This Virginia EO also requires that any development occurring within a flood-prone area comply with local floodplain ordinances and flood standards established in the Virginia Uniform Statewide Building Code.

Affected Environment

According to the most recent FEMA FIRM, the proposed Project facilities and improvements are located partially within the 100-year and 500-year floodplain associated with the James River and Streeter Creek, as depicted in Appendix A, Figure 8.

Under Virginia EO 45, the construction of the Proposed Action would be considered a development activity, as it would require excavation and drilling operations.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. The existing Boat Harbor TP would remain in operation and would continue to be subject to regular flooding. Floodplain impacts as a result of the continued use of the existing treatment plant include potential damage and debris being released into floodwaters.

Alternative B – Under the Proposed Action Alternative the Project would reduce flood risk and the Boat Harbor TP facilities located within the 100-year flood zone would be demolished, thereby increasing flood capacity and ultimately resulting in an overall beneficial long-term effect on floodplains. Much of the Project on the Newport News side is located within the 100-year flood zone, and portions of force main would cross both 100-year flood zones and 500-year flood zones. However, the locations of the proposed FM2 largely avoid disturbance to the 100-year floodplain. Project design would be coordinated with the local floodplain administrators and compensatory flood storage mitigation would be included as part of the Project design, as necessary.

Alternative C – Under Alternative C, the impacts to the floodplain would be the same as those of Alternative B, since the portion of the force main along the westerly alignment of FM2 that deviates from Alternative B is located outside of the 100- and 500-year floodplain.

Mitigation Measures

The proposed project is not anticipated to significantly alter the function of the floodplain. Compliance with the requirements of the NFIP and coordination with the local floodplain administrator would ensure there would be no adverse impacts to the floodplain. Therefore, no further mitigation is necessary for floodplains.

5.15 Water Quality

Section 303(d) of the CWA authorizes the EPA to assist states, territories, and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality. Pollutants regulated under the CWA consist of "priority" pollutants, which include various toxic pollutants, "conventional" pollutants, such as biochemical oxygen demand, total suspended solids, fecal coliform, and oil and grease, also including any pollutant not identified as either conventional or priority.

The National Pollutant Discharge Elimination System (NPDES) program, as established under Section 402 of the CWA, is currently administered by the VDEQ to limit pollutant discharges into

streams, rivers, and bays. VDEQ, under the authority of EPA, administers the program as the Virginia Pollutant Discharge Elimination System (VPDES) program. VPDES permits are issued for all point source discharges to surface waters, and discharges of stormwater from industrial activities and municipal separate storm sewer systems (MS4s) (VDEQ, 2021c). The Virginia Stormwater Management Program (VSMP) issues VPDES permits for stormwater discharges from construction activities (VDEQ, 2019).

The EPA administers the Sole Source Aquifer (SSA) Program, as authorized by Section 1425(e) of the Safe Drinking Water Act of 1974. The SSA Program is intended to protect aquifers that supply at least fifty percent of the drinking water for its service area and that have no reasonably available alternative drinking water sources should the aquifer become contaminated (EPA, 2021a).

Affected Environment

The Proposed Project would cross beneath the James River via HDD and riverbed trenching. The James River is listed as an impaired water on the 2018 303(d) List of Impaired Waters (VDEQ 2018). Both crossing methods have the potential to impact water quality in the James River through temporary increased sedimentation and turbidity. Any impacts to water quality are expected to be minor and temporary. The Project proponents will coordinate with VDEQ to obtain a Water Quality Certificate prior to the Project's commencement.

The Project area is not within a mapped sole source aquifer zone; therefore, the requirements of the SSA do not apply.

Environmental Consequences

Alternative A – Under the No Action Alternative, no construction would occur. Alternative A could result in long term adverse effects on water quality because the Boat Harbor/Nansemond SWIFT project would not be constructed, and the Potomac Aquifer would experience a continued decrease in hydrostatic pressure and saltwater intrusion and land subsidence would continue. The existing treatment facilities would continue to be used; HRSD would be required to keep the Boat Harbor TP in compliance with regulatory requirements. The continued use of the Boat Harbor TP would be at a greater cost to ratepayers and would not include the additional water supply, improved water quality, and other ancillary benefits of SWIFT. Under Alternative A, the Potomac Aquifer and local waterbodies would not benefit from pollutant reductions proposed under the SWIFT project.

Alternative B – Under the Proposed Action Alternative, HDD and riverbed trenching of the James River may result in a temporary increase in erosion and sedimentation, further resulting in temporary impacts to downstream water quality. The Project proponents will coordinate with VDEQ to obtain a Water Quality Certificate prior to the Project's commencement.

Operation of the proposed Project would have an overall significant beneficial impact on water quality, as pumping large volumes of water into the aquifer would increase hydrostatic pressure within the aquifer, prevent saltwater intrusion into the aquifer, and slow land subsidence related to aquifer withdrawals. The Project would have an overall long-term benefit on flood risk, aquifers, and groundwater supply by reducing aquifer-related land subsidence in coastal

Virginia and allowing additional time to adapt to sea level rise. The Project would also protect valuable coastal wetlands for decades longer than currently projected.

The most significant overall change to water resources from the proposed Project would be the pumping of large volumes of water into the deepwater Potomac Aquifer. The Project's net impact would be long-term and beneficial, as the recharge water would be treated to drinking water standards prior to being returned to the aquifer.

HRSD would obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities from VDEQ. HRSD would comply with the requirements of this permit, including development of a SWPPP to minimize pollutants present in stormwater runoff from construction sites. Other BMPs to control construction site runoff would also be implemented, such as use of sediment traps when conducting construction activities near surface water bodies, and the development of a Spill Prevention Control and Countermeasure Plan (SPCCP) to address inadvertent spills from construction equipment that would have the potential to impact nearby surface waters. HRSD would coordinate with the Virginia Department of Health to identify the public groundwater wells within or immediately adjacent to the proposed project area, and those would be field marked, as needed, in order to protect them from accidental damage during construction. Construction of the Proposed Action would not change the impairment status of the James River or any currently listed waters, as pollutant discharge would be regulated under the General VPDES Permit. Proposed construction would have short-term, minor adverse impacts and long-term, significant beneficial impacts on water quality.

Alternative C – Under Alternative C, the impacts to water quality would be the same as those of Alternative B. The route deviation under Alternative C does not involve a significant change in effects on water quality.

Mitigation Measures

HRSD would coordinate with VDEQ to obtain a Water Quality Certificate and General VPDES Permit for construction, and would comply with the applicable requirements, including development of a SWPPP; and implement appropriate BMPs such as standard erosion and sediment control devices, and development of an SPCCP to minimize runoff and potential pollution of nearby water features. In addition, any wells located in the immediate vicinity of the Limits of Disturbance (LOD) would be marked during construction to protect them from accidental damage.

5.16 Coastal Zones and Coastal Barrier Resource Systems

The Coastal Zone Management Act (CZMA) enables coastal states, including Virginia, to designate state coastal zone boundaries and develop coastal management programs to improve protection of sensitive shoreline resources and guide sustainable use of coastal areas. The Virginia Coastal Zone Management Program (CZMP) is administered by various state agencies, but the overall program is managed by the VDEQ. Virginia's CZMP consists of laws, regulations, and policies pertaining to various coastal resources: tidal and non-tidal wetlands; subaqueous lands; dunes and beaches; Chesapeake Bay Preservation Areas; marine fisheries; wildlife and inland fisheries; plant pests and noxious weeds; Commonwealth lands; point source

air pollution; point source water pollution; nonpoint source water pollution; and shoreline sanitation (VDEQ, 2021a).

The 1982 Coastal Barrier Resources Act was passed by Congress to discourage coastal barrier development. The law blocked issuance of new federal flood insurance policies within the Coastal Barrier Resources System (CBRS) created by that law.

Affected Environment

The proposed project area is located within the cities of Newport News and Suffolk, both of which are located within Virginia's coastal zone (VDEQ, 2021a). The entirety of the Project is also designated as a Chesapeake Bay Preservation Area (CBPA) under Virginia's Chesapeake Bay Preservation Act of 1988. CBPAs are split into three categories: Resource Protection Areas (RPAs), Resource Management Areas (RMAs), and Intensely Developed Areas (IDAs). RPAs are defined as lands that are adjacent to perennial water bodies that have intrinsic water quality values or are sensitive to development, and RMAs are composed of lands contiguous to the inland boundary of RPAs (VDEQ, 2021d). The majority of the proposed Project area is located within IDAs on the Newport News side and RMAs on the Suffolk side, with the coastline along the James River being designated as RPA.

The proposed project area is not located within a CBRS unit (USFWS, 2021a).

Environmental Consequences

Alternative A – Under the No Action Alternative, the current treatment system would not align with the point source water pollution and shoreline sanitation policies of Virginia's CZMP which encourage the reclamation and reuse of wastewater. If the existing Boat Harbor TP is maintained in its current state, the No Action Alternative would not be able to meet the reclamation and reuse goals of the CZMP policies and would have minor adverse impacts to the coastal zone.

Alternative B – Under the Proposed Action Alternative, construction and operation of the Proposed Action would result in less-than-significant adverse impacts and beneficial impacts on the coastal zone. On August 2, 2021, EPA submitted a federal consistency determination to the VDEQ. EPA determined that the project was consistent with Virginia's CZMP. On August 25, 2021, VDEQ responded to EPA's determination. VDEQ stated that the proposed activity is consistent with the Virginia CZMP, provided all applicable permits or approvals listed under "Enforceable Policies of Virginia's Coastal Zone Management Program" are received prior to implementation of the project. VDEQ also encouraged the consideration of potential project impacts to the advisory policies of the Virginia CZMP. HRSD will ensure the Project is in compliance with these permits and policies prior to commencement of the Project.

Impacts to tidal and non-tidal wetlands and surface waters are described in **Sections 5.2** and **5.10**, respectively. Many of these wetlands and surface waters are also located within RPAs, which have additional stream buffer and water quality requirements. Proposed construction activities would comply with these requirements to the maximum extent practicable in order to comply with the applicable CBPA policies within Virginia's CZMP.

Many of the policies within Virginia's CZMP regarding point source air pollution are not applicable to the proposed Project area; however, there are general policies addressing fugitive

dust emissions. As described in **Section 5.9**, BMPs and mitigation measures would be implemented as part of the Proposed Action to minimize these emissions at the construction sites. Therefore, the Proposed Action would comply with these policies to the maximum extent practicable.

The Proposed Action is not anticipated to result in point source water pollution, although nonpoint source pollution may impact water quality, as described in **Section 5.15**. HRSD would comply with the applicable VPDES permits and develop a SWPPP to address the potential impacts to water quality from nonpoint source pollution. HRSD would also develop an SPCCP to address accidental spills, and an Inadvertent Returns Contingency Plan to limit inadvertent releases to surface waters from drilling activities, thereby minimizing the impact on Virginia's coastal zone.

The Proposed Action would construct a new transmission force main and pump station to improve wastewater treatment in the region surrounding the proposed Project area. This new infrastructure would have an overall long-term benefit by reducing aquifer-related land subsidence in coastal Virginia and allowing additional time to adapt to sea level rise. The Project would also protect valuable coastal wetlands for decades longer than currently projected. Therefore, the Proposed Action would have beneficial impacts on Virginia's coastal zone.

Alternative C – Under Alternative C, the impacts to the coastal zone would be the same as those of Alternative B.

Mitigation Measures

The Proposed Action would comply with the applicable policies and regulations contained within Virginia's CZMP in order to minimize impacts to the coastal zone to the maximum extent practicable. Mitigation measures/BMPs discussed for the other resources (e.g., water quality, wildlife, air quality) would avoid or minimize potential effects to the coastal zone.

6. References

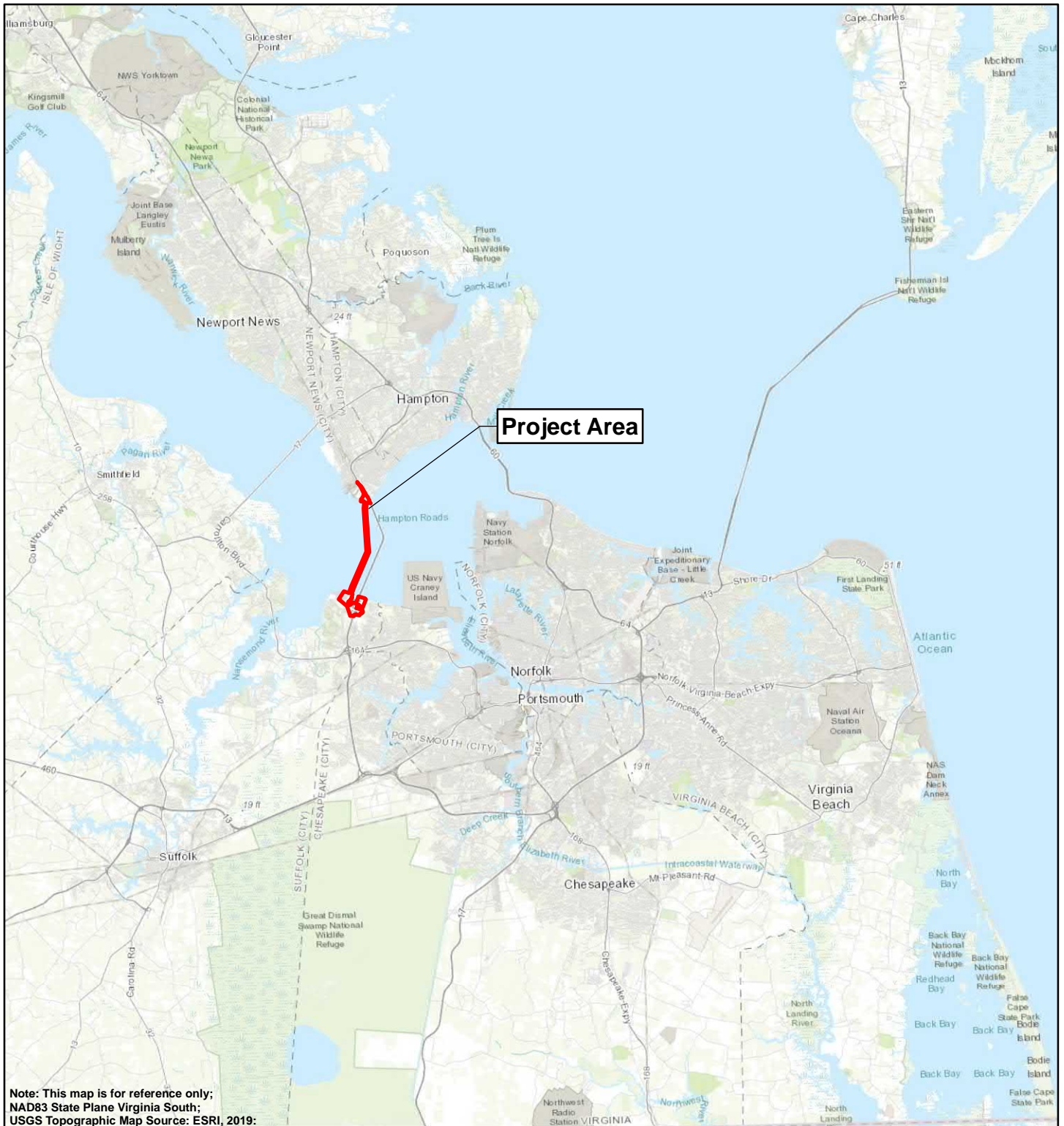
- AECOM. (2022). Wetlands and Waters Delineation Report and Addendum. Prepared for the Boat Harbor HRSD SWIFT Project. York County, Virginia. November 2020. Addendum, March 2022.
- DCR. (2022). Virginia Flood Risk Information System (VFRIS). Retrieved from <https://consapps.dcr.virginia.gov/VFRIS/>
- Environmental Science Associates. (2014). EA/Initial Study for the Los Angeles County Waterworks District 40 Regional Recycled Water Project Phase 2. Los Angeles, CA.
- EPA. (1974). United States Environmental Protection Agency 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with An Adequate Margin of Safety. March 1974. Prepared by the U.S. Environmental Protection Agency Office of Noise Abatement and Control. Accessed September 9, 2019, at <https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF>.
- EPA. (2014). Environmental Assessment Douglas Wastewater Treatment Plant Upgrade and Bay Acres Colonia Wastewater Collection System Expansion. San Francisco, CA: U.S. Environmental Protection Agency, Region IX.
- EPA. (2018). Programmatic Environmental Assessment for the WIFIA Program. April 2018.
- EPA NEPA Assist. (2020). NEPA Assist Tool and Mapper. Accessed October 20, 2020, at <https://nepassisttool.epa.gov/nepassist/nepamap.aspx>
- EPA. (2020a). Approved Air Quality Implementation Plans in Virginia. Retrieved October 29, 2021, from <https://www.epa.gov/sips-va>
- EPA. (2020b). EJSCREEN. Retrieved October 28, 2021, from <https://ejscreen.epa.gov/mapper/>
- EPA. (2021a). Map of Sole Source Aquifer Locations. Retrieved October 29, 2021, from <https://www.epa.gov/dwssa/map-sole-source-aquifer-locations>
- EPA. (2021b). Virginia Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Retrieved October 29, 2021, from Green Book: https://www3.epa.gov/airquality/greenbook/anayo_va.html
- EPA. (2021c). WATERS Data (KMZ). Retrieved from https://www.epa.gov/sites/default/files/2020-01/waterskmz_v1.10.kmz
- FEMA. (2021). Flood Map Service Center. Retrieved July 15, 2021, from <https://msc.fema.gov/portal/home>

May 2022

- HUD. (2009). The Noise Guidebook, Chapter 2, Washington, D.C. Superintendent of Documents, U.S. Government Printing Office. Accessed January 13, 2020, at <https://www.hudexchange.info/resource/313/hud-noise-guidebook/>
- Newport News City of. (2018). City of Newport News One City, One Plan 2040 Comprehensive Plan. Adopted August 14, 2018.,
- Newport News, City of. (2020). City of Newport News Code of Ordinances, Noise Abatement. Ordinance Number 4952-96; Ordinance Number 5030-97; Section 33.02-48. Enacted September 22, 2020.
- NOAA Fisheries. (2020). Essential Fish Habitat Mapper. Accessed October 20, 2020, at <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>
- NRCS. (2021). NRCS Web Soil Survey. Retrieved from United States Department of Agriculture.
- NWSRS. (2021). Virginia. Retrieved from National Wild and Scenic Rivers System: <https://www.rivers.gov/virginia.php>
- Orange County Water District. (2011). Addendum No. 5 to the Program Environmental Impact Report/Tier I Environmental Impact Statement (Final EIR/EIS) for the Orange County Water District (OCWD) Groundwater Replenishment System (GWRS). Fountain Valley, CA.
- San Francisco Planning Department. (2017). Biosolids Digester Facilities Project Draft EIR. San Francisco.
- Suffolk, City of. (2015). Suffolk 2035: A Vision for the Future. City of Suffolk Comprehensive Plan. Adopted April 1, 2015.
- Suffolk, City of. (2020). City of Suffolk Code of Ordinances, Article VI – Noise. Section 34-189, Article VI. Enacted July 15, 2020.
- USACE. (2016). Baltimore District Site Management Plan Former Nansemond Ordnance Depot. May 2016. Accessed October 30, 2020, at https://www.nao.usace.army.mil/Portals/31/docs/environment/FNOD/FNOD_SMP_2016.pdf?ver=2016-07-05-165638-993
- USACE. (2018). Norfolk District Former Nansemond Ordnance Depot. Published Feb. 23, 2018. Accessed October 30, 2020, at <https://www.nao.usace.army.mil/Missions/Environmental/FNOD.aspx>
- USFWS. (2007). National Bald Eagle Management Guidelines. Retrieved from <https://www.fws.gov/migratorybirds/pdf/management/nationalbaldeaglenanagementguidelines.pdf>

- USFWS. (2021a). Coastal Barrier Resource System Mapper. Retrieved October 29, 2021, from <https://www.fws.gov/cbra/maps/mapper.html>
- USFWS. (2021b). Information for Planning and Consultation (IPaC). Retrieved October 19, 2021, from <https://ecos.fws.gov/ipac/>
- VDEQ. (2018). Impaired Waters – 303(d) List. Accessed October 30, 2020, at https://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityAssessments/IntegratedReport/2018/ir18_Appendix1a_Category5_List.pdf
- VDEQ. (2019). General VPDES Permit for Discharges of Stormwater from Construction Activities. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/home/showpublisheddocument/8525/637547667064630000>
- VDEQ. (2021a). About CZM. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/coasts/about-czm>
- VDEQ. (2021b). Pollutant Monitoring. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/air/monitoring-assessments/air-monitoring/pollutant-monitoring>
- VDEQ. (2021c). Surface Waters -- Virginia Pollutant Discharge Elimination System. Retrieved October 29, 2021, from <https://www.deq.virginia.gov/permits-regulations/permits/water/surface-water-virginia-pollutant-discharge-elimination-system>
- VDEQ. (2021d). Virginia Coastal Zone Management Program Enforceable Policies -- 2021. Retrieved from <https://www.deq.virginia.gov/home/showpublisheddocument/8605/637556326054300000>
- VDGIF. (2021a). NLEB Winter Habitat and Roost Trees Application. Retrieved November 2, 2021, from <https://dgif-virginia.maps.arcgis.com/apps/webappviewer/index.html?id=32ea4ee4935942c092e41ddcd19e5ec5>
- VDGIF. (2021b). Virginia Fish and Wildlife Information Service (VaFWIS). Retrieved October 25, 2021, from <https://vafwis.dgif.virginia.gov/fwis/>

Appendix A: Figures



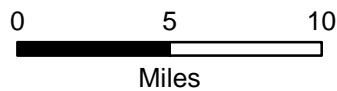
Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 USGS Topographic Map Source: ESRI, 2019:



**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 3/29/2022





Legend

 Project Area

**Figure 1
 Vicinity Map**



 City of Newport News
 City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019;

**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 3/29/2022

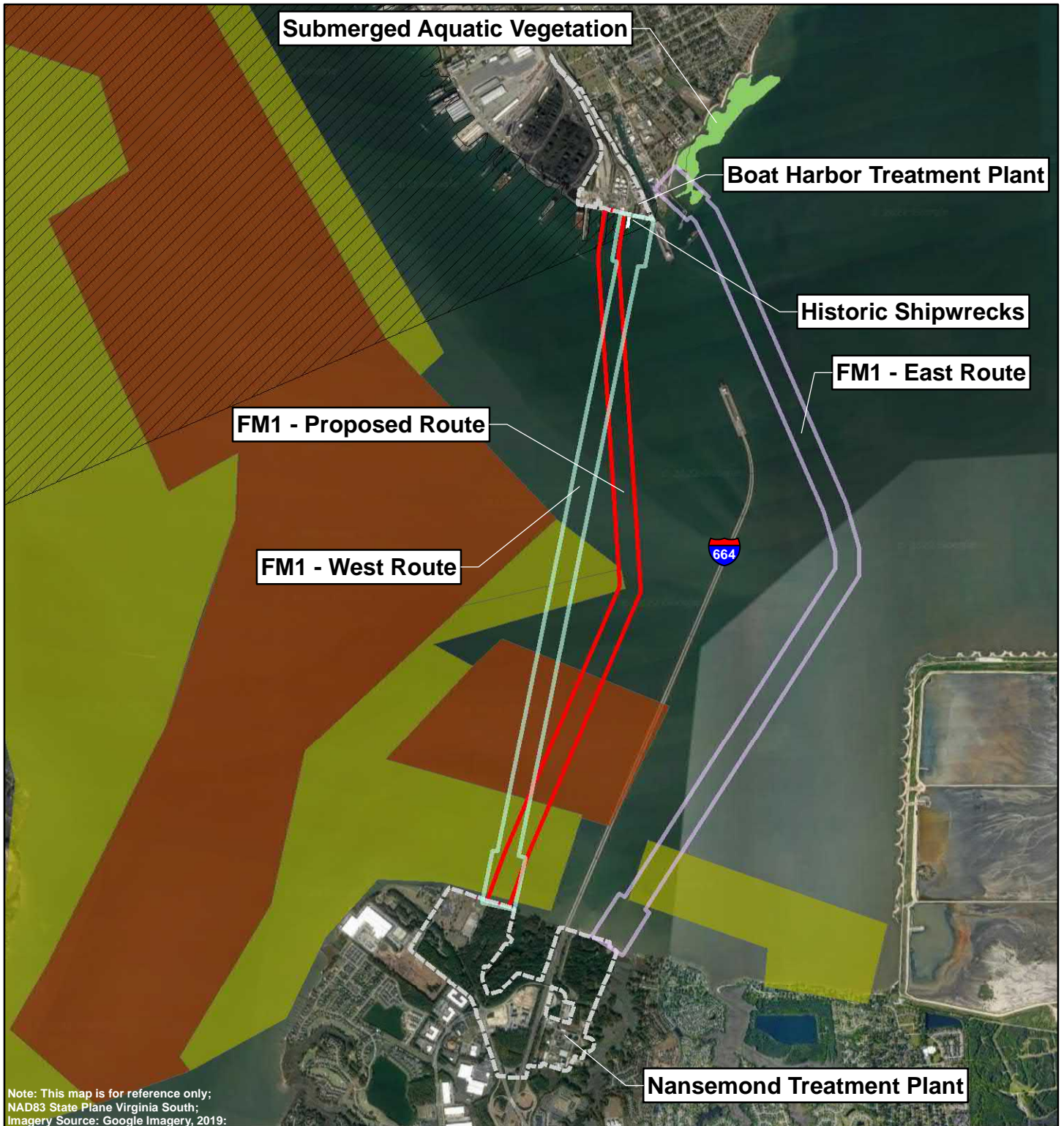
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 Miles

Legend

- Study Area
- Preferred Action Alternative
- Alternate FM2 Alignment
- Newport News Federal Navigation Channel

**Figure 2
 Project Location Map**

- City of Newport News
- City of Suffolk



HRSD-SWIFT Project 2021

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 3/29/2022

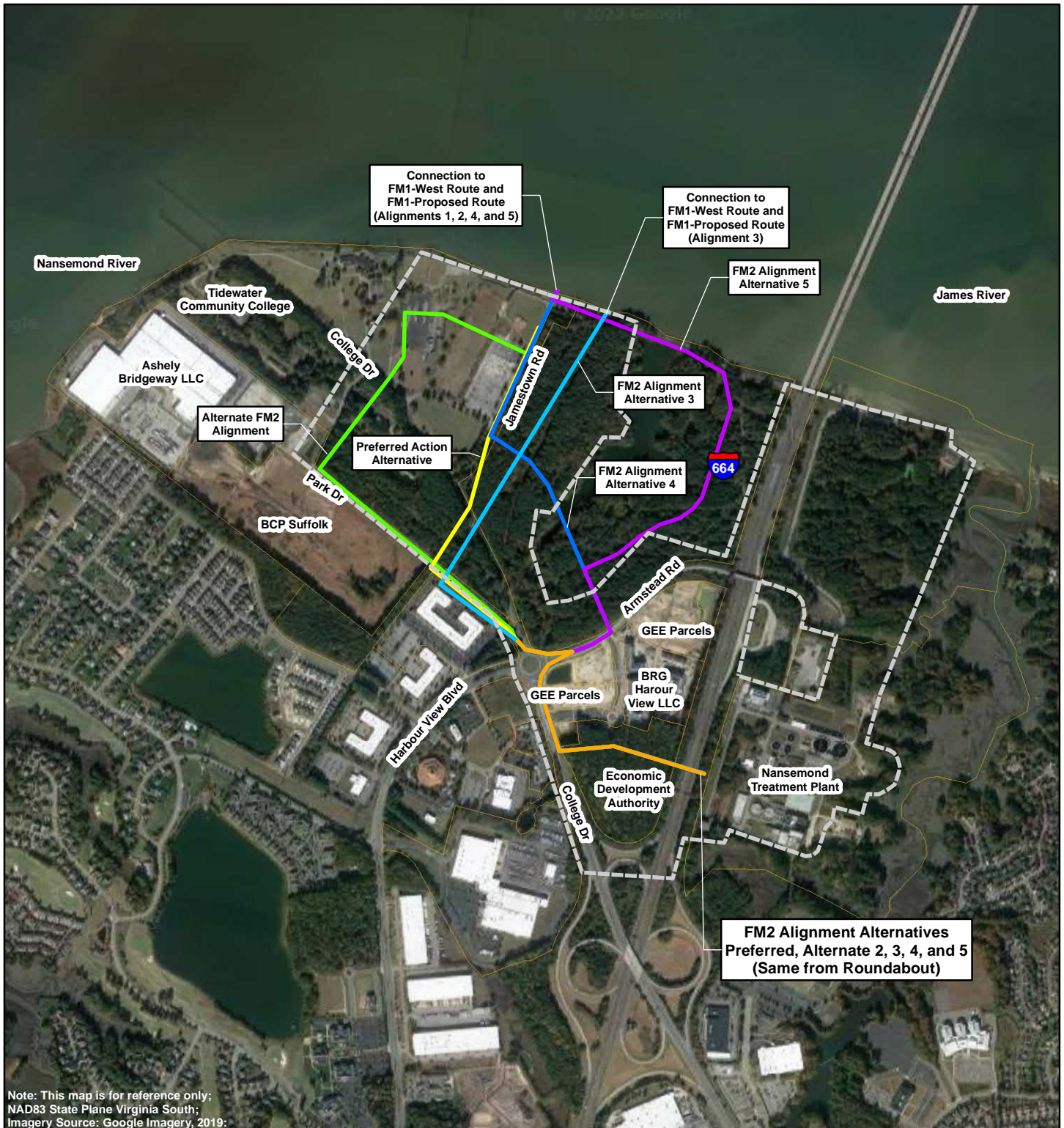
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 Miles

Legend

- Study Area
- FM1 - Proposed Route
- FM1 - East Route
- FM1 - West Route
- Private Oyster Ground Leases
- Public Oyster Grounds
- Atlantic Sturgeon Critical Habitat
- Submerged Aquatic Vegetation

Figure 3
FM1 Alternatives Map

City of Newport News
 City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019;

**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 3/29/2022

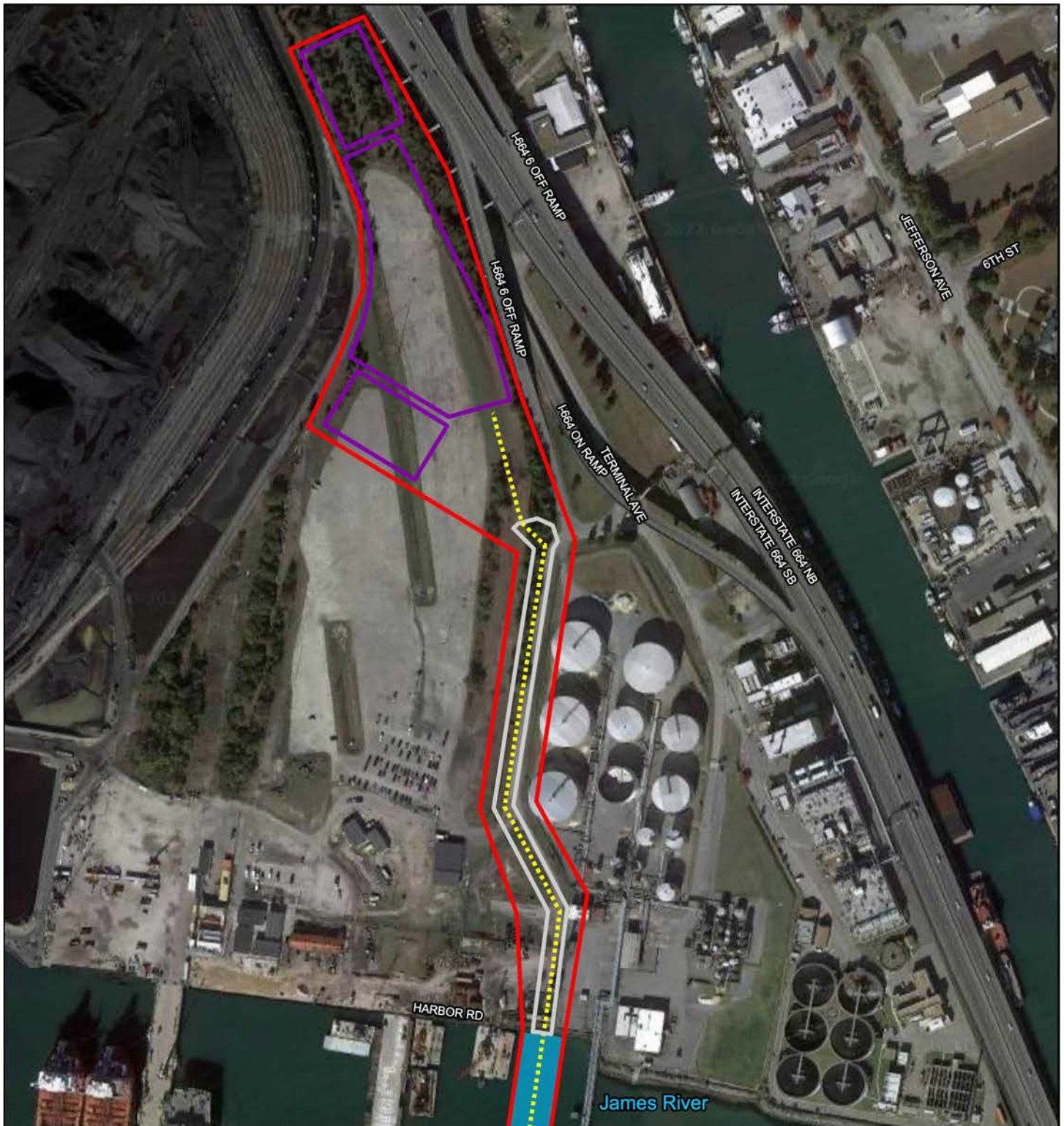
0 1,000 2,000
 Feet

Legend

- Common Force Main for Alignments All
- Force Main Alignment 3
- Force Main Alignment 4
- Force Main Alignment 5
- Preferred Action Alternative
- Alternate FM2 Alignment
- - - Study Area
- ▭ Parcels

**Figure 4
 FM2 Alternatives Map**

- ▭ City of Newport News
- ▭ City of Suffolk

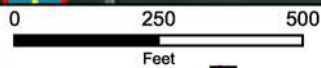


**HRSD-SWIFT Project
2022**
Boat Harbor Transmission
Force Main Alignment
City of Newport News, VA
City of Suffolk, VA

Date: 3/29/2022

Legend

- ▭ Study Area
- - - Force Main Alignment (Preferred)
- - - Force Main Alignment (Alternative)
- ▭ Potential Boat Harbor Pump Station
- ▭ Temporary Workspace
- Field Delineated Wetlands and Waters**
- ▭ PEM
- ▭ PFO
- ▭ Open Water Features
- ▭ Stormwater Features
- Determination Points



**Figure 5
Aquatic Resources Map
Page 1 of 5**



▭ City of Newport News
▭ City of Suffolk

Note: This map is for reference only; NAD83 State Plane Virginia South;
Aerial Image Source: Google, 2019; Wetland delineation date: June 04-05 & 10, 2020/ August 18 2020



**HRSD-SWIFT Project
2022**
Boat Harbor Transmission
Force Main Alignment
City of Newport News, VA
City of Suffolk, VA

Date: 3/29/2022

Legend

- Study Area
- Force Main Alignment (Preferred)
- Force Main Alignment (Alternative)
- Potential Boat Harbor Pump Station
- Temporary Workspace
- Field Delineated Wetlands and Waters**
- PEM
- PFO
- Open Water Features
- Stormwater Features
- Determination Points



Note: This map is for reference only; NAD83 State Plane Virginia South;
Aerial Image Source: Google, 2019; Wetland delineation date: June 04-05 & 10, 2020/ August 18 2020

**Figure 5
Aquatic Resources Map
Page 2 of 5**



City of Newport News
 City of Suffolk



**HRSD-SWIFT Project
2022**
Boat Harbor Transmission
Force Main Alignment
City of Newport News, VA
City of Suffolk, VA

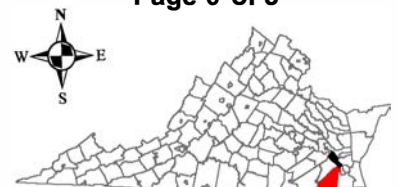
Date: 3/29/2022

Legend

- ▭ Study Area
- - - Force Main Alignment (Preferred)
- - - Force Main Alignment (Alternative)
- ▭ Potential Boat Harbor Pump Station
- ▭ Temporary Workspace
- Field Delineated Wetlands and Waters**
- ▭ PEM
- ▭ PFO
- ▭ Open Water Features
- ▭ Stormwater Features
- Determination Points

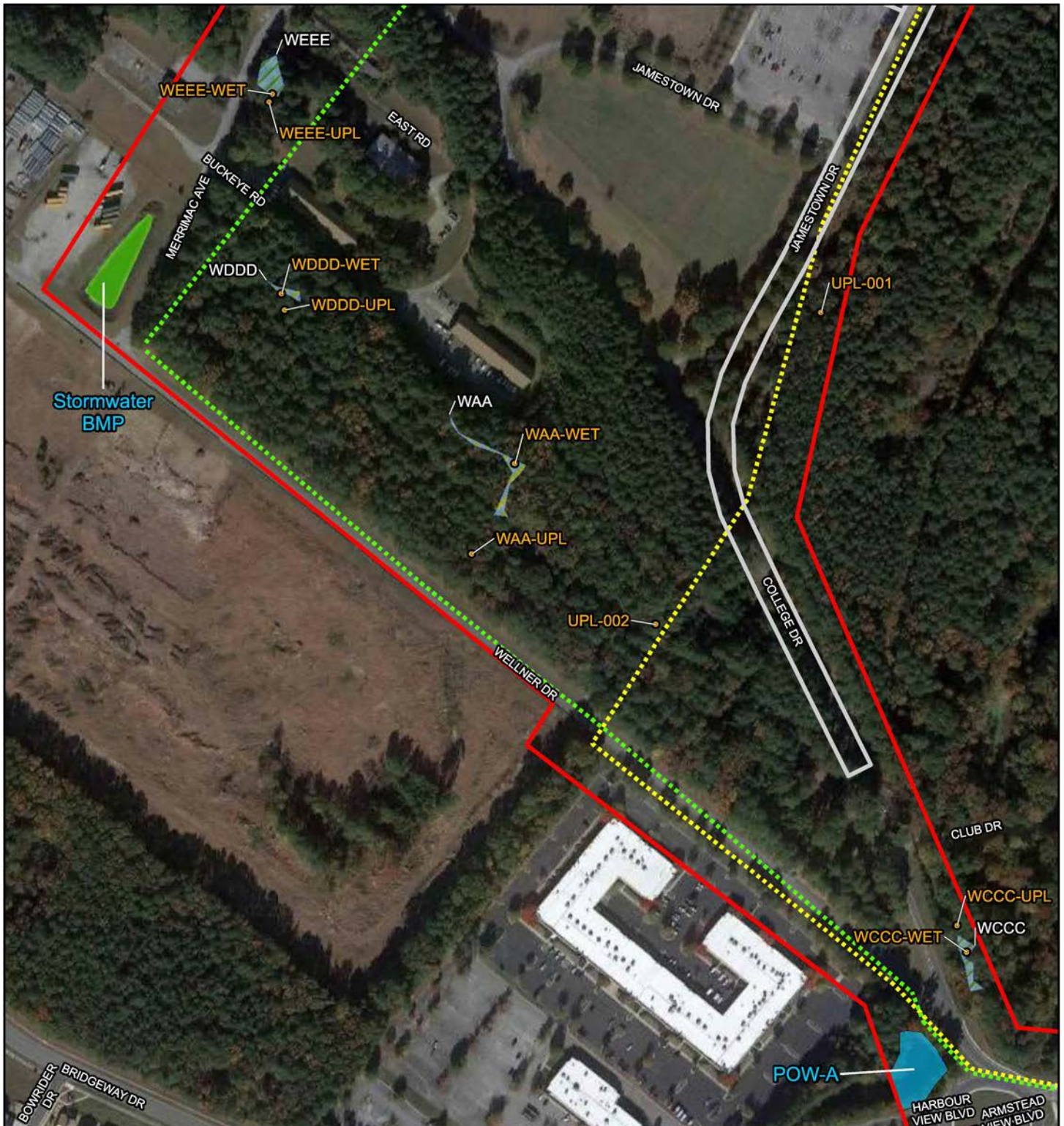


**Figure 5
Aquatic Resources Map
Page 3 of 5**



▭ City of Newport News
▭ City of Suffolk

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**HRSD-SWIFT Project
2022**
Boat Harbor Transmission
Force Main Alignment
City of Newport News, VA
City of Suffolk, VA

Date: 3/29/2022

Legend

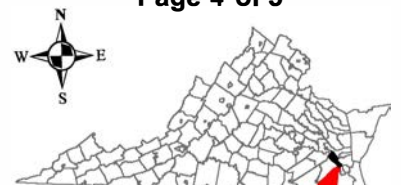
- ▭ Study Area
- - - Force Main Alignment (Preferred)
- - - Force Main Alignment (Alternative)
- ▭ Potential Boat Harbor Pump Station
- ▭ Temporary Workspace
- Field Delineated Wetlands and Waters**
- ▭ PEM
- ▭ PFO
- ▭ Open Water Features
- ▭ Stormwater Features
- Determination Points

0 250 500
Feet



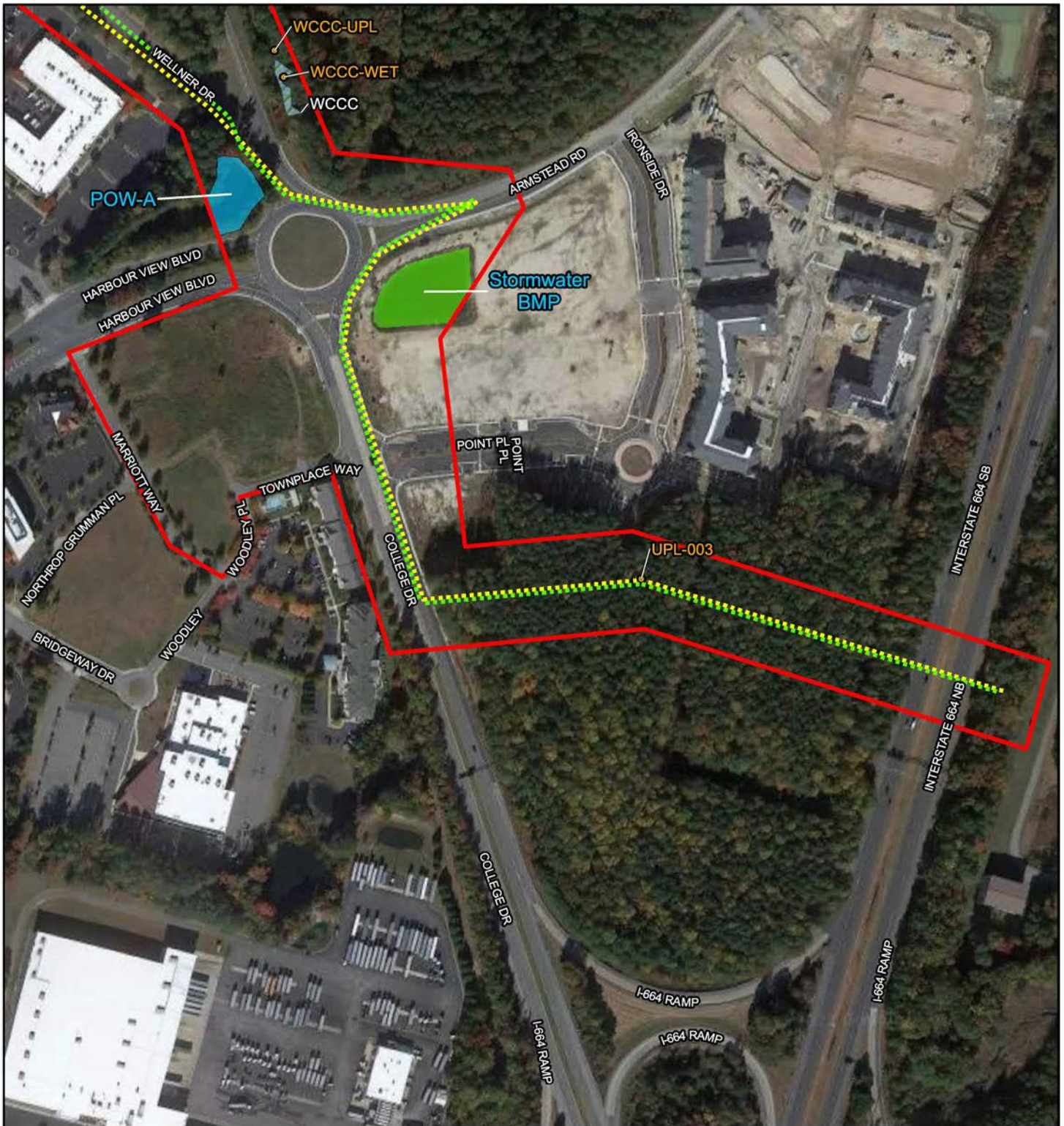
**Figure 5
Aquatic Resources Map**

Page 4 of 5



▭ City of Newport News
▭ City of Suffolk

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**HRSD-SWIFT Project
2022**
Boat Harbor Transmission
Force Main Alignment
City of Newport News, VA
City of Suffolk, VA

Date: 3/29/2022

Legend

- ▬ Study Area
- - - Force Main Alignment (Preferred)
- - - Force Main Alignment (Alternative)
- ▬ Potential Boat Harbor Pump Station
- ▬ Temporary Workspace
- Field Delineated Wetlands and Waters**
- ▬ PEM
- ▬ PFO
- ▬ Open Water Features
- ▬ Stormwater Features
- Determination Points



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**Figure 5
Aquatic Resources Map**

Page 5 of 5



■ City of Newport News
■ City of Suffolk



Boat Harbor Treatment Plant

Within Preferred Action Alternative LOD		
CLASS ID	SUB CLASS	ACRES
11	Hydro	86.39
21	Impervious (Extracted)	1.19
22	Impervious (Local Datasets)	4.36
41	Forest	4.18
42	Tree	2.72
71	Turf Grass	7.34
Within Alternate FM2 Alignment LOD		
CLASS ID	SUB CLASS	ACRES
11	Hydro	86.43
21	Impervious (Extracted)	1.75
22	Impervious (Local Datasets)	7.26
41	Forest	4.14
42	Tree	3.73
71	Turf Grass	8.01

Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019;

**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 4/4/2022

0 1,000 2,000
 Feet

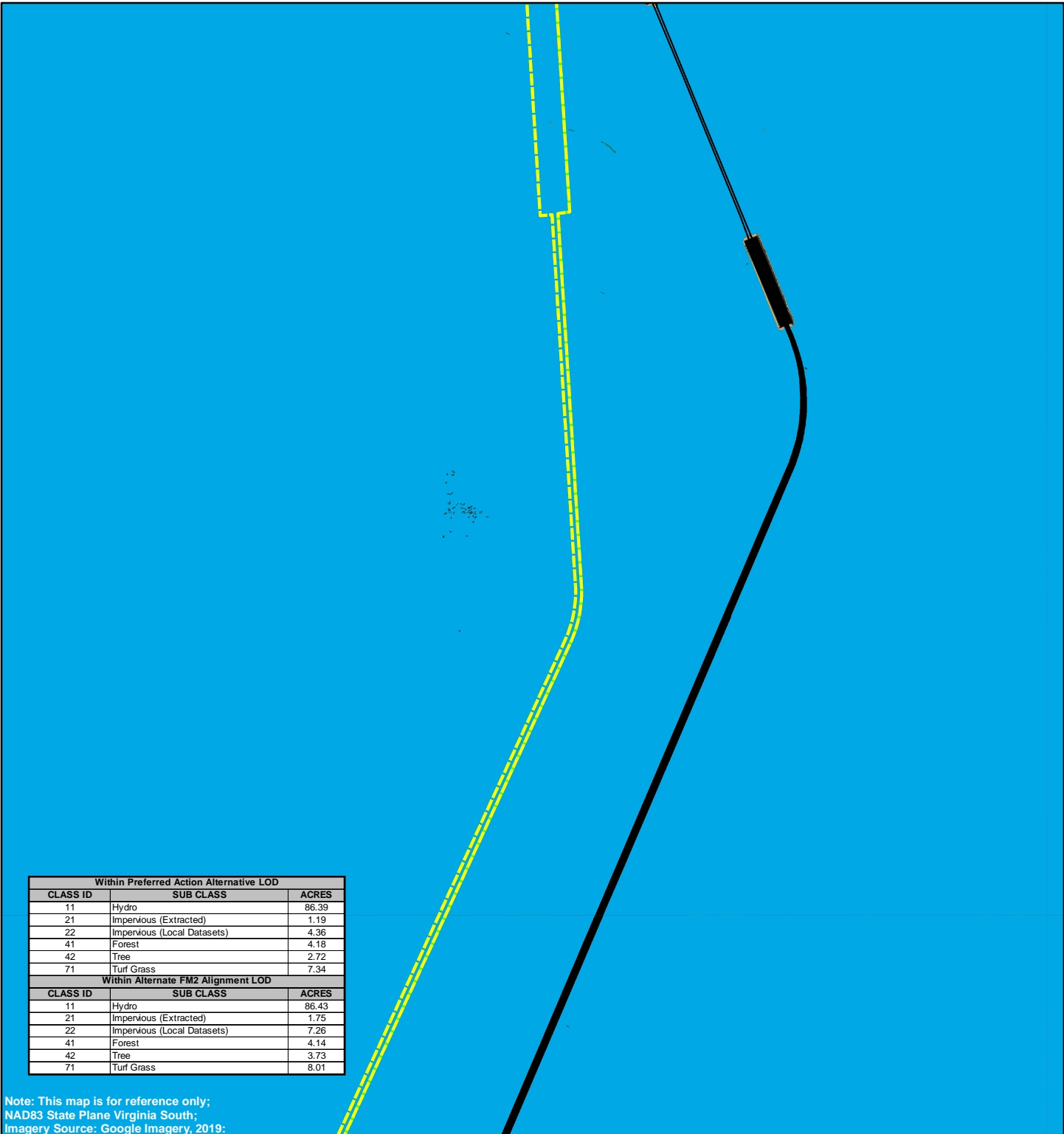
Legend

- Study Area
- Preferred Action Alternative LOD
- Alternate FM2 Alignment LOD
- 11 - Hydro
- 21 - Impervious (extracted)
- 22 - Impervious (Local datasets)
- 31 - Barren
- 41 - Forest
- 42 - Tree
- 71 - TurfGrass
- 91 - NWI/Other

VGIN Land Cover Dataset 2016

**Figure 6
 Land Cover Map
 Page 1 of 3**

City of Newport News
 City of Suffolk



Within Preferred Action Alternative LOD		
CLASS ID	SUB CLASS	ACRES
11	Hydro	86.39
21	Impervious (Extracted)	1.19
22	Impervious (Local Datasets)	4.36
41	Forest	4.18
42	Tree	2.72
71	Turf Grass	7.34
Within Alternate FM2 Alignment LOD		
CLASS ID	SUB CLASS	ACRES
11	Hydro	86.43
21	Impervious (Extracted)	1.75
22	Impervious (Local Datasets)	7.26
41	Forest	4.14
42	Tree	3.73
71	Turf Grass	8.01

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 Imagery Source: Google Imagery, 2019;

**HRSD-SWIFT Project
2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 4/4/2022

0 0.5 1
Miles

Legend

- Study Area
- Preferred Action Alternative LOD
- Alternate FM2 Alignment LOD
- 11 - Hydro
- 21 - Impervious (extracted)
- 22 - Impervious (Local datasets)
- 41 - Forest
- 42 - Tree
- 71 - TurfGrass

**Figure 6
Land Cover Map
Page 2 of 3**

City of Newport News
 City of Suffolk



Nansemond Treatment Plant

Within Preferred Action Alternative LOD		
CLASS ID	SUB CLASS	ACRES
11	Hydro	86.39
21	Impervious (Extracted)	1.19
22	Impervious (Local Datasets)	4.36
41	Forest	4.18
42	Tree	2.72
71	Turf Grass	7.34
Within Alternate FM2 Alignment LOD		
CLASS ID	SUB CLASS	ACRES
11	Hydro	86.43
21	Impervious (Extracted)	1.75
22	Impervious (Local Datasets)	7.26
41	Forest	4.14
42	Tree	3.73
71	Turf Grass	8.01

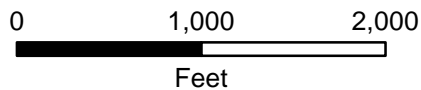
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**HRSD-SWIFT Project
2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 4/4/2022



Legend

- Study Area
- Preferred Action Alternative LOD
- Alternate FM2 Alignment LOD
- 11 - Hydro
- 21 - Impervious (extracted)
- 22 - Impervious (Local datasets)
- 41 - Forest
- 42 - Tree
- 71 - TurfGrass
- 81 - Pasture
- 91 - NWI/Other



**Figure 6
Land Cover Map
Page 3 of 3**



- City of Newport News
- City of Suffolk



Boat Harbor Treatment Plant

Within Preferred Action Alternative LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	10.34
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	0	Well drained	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.56
26	Lorton/Dumps complex	8	Poorly drained	3.63
29	Winston fine sandy loam	90	Poorly drained	0.29
6	Dragonston fine sandy loam	8	Somewhat poorly drained	2.63
W	Water	0		86.43
Within Alternative FM2 Alignment LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	12.10
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	0	Well drained	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.53
26	Lorton/Dumps complex	8	Poorly drained	3.63
27	Urban land	0		3.39
29	Winston fine sandy loam	90	Poorly drained	0.10
6	Dragonston fine sandy loam	8	Somewhat poorly drained	2.63
W	Water	0		86.44

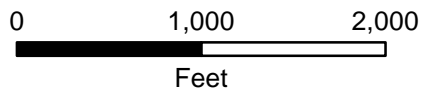
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**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

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Legend

- Study Area
- Preferred Action Alternative LOD
- Alternate FM2 Alignment LOD
- NRCS Soils



**Figure 7
 Soil Map
 Page 1 of 3**



- City of Newport News
- City of Suffolk



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 Imagery Source: Google Imagery, 2019;

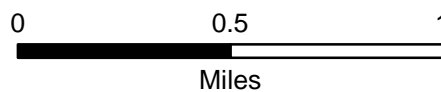
Within Preferred Action Alternative LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	10.34
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	0	Well drained	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.05
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.56
26	Udorthents-Dumps complex	8		3.63
29	Weston fine sandy loam	90	Poorly drained	0.09
6	Drayton fine sandy loam	8	Somewhat poorly drained	2.63
W	Water	0		86.43
Within Alternative FM2 Alignment LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	12.10
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	0	Well drained	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.05
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.53
26	Udorthents-Dumps complex	8		3.63
27	Urban land	0		3.39
29	Weston fine sandy loam	90	Poorly drained	0.10
6	Drayton fine sandy loam	8	Somewhat poorly drained	2.62
W	Water	0		86.44



**HRSD-SWIFT Project
2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 4/4/2022



Legend

- Study Area
- Preferred Action Alternative LOD
- Alternate FM2 Alignment LOD
- NRCS Soils



**Figure 7
Soil Map
Page 2 of 3**



City of Newport News
 City of Suffolk



Within Preferred Action Alternative LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	10.34
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	0	Well drained	1.86
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.56
26	Lottorhens-Dumps complex	8	Poorly drained	3.63
27	Winston fine sandy loam	8	Poorly drained	0.29
6	Dragonfin fine sandy loam	8	Somewhat poorly drained	2.63
W	Water	0		86.43

Within Alternative FM2 Alignment LOD				
SYMBOL	MAPUNIT	HYDRIC RATING	DRAINAGE CLASS	ACRES
10A	Kalmia fine sandy loam, wet substratum, 0 to 2 percent slopes	0	Well drained	12.10
10B	Kalmia fine sandy loam, wet substratum, 2 to 6 percent slopes	0	Well drained	1.89
15E	Nansemond loamy fine sand, 15 to 30 percent slopes	15	Moderately well drained	0.65
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	10	Moderately well drained	0.53
26	Lottorhens-Dumps complex	8	Poorly drained	3.63
27	Urban land	0		3.39
29	Winston fine sandy loam	8	Poorly drained	0.10
6	Dragonfin fine sandy loam	8	Somewhat poorly drained	2.63
W	Water	0		86.44

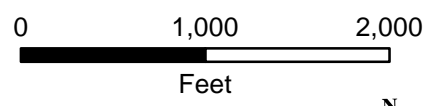
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 Imagery Source: Google Imagery, 2019;



**HRSD-SWIFT Project
2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 4/4/2022

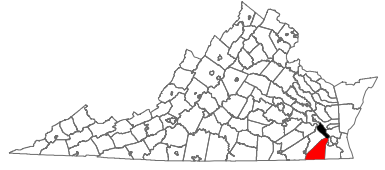


Legend

- Study Area
- Preferred Action Alternative LOD
- Alternate FM2 Alignment LOD
- NRCS Soils



**Figure 7
Soil Map
Page 3 of 3**



- City of Newport News
- City of Suffolk



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**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 3/29/2022

0 1 2
 Miles

Legend

- Study Area
- Preferred Action Alternative
- Alternate FM2 Alignment
- 0.2% Annual Chance Flood Hazard
- 1% Annual Chance Flood Hazard

FEMA Maps: 5101030183D 12/09/2014
 5101560041E 08/03/2015
 5101560043E 08/03/2015

**Figure 8
 FEMA Flood Hazard Map**

City of Newport News
 City of Suffolk

Appendix B: FONSI and Federal Consistency Determination



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 26 2018

OFFICE OF WATER

PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FONSI)

To all interested government agencies, public groups, and individuals:

In accordance with the Council of Environmental Quality's (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR Part 1500), and the U.S. Environmental Protection Agency's (EPA) procedures for implementing the National Environmental Policy Act (NEPA) (40 CFR Part 6), EPA has completed an environmental review of the following proposed action:

Issuance of Credit Assistance to Water and Waste Water Infrastructure Projects Under the Water Infrastructure Finance and Innovation Act Program

The Environmental Protection Agency is evaluating the issuance of credit assistance to water and waste water infrastructure programs under the Water Infrastructure Finance and Innovation Act (WIFIA) program. The environmental review process, which is documented by the enclosed Programmatic Environmental Assessment (PEA), indicates that no potential significant adverse environmental impacts are anticipated from the proposed action. The PEA analyzes the potential adverse and beneficial environmental impacts associated with providing WIFIA credit assistance to eligible water infrastructure projects in compliance with NEPA. Projects receiving WIFIA credit assistance must also comply with applicable federal laws and regulations and Executive Orders (EO) and other state and local environmental reviews.

Based on the environmental impact analysis in the PEA, EPA has determined that no significant environmental impacts are anticipated from the issuance of WIFIA credit assistance and the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment, making the preparation of an Environmental Impact Statement (EIS) unnecessary. Therefore, I am issuing this preliminary Finding of No Significant Impact (FONSI) to document this determination.

Copies of the PEA are available by request or by accessing it through the Federal eRulemaking Portal at <http://www.regulations.gov/> under Docket ID No. EPA-HQ-OW-2018-0079. An electronic copy of this document is available for download from EPA's NEPA Compliance Database at <https://cdxnodengn.epa.gov/cdx-enepa-public/action/nepa/search> and the WIFIA program website at <https://www.epa.gov/wifia>.

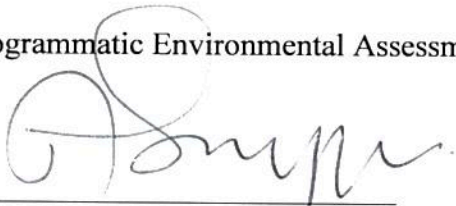
Comments regarding my preliminary decision may be submitted for consideration at <http://www.regulations.gov> under the above Docket ID. Questions on my preliminary decision can be directed to Mr. Alejandro Escobar by email at wifia@epa.gov.

After evaluating any comments received, the EPA will make a final decision. The preliminary decision and finding will then become final after the 30-day comment period expires if no new significant information is provided to alter this finding.

Andrew D. Sawyers, Director
Office of Wastewater Management

Enclosure

Programmatic Environmental Assessment for the WIFIA Program, April 2018



Andrew D. Sawyers, Director
Office of Wastewater Management

4/26/18
Date



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

WIFIA PROGRAMMATIC ENVIRONMENTAL ASSESSMENT ADEQUACY MEMORANDUM

In accordance with the Council of Environmental Quality's (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR Part 1500), and the U.S. Environmental Protection Agency's (EPA) procedures for implementing the National Environmental Policy Act (NEPA) (40 CFR Part 6), EPA has completed an environmental review of the following proposed action:

Issuance of Water Infrastructure Finance and Innovation Act (WIFIA) Program Credit Assistance to Hampton Roads Sanitation District Sustainable Water Initiative for Tomorrow Project 2

EPA developed a Programmatic Environmental Assessment (PEA) to analyze the potential environmental impacts related to the issuance of credit assistance under the WIFIA program. The proposed federal action under consideration in the PEA was the approval or denial of WIFIA applications by either providing or not providing WIFIA credit assistance. The PEA evaluated the effects of design, construction, operation, and maintenance for a range of types of water and wastewater infrastructure projects that are eligible for WIFIA credit assistance. EPA has determined that the above referenced project falls under one of the project types assessed in the PEA.

The prospective borrower has completed the WIFIA Programmatic Environmental Assessment's (PEA) Environmental Questionnaire and provided supplemental information to the WIFIA program about the project and its potential environmental effects. In carrying out its responsibilities under NEPA, EPA has taken the following actions:

- Reviewed the PEA Environmental Questionnaire and supplemental information submitted by the prospective borrower or directly obtained by EPA;
- Determined the adequacy of the information available for completing the environmental review under NEPA and cross-cutting authorities;
- Assessed site-specific environmental impacts of the above referenced WIFIA project;
- Determined that the reasonably foreseeable environmental effects are within the scope or context of the PEA.

EPA has determined that no significant environmental impacts are anticipated from the issuance of WIFIA credit assistance to the applicant, and the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment, making the preparation of an Environmental Impact Statement (EIS) unnecessary. Based on the review documented above, I conclude that this proposal conforms to the WIFIA PEA and associated finding of no significant impact (FONSI), and that the documentation fully covers the proposed action, and constitutes EPA's compliance with the requirements of the NEPA.

A handwritten signature in cursive script, appearing to read "Jorianne Jernberg".

8/31/21

Jorianne Jernberg, Director
WIFIA Management Division
Office of Wastewater Management

Date

Enclosures

Completed PEA Environmental Questionnaire (and supporting documentation)
Completed Applicant Verification Memorandum (and supporting documentation)



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

P.O. Box 1105, Richmond, Virginia 23218

(800) 592-5482 FAX (804) 698-4178

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural and Historic Resources

David K. Paylor
Director
(804) 698-4000

August 25, 2021

Ms. Alaina McCurdy
Environmental Engineer, WIFIA
U.S. Environmental Protection Agency
Washington, DC 20460
Via email: McCurdy.Alaina@epa.gov

RE: Environmental Protection Agency's (EPA) Federal Consistency Determination for the Hampton Roads Sanitation District's SWIFT – Boat Harbor Treatment Plant Pump Station Conversion and Land Acquisition, Boat Harbor Treatment Plant Transmission Force Main Sections 1 & 2, Nansemond Advanced Nutrient Reduction Improvements Phases I and II, and Nansemond SWIFT Facilities Project, City of Newport News, DEQ #4295

Dear Ms. McCurdy:

On behalf of the Commonwealth of Virginia, the Department of Environmental Quality (DEQ) is responsible for reviewing and responding to the documentation submitted in accordance with the Intergovernmental Review of Federal Programs (E.O. 12372) for the review of federal financial assistance to state and local governments (15 CFR, Subpart F, §930.90 *et seq.*). Pursuant to the Coastal Zone Management Act of 1972, as amended, because this project will be federally funded, it must be constructed and operated in a manner that is consistent with the Virginia Coastal Zone Management (CZM) Program.

PROJECT DESCRIPTION

According to the submission dated August 2, 2021, the U.S. Environmental Protection Agency (USEPA) is issuing financial assistance under the Water Infrastructure Finance and Innovation Act (WIFIA) to the Hampton Roads Sanitation District (HRSD) for the SWIFT (Sustainable Water Initiative for Tomorrow) project (SWIFT) Boat Harbor Treatment Plant Pump Station Conversion and Land Acquisition, Boat Harbor Treatment Plant Transmission Force Main Sections 1 & 2, Nansemond Advanced

Nutrient Reduction Improvements Phases I and II, and Nansemond SWIFT Facilities Project.

WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HRSD to submit an application for credit assistance for the Project.

HRSD proposes to design and construct new facilities to improve water quality of the Chesapeake Bay by reducing surface water discharges from the Boat Harbor and Nansemond Treatment Plants (TP) and improving the quality of effluent from the treatment facilities. The project includes the following sections:

1. Boat Harbor Treatment Plant Pump Station Conversion and Land Acquisition; Boat Harbor Treatment Plant Transmission Force Main Sections 1 & 2: the acquisition of property adjacent to the existing Boat Harbor Treatment Plant, demolition of the majority of the existing plant, construction of a new 32-million gallons per day (MGD)-pump station, installation of a new 36-inch diameter transmission force main beneath the James River.
2. The Nansemond ANRI Phase I & Phase II and SWIFT Facilities: the preliminary engineering necessary to begin design and construction of improvements to Nansemond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansemond Treatment Plant service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansemond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

3. Program Management of SWIFT Full-Scale Implementation- The SWIFT Facility Implementation Program Management team will manage the delivery of the advanced water treatment facilities. The Program Management team will also manage the delivery

of the recharge wells, monitoring wells, and associated pumping and piping systems to support groundwater augmentation. The Program Management team will implement the processes, procedures, and systems needed to design, procure, construct, permit, manage, and integrate the new SWIFT related assets into HRSD's existing systems. The Program Management team will also manage the transition of the new SWIFT assets to HRSD operations and life cycle asset management.

FEDERAL CONSISTENCY

This project is consistent with the Virginia Coastal Zone Management Program (CZM) provided all applicable permits or approvals listed under "Enforceable Policies of Virginia's Coastal Zone Management Program" ([enforceable policies](#)) are received prior to implementation of the project. Accordingly, if any of the enforceable policies apply, please contact the relevant agencies to obtain applicable permits or approvals. DEQ's Tidewater Regional Office (DEQ TRO, 757-518-2000) administers the enforceable policies listed under DEQ's jurisdiction. Please contact that office for assistance in meeting the requirements of applicable programs.

The following discussion is provided as a guide to the enforceable policies administered by DEQ and other agencies of the Commonwealth which could apply to the project. In addition, DEQ encourages the applicant to consider potential project impacts to the [advisory policies](#) of the Virginia CZM Program. Final determination concerning potential impacts on these programs rests with DEQ TRO or the appropriate state agency. It is the applicant's responsibility to coordinate development with appropriate state agencies.

Please note that on October 2, 2020, the National Oceanic and Atmospheric Administration (NOAA) approved an update of the Commonwealth's enforceable policies. Future project submissions must include an analysis or project impacts on the approved policies: <https://www.deq.virginia.gov/permits-regulations/environmental-impact-review/federal-consistency>.

1. Tidal and Non-Tidal Wetlands. Federal and state governments regulate impacts to streams and wetlands. The Virginia Marine Resources Commission serves as the clearinghouse for the Joint Permit Application (JPA) used by the:

1. U.S. Army Corps of Engineers, for issuing permits pursuant to section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act;
2. Department of Environmental Quality, for issuance of Virginia Water Protection Permits pursuant to section 401 of the Clean Water Act, Virginia Code sections 62.1-44.2 et seq., Virginia Code section 62.1-44.15:20 and Virginia Administrative Code 9 VAC 25-210-10 et seq.;
3. Virginia Marine Resources Commission, for permits to encroach on or over state-owned subaqueous beds as well as tidal wetlands pursuant to Virginia Code sections 28.2-1200 through 1400; and

4. Local wetlands board, for impacts to wetlands.

The applicant must contact VMRC at 757-247-2200 to obtain a JPA for streams and wetlands that would be impacted by construction. VMRC will distribute the application to the appropriate agencies. Each agency will conduct its review and respond. Additional information on water resources permitting is available DEQ TRO Water Division (Jeffrey Hannah, 757-518-2146, jeffrey.hannah@deq.virginia.gov).

You state that wetland delineations were conducted in May, June, August, and October 2020 to determine the extent of jurisdictional waters of the U.S. within and adjacent to the project area. Twelve non-tidal wetlands, one tidal wetland, one tidal stream, and three tidal waterbodies were identified within the project study area. Additionally, one ditch, one pond, and four stormwater basins, all regularly maintained, potential jurisdictional features were also identified within the project study area. Many of the water features are located in previously disturbed areas. For unavoidable impacts, DEQ encourages the following practices to minimize the impacts to wetlands and waterways: use of directional drilling from upland locations; operation of machinery and construction vehicles outside of stream-beds and wetlands; use of synthetic mats when in-stream work is unavoidable; stockpiling of material excavated from the trench for replacement if directional drilling is not feasible; and preservation of the top 12 inches of trench material removed from wetlands for use as wetland seed and root stock in the excavated area.

2. Subaqueous Lands. The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the DEQ-TRO Water Division (Jeffrey Hannah, 757-518-2146, jeffrey.hannah@deq.virginia.gov). The program is administered by the Virginia Marine Resources Commission (Virginia Code §28.2-1200 through §28.2-1213).

You indicate that wetland delineations were conducted in May, June, August, and October 2020, and that twelve non-tidal wetlands, one tidal wetland, one tidal stream, and three tidal waterbodies were identified within the project study area. Any impacts to state subaqueous lands will require authorization from the Virginia Marine Resources Commission (VMRC). Please contact VMRC at 757-247-2252 for guidance.

3. Chesapeake Bay Preservation Areas. Pursuant to the Chesapeake Bay Preservation Act (Virginia Code § 62.1-44.15:67 *et seq.*) and the Regulations for the Designation and Management of Chesapeake Bay Preservation Areas (9VAC25-830-10 *et seq.*), localities within the state's coastal zone have enacted programs designed to improve water quality in the Chesapeake Bay through the mitigation of the impacts of development and redevelopment on sensitive environmental features such as streams, wetlands, floodplains, highly erodible and highly permeable soils. Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) have been designated in each

locality; these areas consist of groupings of sensitive environmental features. RPA features (tidal wetlands, certain non-tidal wetlands, tidal shores, and buffer areas) are the most sensitive; in general, only water-dependent uses may be constructed in an RPA. RMA features (highly erodible soils, highly permeable soils, and certain non-tidal wetlands) are less sensitive than RPA features, but no less important. Development in an RMA requires that activities meet certain performance criteria designed to mitigate negative environmental impacts. Contact appropriate locality officials for review and approval of the project pursuant to the local Chesapeake Bay Preservation Area program as applicable.

4. Wildlife and Inland Fisheries. The fisheries management enforceable policy is administered by the Department of Wildlife Resources (DWR) (formally the Department of Game and Inland Fisheries) (Virginia Code Section 29.1-100 to 29.1-570).

The Virginia of Wildlife Resource (DWR) Fish and Wildlife Information Service (VaFWIS) database indicates the confirmed presence of the state-listed threatened peregrine falcon within two miles of the proposed project. Database records indicate that these observations include migration banding observations and an observation at the I-64 bridge over the Elizabeth River, approximately 1.75 miles south of the study area, where there is a known peregrine falcon nest. As there is limited suitable nesting habitat in the Study Area and there are no confirmed sightings in the immediate area, impacts to this species are not anticipated. Per the Virginia Department of Conservation and Recreation (DCR) Biotics Data System, predicted habitat models indicate that habitat for the state endangered Eastern big-eared bat may be present within the Study Area. Coordination with the DCR regarding potential impacts to this species has been initiated.

Please contact DWR (804-367-1000) for guidance on this policy.

5. Point Source Air Pollution. The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that implement Virginia's Air Pollution Control Law. DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality.

The appropriate DEQ regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary sources in the region as well as monitoring emissions from these sources for compliance. As a part of this mandate, the environmental documents of new projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

5(a) Requirements. Guidance on air pollution requirements that may apply is provided below. For information on air pollution control, please contact DEQ TRO (John Brandt, Air Compliance Manager, john.brandt@deq.virginia.gov or 757-518- 2010).

5(a)(i) Fugitive Dust. During transportation/placement of the equipment, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

6. Point Source Water Pollution. The point source program is administered by the State Water Control Board pursuant to Virginia Code §62.1-44.15. Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to §402 of the federal Clean Water Act and administered in Virginia as the VPDES permit program. The Water Quality Certification requirements of §401 of the Clean Water Act of 1972 is administered under the Virginia Water Protection Permit program. The applicant should coordinate with the DEQ TRO (Jeff Hannah, 757-518-2146, email Jeffrey.Hannah@deq.virginia.gov).

7. Nonpoint Source Pollution Control. The DEQ Office of Stormwater Management (OSWM) administers the nonpoint source pollution control enforceable policy through the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R) and Virginia Stormwater Management Law and Regulations (VSWML&R). In addition, DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land-disturbing activities under the Virginia Stormwater Management Program.

7(a) Requirements.

7(a)(i) Erosion and Sediment Control Plan. The applicant is responsible for submitting a project-specific erosion and sediment control (ESC) plan to the appropriate locality for review and approval pursuant to the local ESC requirements should the project involve a land-disturbing activity equal to or greater than 10,000 square feet (2,500 square feet in a Chesapeake Bay Preservation Area). Depending on local requirements, the area of land disturbance requiring an ESC plan may be less. The ESC plan must be approved prior to any land-disturbing activity at the project site. All

regulated land-disturbing activities associated with the project, including on- and off-site access roads, staging areas, borrow areas, stockpiles, and soil intentionally transported from the project, must be covered by the project specific ESC plan. Local ESC program requirements must be requested through the city offices.

Additional guidance may be obtained from DEQ's Office of Stormwater Management, Larry Gavan at (804) 698-4040 or larry.gavan@deq.virginia.gov.

7(a)(ii) Stormwater Management Plan. Dependent on local requirements, a stormwater management (SWM) plan may be required. Local SWM program requirements must be requested through the locality (Reference: Virginia Stormwater Management Act §62.1-44.15 *et seq.*; Virginia Stormwater Management (VSMP) Permit Regulations 9VAC25-870-10 *et seq.*).

7(a)(iii) General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (VAR 10). The owner or operator of projects involving land-disturbing activities of equal to or greater than 1 acre is required to apply for registration coverage under the General Permit for Discharges of Stormwater from Construction Activities. Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ (Holly Sepety at 804-698-4039). General information and registration forms for the General Permit are available at <https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-construction>.

8. Shoreline Sanitation. The Virginia Department of Health (VDH) Division of Water and Wastewater Services (Division) administers the *Sewage Handling and Disposal Regulations* (12 VAC 5-610-20 *et seq.*) which govern septic systems, alternative onsite systems, privies (including composting and incinerating toilets), and siting, design and construction standards for residential and commercial onsite sewage treatment and dispersal systems. Division programs are administered through 35 district offices throughout the Commonwealth. The appropriate district office may be found at <https://www.vdh.virginia.gov/local-health-districts/>.

9. Marine Fisheries. This policy stresses the conservation and promotion of seafood and marine resources of the Commonwealth, including fish, shellfish and marine organisms, and manage the fisheries to maximize food production and recreational opportunities within the Commonwealth's territorial waters. The policy is administered by the Virginia Marine Resources Commission (VMRC) (Virginia Code §§ 28.2-101, -201, -203, -203.1, -225, -551, -600, -601, -603 -618, and -1103, -1203 and the Constitution of Virginia, Article XI, Section 3). Coordinate with VMRC (Randy Owen at Randy.Owen@mrc.virginia.gov) as necessary.

ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

With respect to federal consistency, no further action is necessary if none of the enforceable programs of Virginia CZM Program apply to this project. However, the

project must comply with all other applicable federal, state and local laws and regulations. The following discussion is provided as a guideline of programs administered by DEQ and other agencies of the commonwealth, which could be applicable. Final determinations concerning potential impacts on these programs rest with the DEQ TRO (757-518-2000) and the appropriate agency administering each program. It is the responsibility of the applicant (i.e., the locality) to coordinate with these agencies.

1. Solid and Hazardous Waste Management. DEQ administers the Virginia Solid Waste Management Regulations (9VAC20-81) and the Virginia Hazardous Waste Management Regulations (9VAC20-60). DEQ recommends that all solid wastes generated by this project be reduced at the source, re-used, or recycled. All hazardous wastes should be minimized. Otherwise, all solid waste, hazardous waste, and hazardous material must be managed in accordance with all applicable federal, state, and local environmental regulations. Contact DEQ TRO (Melinda Woodruff, Melinda.Woodruff@deq.virginia.gov, 757-518-2174) concerning the location and availability of waste management facilities in the project area.

2. Pollution Prevention. DEQ advocates that principles of pollution prevention and sustainability be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices (BMPs) will help to ensure that environmental impacts are minimized. However, pollution prevention and sustainability techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques. For more information, contact DEQ's Office of Pollution Prevention (Meghann Quinn, (804-698-4021).

3. Energy Conservation. Any construction should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. Please contact the Department of Mines, Minerals and Energy (David Spears at 434- 951-6350) for assistance in meeting this challenge.

4. Public Water Supply. The Virginia Department of Health (VDH) Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells and surface water intakes). VDH administers both federal and state laws governing waterworks operation. Potential impacts to public water distribution systems or sanitary sewage collection systems should be verified by the local utility. Contact VDH, Arlene Fields Warren, with questions (804-864-7781).

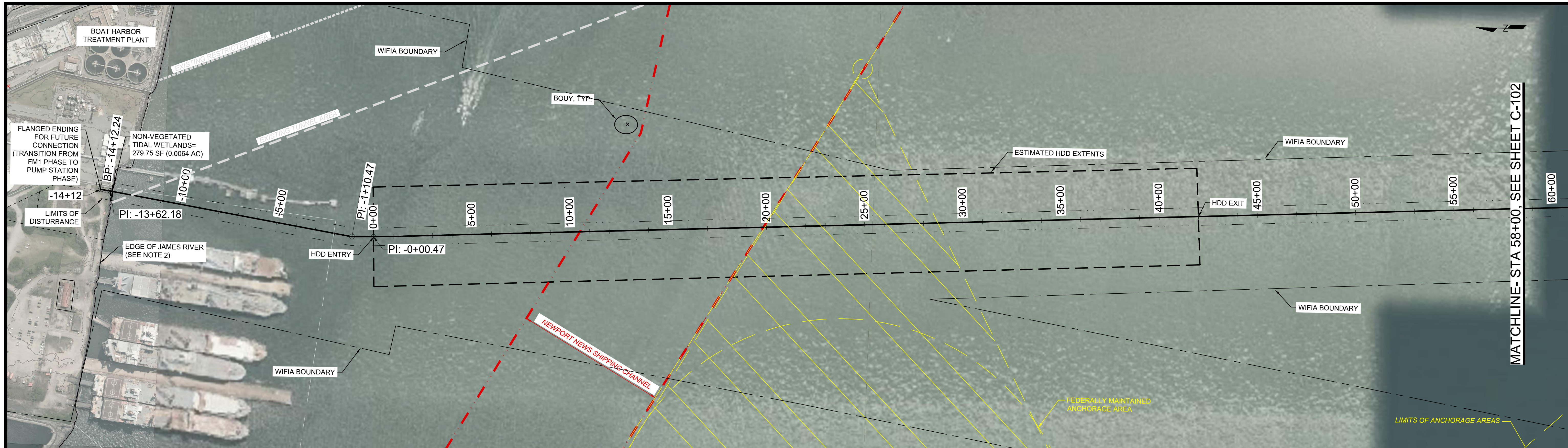
Thank you for your inquiry. We appreciate your interest in complying with Virginia's environmental regulations. If you have any further questions, please call me at (804) 698-4326.

Sincerely,

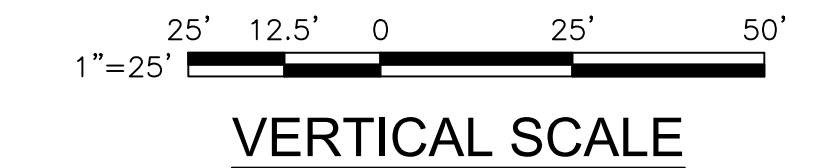
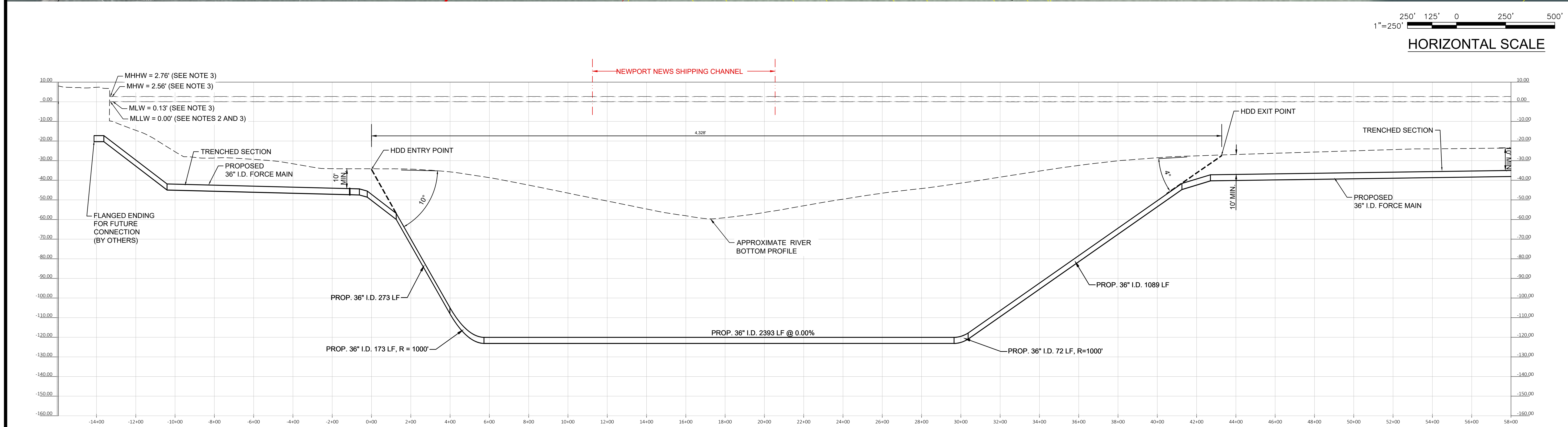
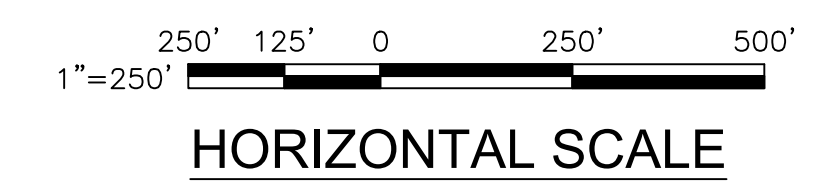
A handwritten signature in black ink, appearing to read "J. A. Wellman". The signature is written in a cursive style with a large initial "J" and "W".

Julia Wellman, EIR Coordinator
Office of Environmental Impact Review

**Appendix C: Conceptual Construction Plans, Proposed Action
Alternative**



MATCHLINE- STA 58+00, SEE SHEET C-102



- NOTES:
- BATHYMETRY CONTOURS CREATED USING NOAA ELECTRONIC NAVIGATIONAL CHART (NOAA ENC) DATASET US5VA15M (NOAA CHART 12245). THESE CONTOURS WERE AUGMENTED USING DATA FROM SOUNDINGS TAKEN ALONG THE ALIGNMENT. SOUNDINGS DATA WAS PROCESSED IN ESRI ARCMAP TO CREATE CONTOURS AT 2-FOOT INTERVALS.
 - EDGE OF JAMES RIVER ESTIMATED USING NOAA'S MLLW ELEVATION OF 0.00' (DATUMS FOR 8638610, SEWELLS POINT VA).
 - TIDAL RELATIONSHIPS TO NAVD88 WERE COMPUTED FROM BENCH MARK 8638610 SEWELLS POINT, VA (1983-2001).

REV	ISSUED FOR	DATE	BY
1	BID PLAN SET REVISION 1	10/2021	KRG
0	BID PLAN SET	04/2021	KRG

PROJECT ENGINEER:	R. MARSZALKOWSKI
DESIGNED BY:	GEB/OPP/COMBER
DRAWN BY:	AECOM
CHECKED BY:	AECOM

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NOT RELEASED FOR CONSTRUCTION

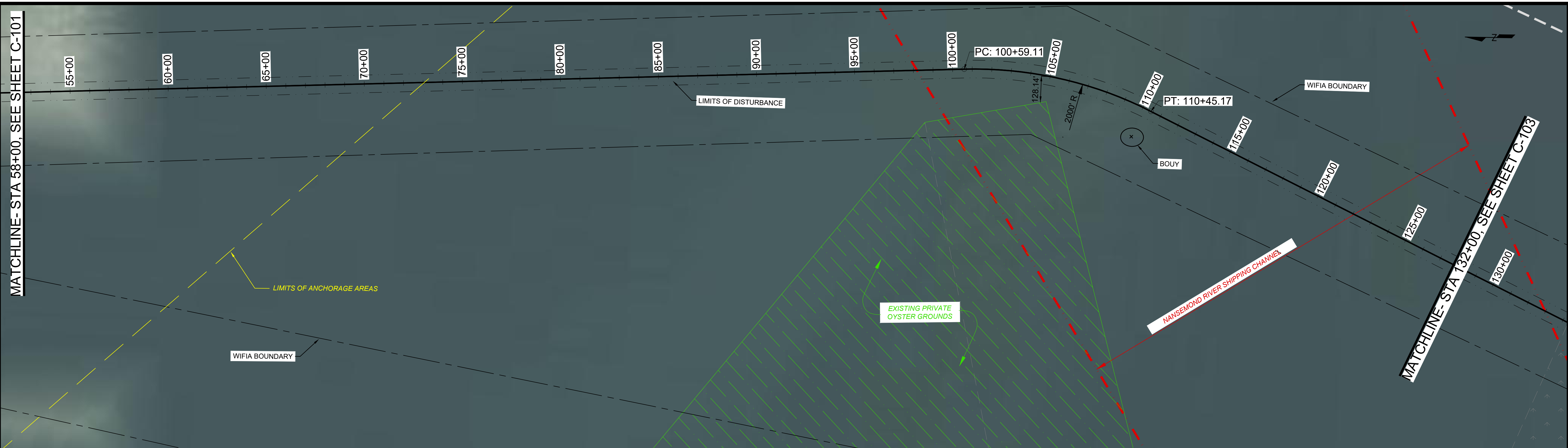


**BOAT HARBOR TREATMENT PLANT
FORCE MAIN SECTION 1 (SUBAQUEOUS)
DESIGN DEVELOPMENT SERVICES
BH015710**

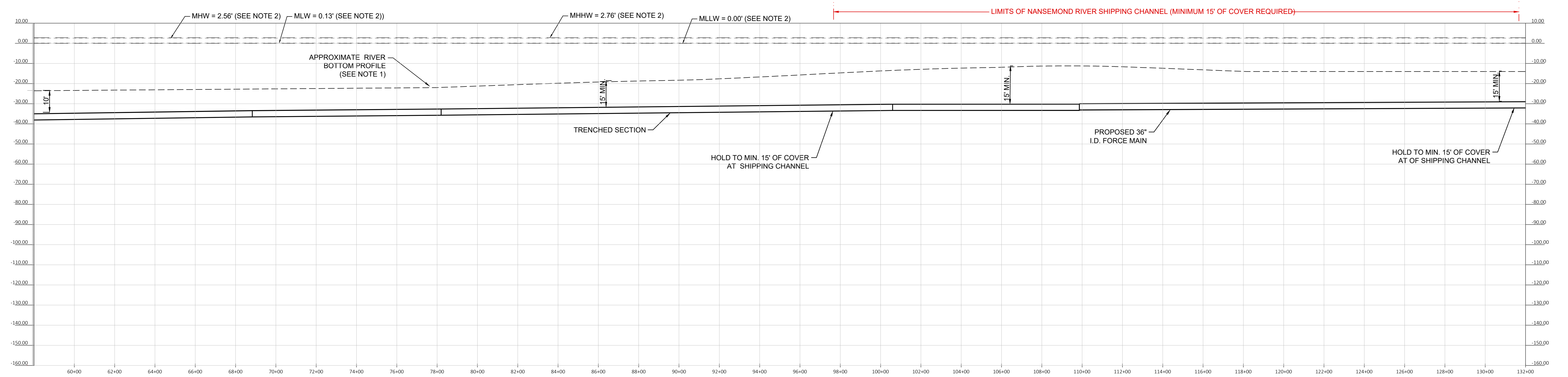
HDD PLAN AND PROFILE
STA. (-)14+12 - STA. 58+00

DATE:	OCTOBER 2021
PROJECT NO.:	60647606
CONTRACT NO.:	-
DRAWING NUMBER:	C-101

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HORIZONTAL SCALE



VERTICAL SCALE

- NOTES:
- BATHYMETRY CONTOURS CREATED USING NOAA ELECTRONIC NAVIGATIONAL CHART (NOAA ENC) DATASET US5VA15M (NOAA CHART 12245). THESE CONTOURS WERE AUGMENTED USING DATA FROM SOUNDINGS TAKEN ALONG THE ALIGNMENT. SOUNDINGS DATA WAS PROCESSED IN ESRI ARCMAP TO CREATE CONTOURS AT 2-FOOT INTERVALS.
 - TIDAL RELATIONSHIPS TO NAVD88 WERE COMPUTED FROM BENCH MARK 8638610 SEWELLS POINT, VA (1983-2001).

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0	BID PLAN SET	04/2021	KRG

PROJECT ENGINEER:	R. MARSZALKOWSKI
DESIGNED BY:	GEB/OPP/COMBER
DRAWN BY:	AECOM
CHECKED BY:	AECOM

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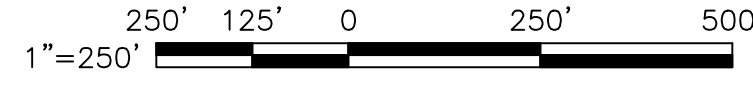
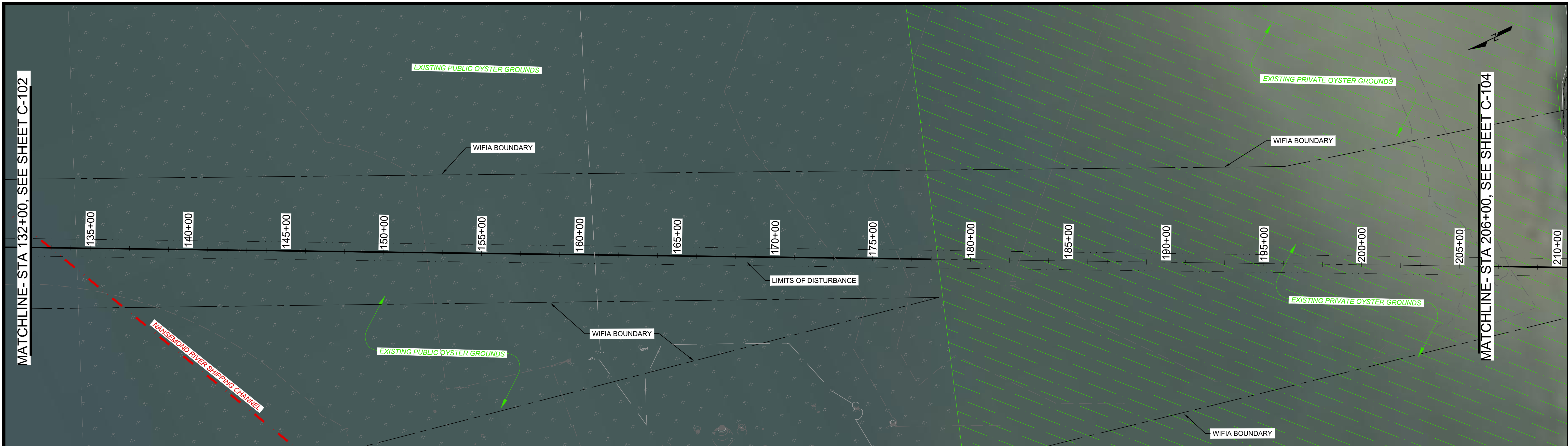
HRSD
BOAT HARBOR TREATMENT PLANT
FORCE MAIN SECTION 1 (SUBAQUEOUS)
DESIGN DEVELOPMENT SERVICES
BH015710

**RIVER CROSSING
PLAN AND PROFILE**
STA. 58+00 - STA. 132+00

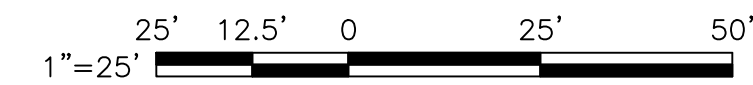
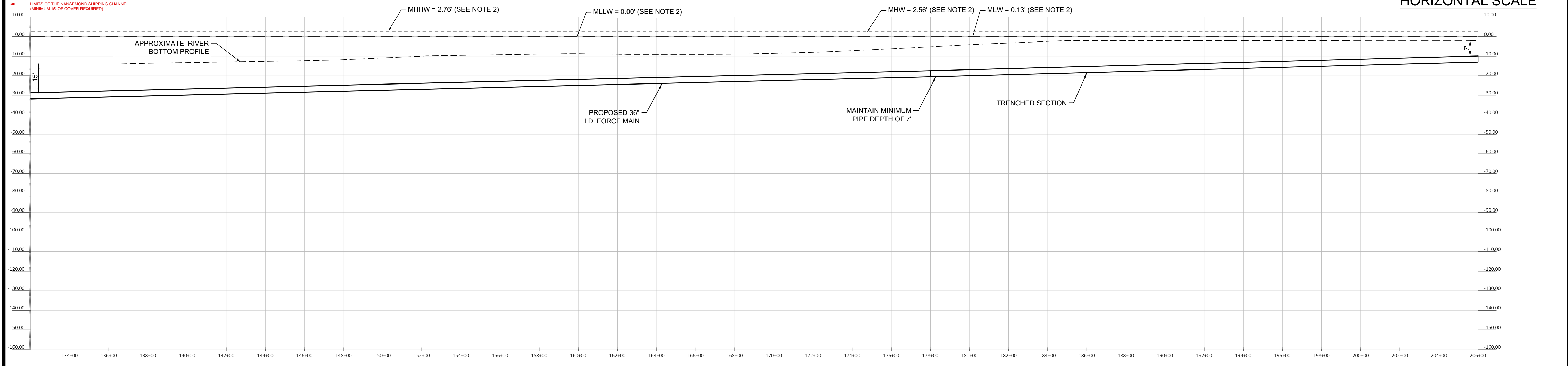
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PROJECT NO.:	60647606
CONTRACT NO.:	-
DRAWING NUMBER:	C-102

MATCHLINE- STA 132+00, SEE SHEET C-102

MATCHLINE- STA 206+00, SEE SHEET C-104



HORIZONTAL SCALE



VERTICAL SCALE

- NOTES:
- BATHYMETRY CONTOURS CREATED USING NOAA ELECTRONIC NAVIGATIONAL CHART (NOAA ENC) DATASET US5VA15M (NOAA CHART 12245). THESE CONTOURS WERE AUGMENTED USING DATA FROM SOUNDINGS TAKEN ALONG THE ALIGNMENT. SOUNDINGS DATA WAS PROCESSED IN ESRI ARCMAP TO CREATE CONTOURS AT 2-FOOT INTERVALS.
 - TIDAL RELATIONSHIPS TO NAVD88 WERE COMPUTED FROM BENCH MARK 8638610 SEWELLS POINT, VA (1983-2001).

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PROJECT ENGINEER:	R. MARSZALKOWSKI
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DESIGN DEVELOPMENT SERVICES
BH015710

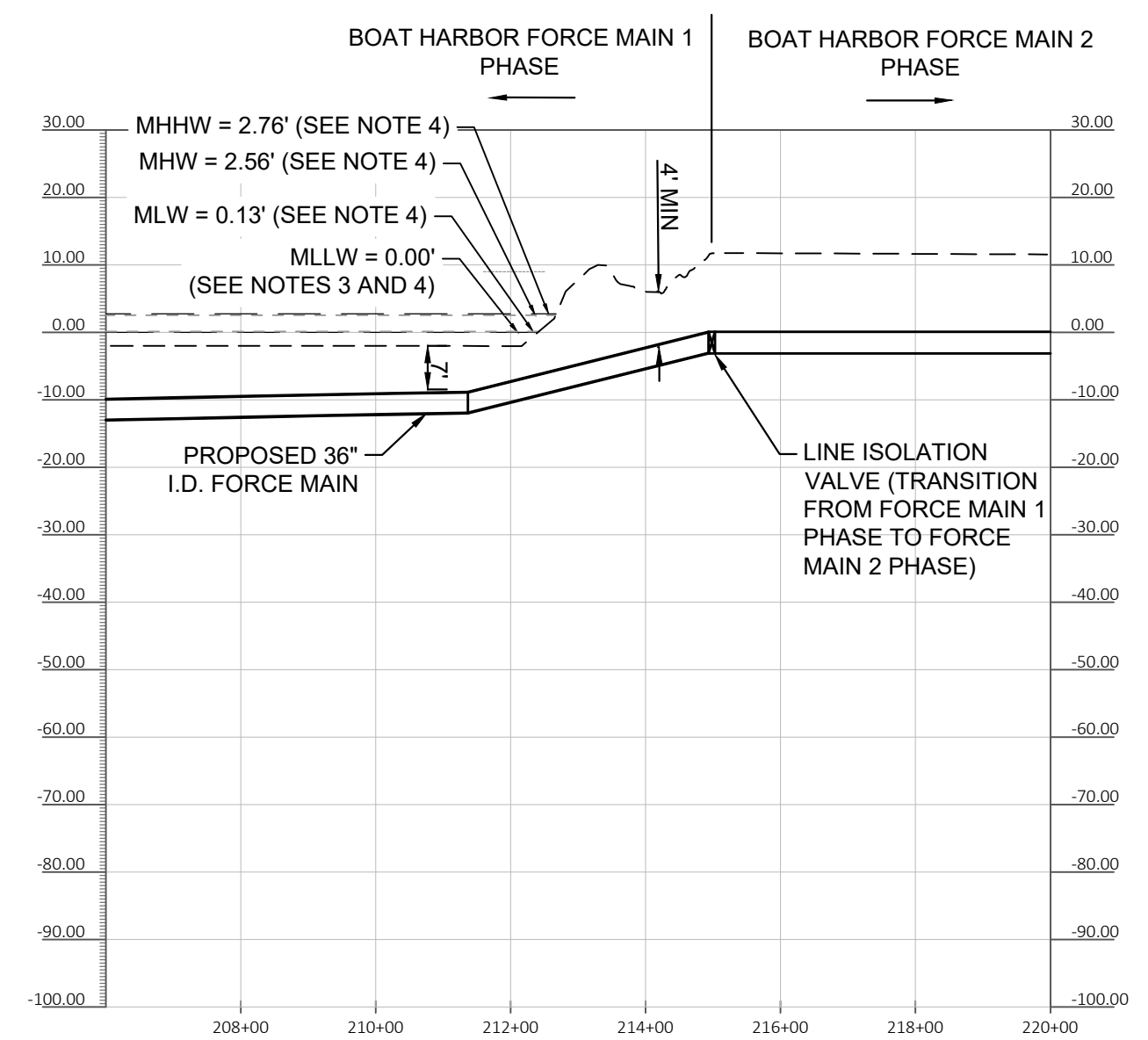
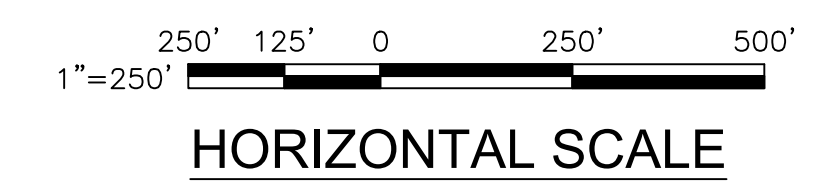
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PLAN AND PROFILE**
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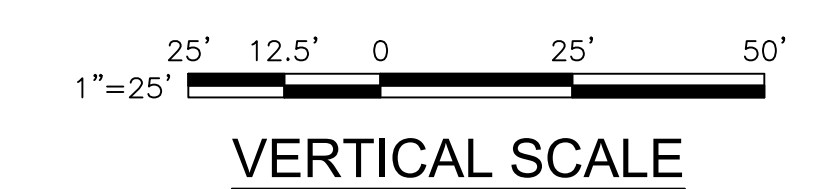
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 - APPROXIMATE LOCATION AT N9653750, E8070328. EXACT LOCATION TO BE COORDINATED WITH FORCE MAIN 2 PHASE.
 - EDGE OF JAMES RIVER ESTIMATED USING NOAA'S MLLW ELEVATION OF 0.00' (DATUMS FOR 8638610, SEWELLS POINT VA).
 - TIDAL RELATIONSHIPS TO NAVD88 WERE COMPUTED FROM BENCH MARK 8638610 SEWELLS POINT, VA (1983-2001).



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PROJECT ENGINEER:	R. MARSZALKOWSKI
DESIGNED BY:	GEBA/OPP/COMBER
DRAWN BY:	AECOM
CHECKED BY:	AECOM

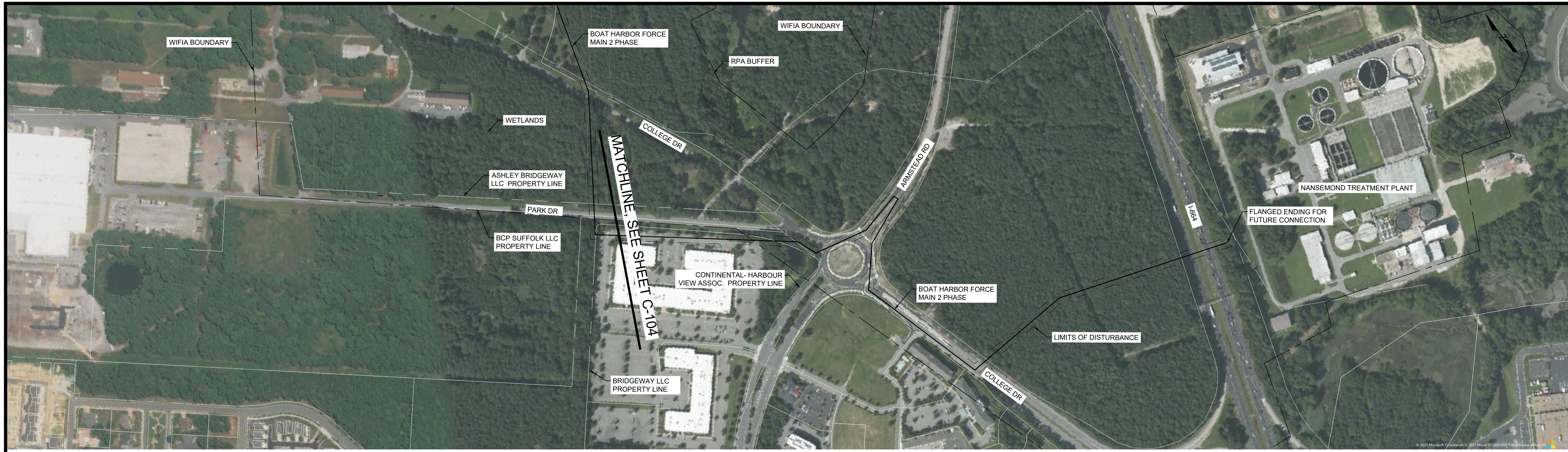
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**BOAT HARBOR TREATMENT PLANT
FORCE MAIN SECTION 1 (SUBAQUEOUS)
DESIGN DEVELOPMENT SERVICES
BH015710**

**RIVER CROSSING
PLAN AND PROFILE**
STA. 206+00 - STA. 220+00

DATE:	OCTOBER 2021
PROJECT NO.:	60647606
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**BOAT HARBOR TREATMENT PLANT
FORCE MAIN SECTION 1 (SUBAQUEOUS)
DESIGN DEVELOPMENT SERVICES
BH015710**

**BOAT HARBOR
FORCE MAIN 2 PHASE**

DATE:	OCTOBER 2021
PROJECT NO.:	60647606
CONTRACT NO.:	-
DRAWING NUMBER:	C-105

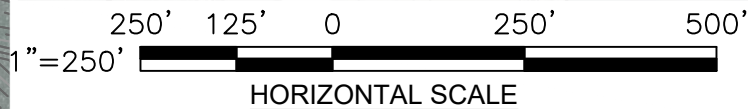
MATCHLINE THIS SHEET

TEMPORARY WORK SPACE
(4.12 ACRES)

PROPERTY LINE

TEMPORARY WORK SPACE
(1.95 ACRES)

FLANGED ENDING FOR
FUTURE CONNECTION
(TRANSITION FROM FM1 PHASE
TO PUMP STATION PHASE)



MATCHLINE THIS SHEET

TEMPORARY WORK SPACE
(4.12 ACRES)

PROPERTY LINE

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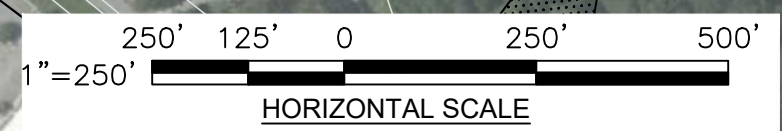
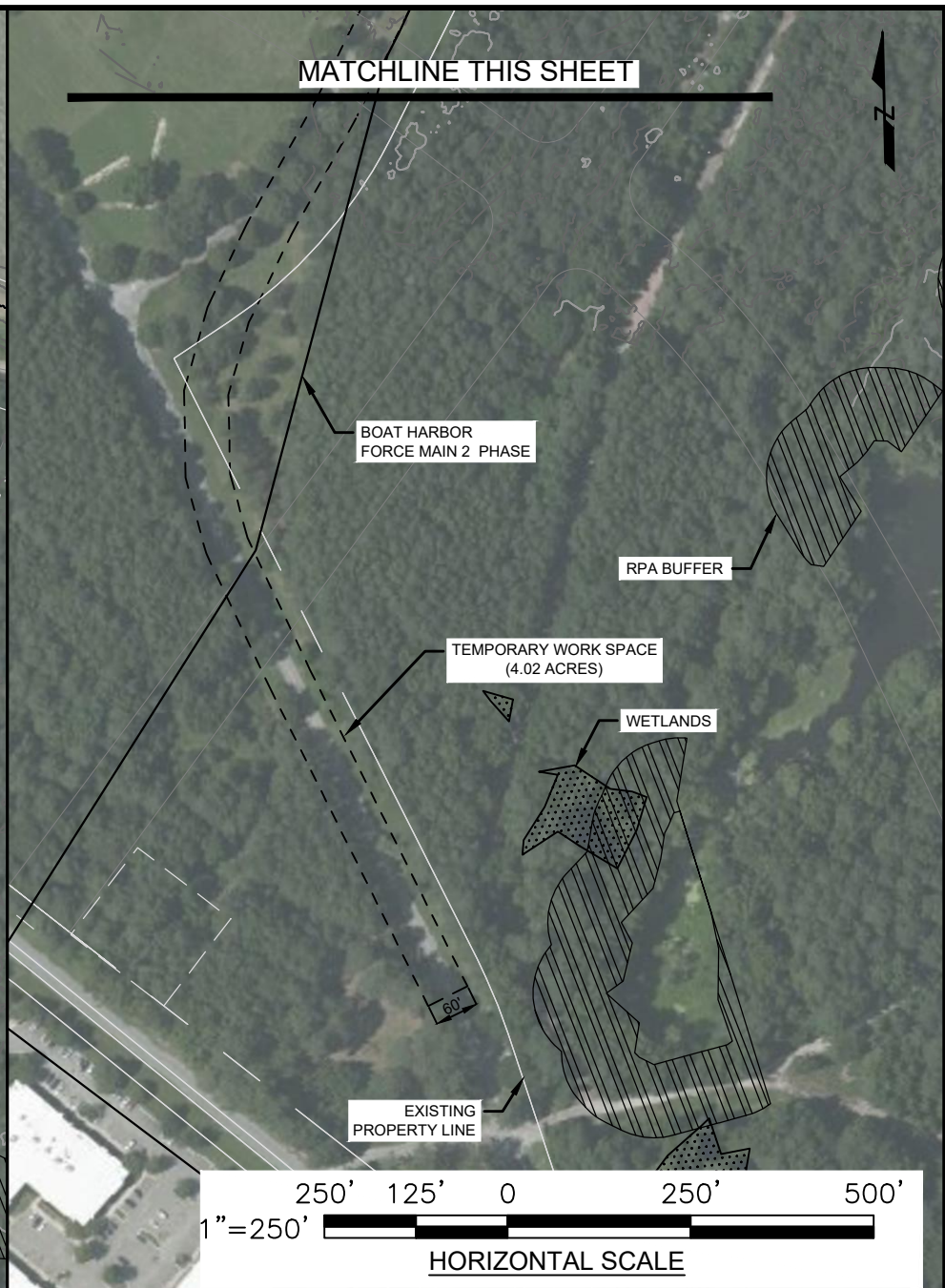
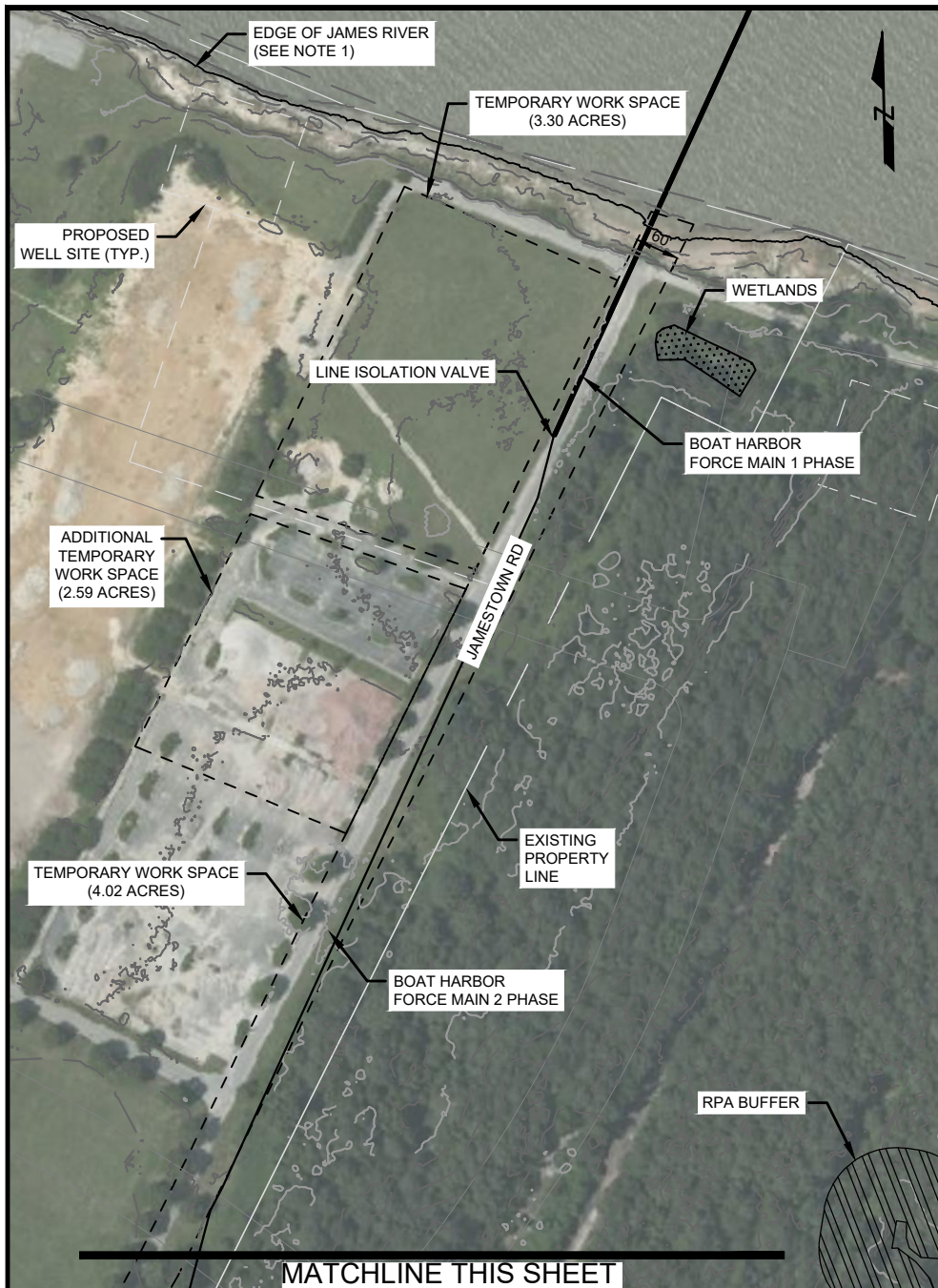
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FORCE MAIN 1
TEMPORARY WORK SPACE
NEWPORT NEWS (NORTH) SIDE

DATE:	OCTOBER 2021
PROJECT NO.:	60647606
CONTRACT NO.:	-
DRAWING NUMBER:	C-200



1. EDGE OF JAMES RIVER ESTIMATED USING NOAA'S MLLW ELEVATION OF 0.00' (DATUMS FOR 8638610, SEWELLS POINT VA).

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DESIGNED BY:	GEB/A/PP/COMBER
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NOT RELEASED FOR CONSTRUCTION



BOAT HARBOR TREATMENT PLANT
FORCE MAIN SECTION 1 (SUBAQUEOUS)
DESIGN DEVELOPMENT SERVICES
BH015710

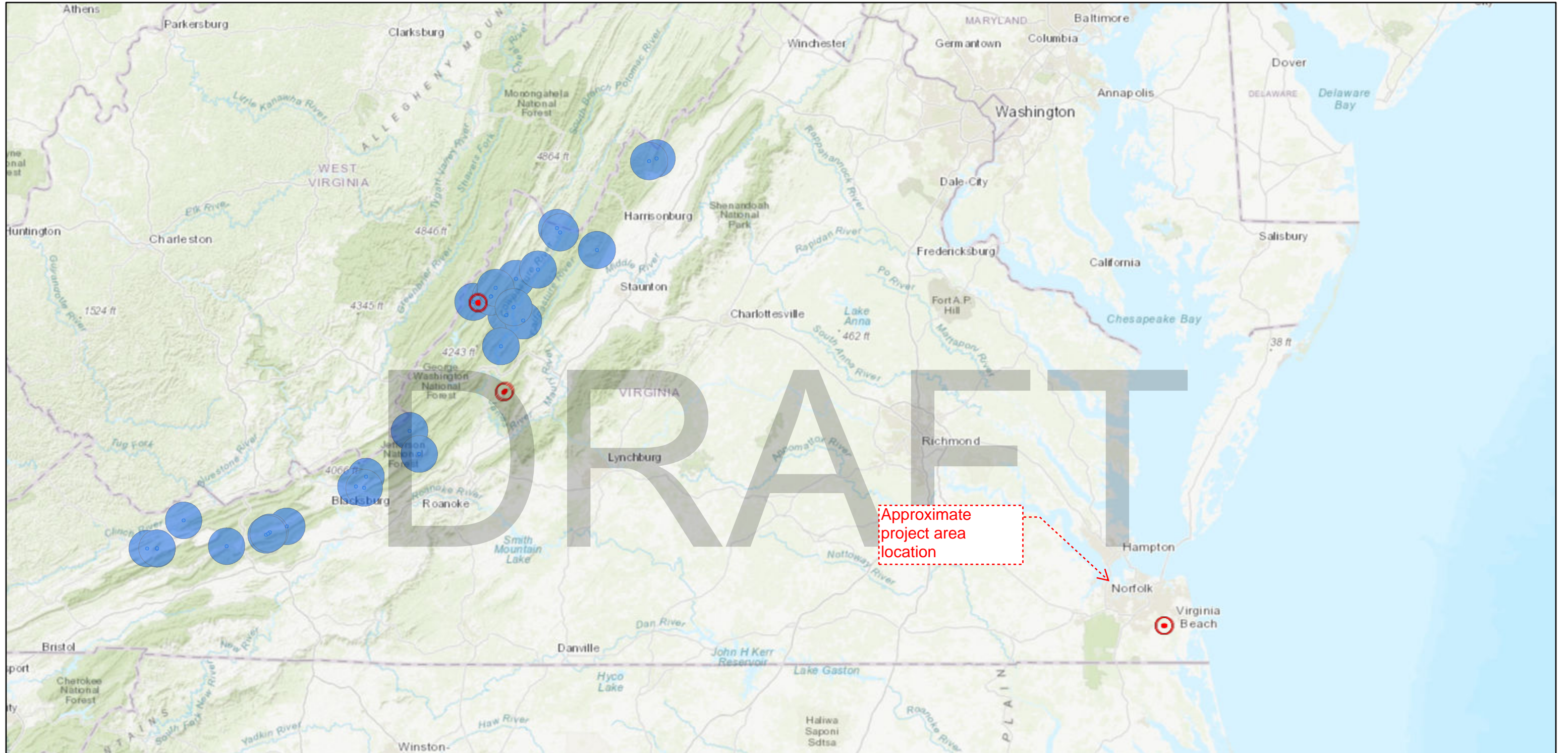
FORCE MAIN 1
TEMPORARY WORK SPACE
SUFFOLK (SOUTH) SIDE

DATE:	OCTOBER 2021
PROJECT NO.:	60647606
CONTRACT NO.:	-
DRAWING NUMBER:	C-201


FILE:///C:/Users/11111111/Desktop/Projects/HRSD/HRSD%20-%20FORCE%20MAIN%20SECTION%201%20-%20SUBAQUEOUS%20DESIGN%20DEVELOPMENT%20SERVICES%20-%20BH015710.dwg
 PLOT DATE: 10/20/2021 11:59 AM


Appendix D: Species Information


NLEB Locations and Roost Trees



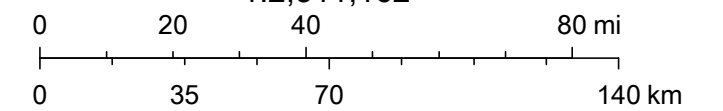
12/11/2020, 1:14:59 PM

 NLEB Known Occupied Maternity Roost (Summer Habitat)

 NLEB Hibernaculum 5.5 Mile Buffer

 NLEB Hibernaculum Half Mile Buffer

1:2,311,162



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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

April 27, 2021

Troy Andersen
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

RE: ESA Section 7 Consultation -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Mr. Andersen:

The Environmental Protection Agency (EPA) is requesting concurrence from the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) for the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HSRD to submit an application for credit assistance for the Project.

The purpose of this letter is to inform your office about the proposed project and to request your concurrence with our determinations regarding potential effects on federally listed threatened and endangered species under USFWS jurisdiction in the proposed project area.

Background

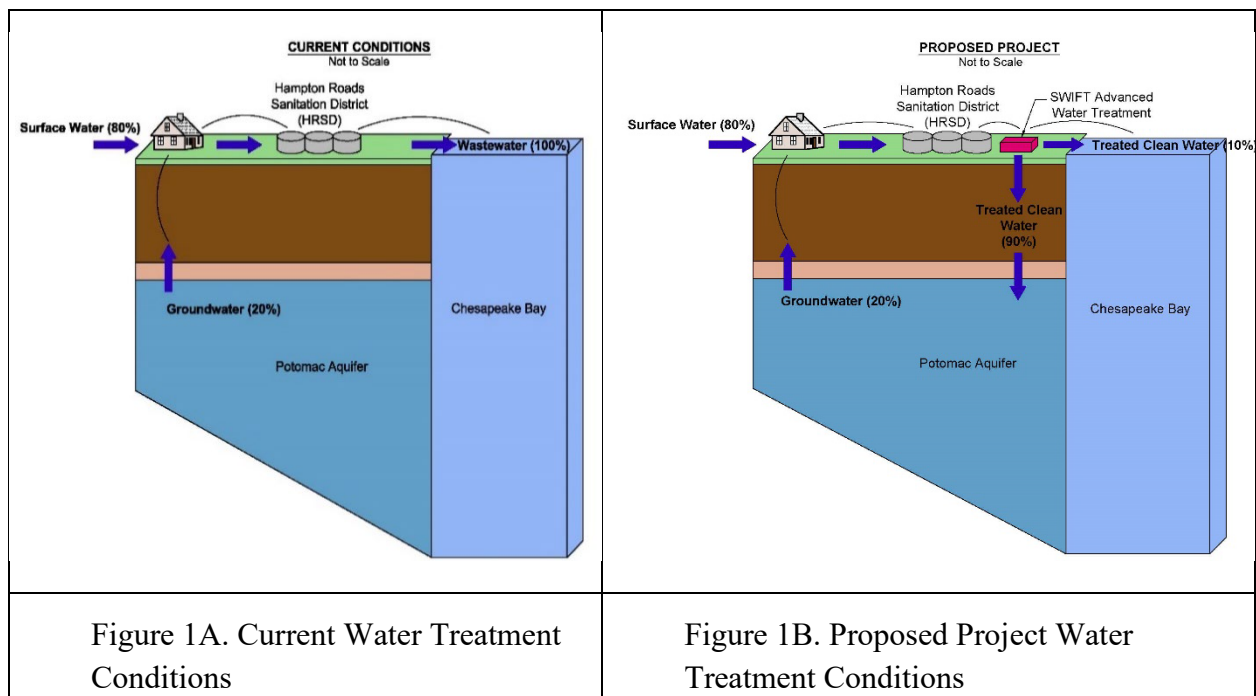
HRSD treats approximately 150 million gallons of wastewater each day and returns it to waterways within the Chesapeake Bay watershed. Groundwater in this area is primarily contained in aquifers that are confined by layers of impermeable soils which prevent rainwater from percolating through to

replenish deep aquifers. The Potomac aquifer is the largest and deepest aquifer in eastern Virginia and its primary groundwater supply, containing hundreds of trillions of gallons of pressurized water. With insufficient ability to recharge naturally, the water within the Potomac aquifer is a limited resource and as water is withdrawn, the pressure in the aquifer decreases. The reduced pressure has caused compaction of the aquifer, resulting in land subsidence, vulnerability to sea level rise, and increased potential for saltwater contamination.

Description of the Proposed Action

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (Figures 1A and 1B).



Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP, construction of a new 32-million

gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansemond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components involve the preliminary engineering necessary to begin design and construction of improvements to Nansemond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansemond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansemond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, erosion control blankets, check dams in medium-sized channels, and/or straw bale dikes in smaller drainage channels. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Effects on water quality from accidental spills or releases of materials such as fuels or lubricants would be minimized using sediment curtains and standard construction BMPs. Mitigation measures would also include development of a Spill Prevention, Control, and Countermeasure Plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, if necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

Description of the Action Area

The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR 402.02). For this project, the action area consists of the vicinity of the Boat Harbor TP on the north shore of the James River, the Nanesmond TP on the south shore of the river, and the proposed pipeline alignment beneath the river (Attachment I, Figures 2, 3, and 4). Potential direct or indirect effects of the proposed action are expected to be limited to areas adjacent to the project boundaries.

Federally Listed Species Under USFWS Jurisdiction in the Action Area

The Information for Planning and Consultation (IPaC) online system identified two federally listed species as having the potential to occur in the action area: the threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) and the threatened red-cockaded woodpecker (*Picoides borealis*) (USFWS 2020a).

In May, June, August, and October 2020, field surveys of the Project area were performed to verify areas identified via desktop analyses as potentially suitable or marginal habitats for threatened or endangered species. An on-site, reconnaissance-level, habitat assessment was performed for the red-cockaded woodpecker and NLEB. Neither species was observed within the Project area. Red-cockaded woodpecker habitat consists of mature pine forests. No suitable habitat was observed in the action area, and no documented occurrences of the red-cockaded woodpecker have been recorded within a 2-mile radius of the action area. Therefore, the proposed action would have no effect on the red-cockaded woodpecker.

Potentially suitable summer roosting habitat was observed in the Project area for the NLEB. According to the VDWR NLEB Winter Habitat and Roost Tree Application, the nearest known maternity roost for

the NLEB is approximately 22 miles southeast of the action area (VDWR 2020). There are no documented maternity roosts within 150 feet or hibernacula within 0.25 mile of the action area. Therefore, incidental take from tree removal is not prohibited. The Project activities will comply with the USFWS NLEB 4(d) rule, and voluntary conservation measures will be implemented where practicable, such as time-of-year restrictions on tree removal (1 June through 31 July) and minimizing light pollution through downward adjusted light angles. The IPaC report and the NLEB Habitat and Roost Tree Maps are included in Attachment B, as well as a USFWS Self-Certification Letter noting a “may affect, not likely to adversely affect” determination for the NLEB. Prior to commencement of the Project, coordination with USFWS would be conducted regarding the limits and timing of vegetation removal to ensure compliance with the ESA.

Marine Mammals

According to mapping of marine mammal distributions by NOAA Fisheries, marine mammals with the potential to occur in the waters of the James River estuary near the proposed pipeline alignment are the bottlenose dolphin and West Indian manatee (NOAA Fisheries 2020). The bottlenose dolphin is under the jurisdiction of NOAA, and EPA will be separately consulting regarding this species, and it is not discussed further.

The West Indian manatee (*Trichechus manatus latirostris*) is federally listed as threatened and is under the jurisdiction of the USFWS. The USFWS IPaC report did not include the manatee as a listed species with the potential to occur in the Project Area. Although the NOAA Fisheries mapping of marine mammal distributions indicates that the manatee has been recorded in the James River (NOAA Fisheries 2020c), the species is only a rare summer visitor to Chesapeake Bay. As their presence is such a rare occurrence and has a low potential to occur in the area, the potential for the manatee to be affected by the Project is discountable.

Summary

EPA requests your agency’s concurrence with our determination of effects on each of the federally listed species under USFWS jurisdiction. The analysis determined that the proposed action would have no effect on the red-cockaded woodpecker and may affect but is not likely to adversely affect the NLEB. If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

Attachment I, Figures

Attachment II, IPaC Review Package

cc:

HRSD/Mr. E. Girardi

Literature Cited

NOAA Fisheries. 2020. Chesapeake Bay and outer coasts of Maryland and Virginia 2016 ESI marine mammal polygons. Office of Response and Restoration. Accessed November 13, 2020, at <https://fisheries.noaa.gov/inport/item/55161>.

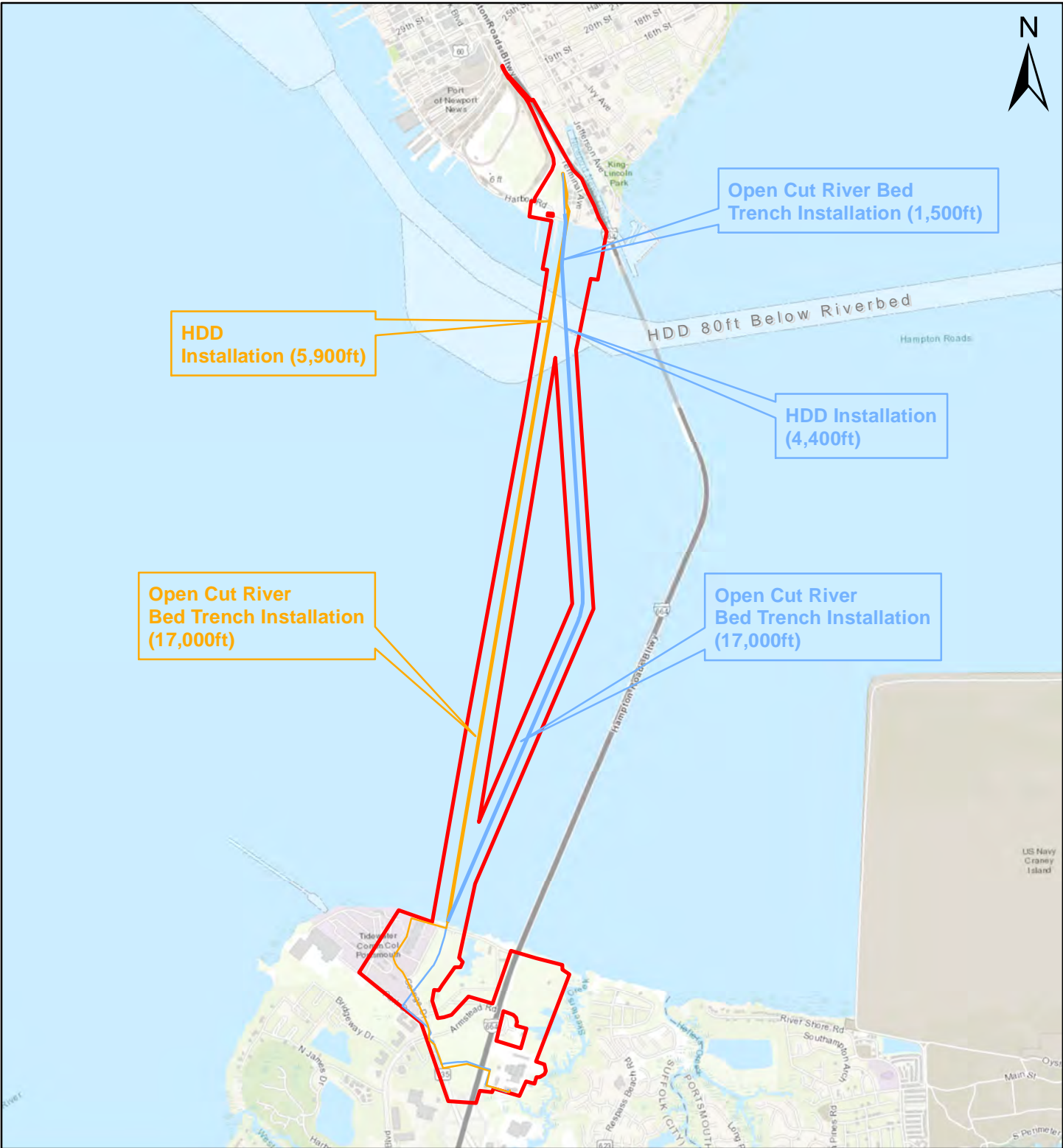
U.S. Fish and Wildlife Service (USFWS). 2020. Information for Planning and Consultation (IPAC). Accessed December 10 at <https://ecos.fws.gov/ipac/>.

Virginia Department of Wildlife Resources (VDWR). 2020. Northern Long-Eared Bat Winter Habitat & Roost Trees Application. Accessed December 11 at <https://www.dgif.virginia.gov/wildlife/bats/northern-long-eared-bat-application/>.

Attachment I

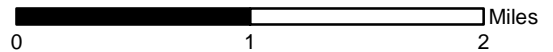
Boat Harbor Treatment Plant, Transmission Force Main, and Nansmond ANRI SWIFT Project Figures 2-4

*Figure 1 located in body of letter



Legend

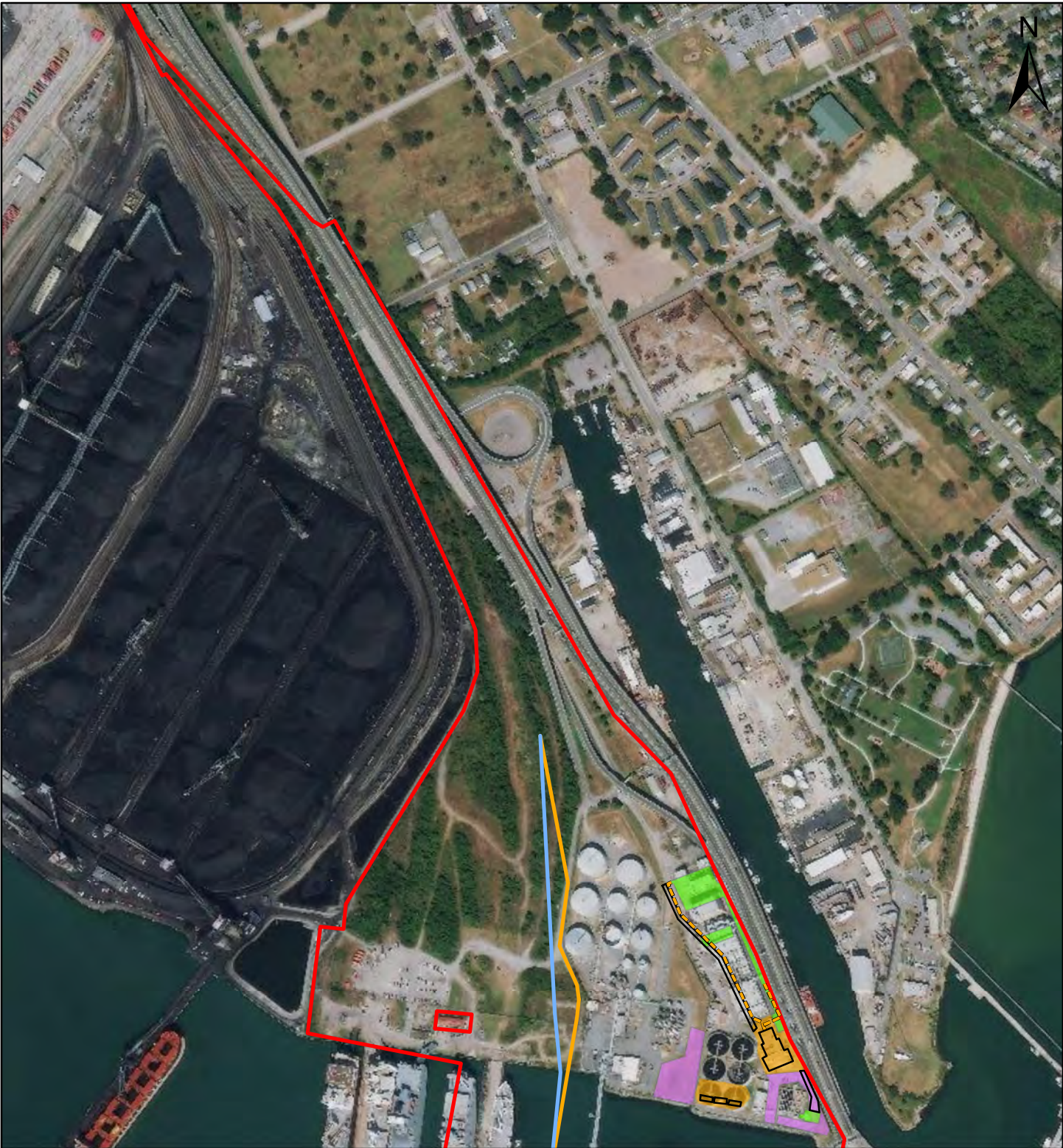
- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Federal Shipping Channel



AECOM 10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

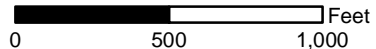
**WIFIA
Site Vicinity Map**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 2
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Legend

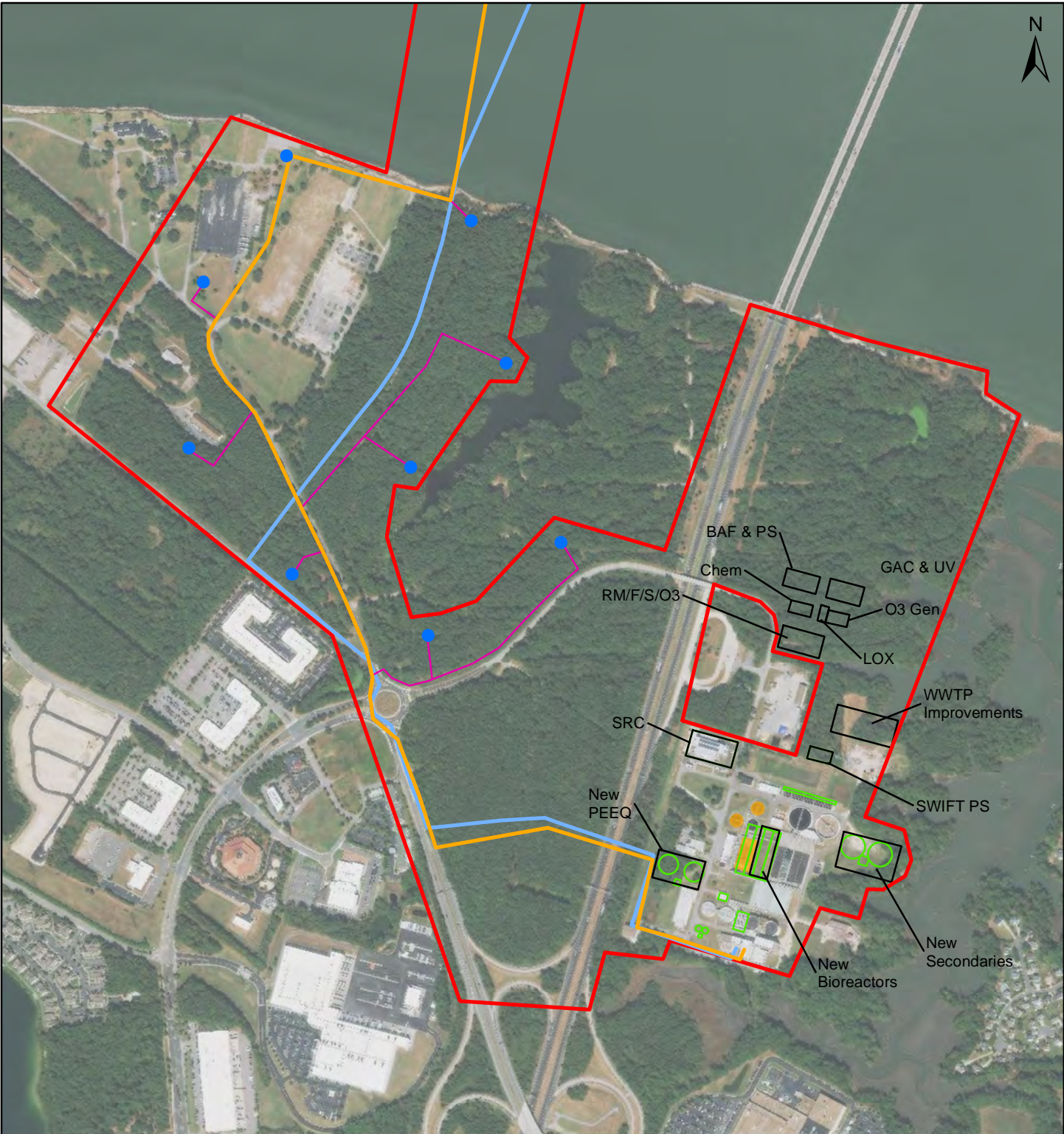
- Proposed Demo Gravity Channel
- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Proposed Site Features
- Keep and Protect Area
- Proposed Demolition Area
- Workspace Alternatives for HDD Equipment



AECOM 10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

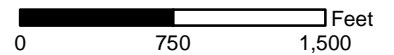
**WIFIA Newport News side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 3
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Legend

- Future Well House
- Alternative Force Main Alignment
- Proposed Force Main Alignment
- Proposed Well Force Main
- Project Boundary
- Proposed Nansemond SWIFT Site Features
- Proposed Nansemond ANRI Site Features
- Proposed Nansemond Demolition



AECOM

10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

**WiFi Suffolk side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 3/30/2021	Figure 4
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Attachment II
IPAC Review Package



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>

In Reply Refer To:

March 12, 2021

Consultation Code: 05E2VA00-2021-SLI-1063

Event Code: 05E2VA00-2021-E-07469

Project Name: James River Crossing Nansemond

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

To Whom It May Concern:

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

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

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

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
-

Official Species List

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

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2021-SLI-1063

Event Code: 05E2VA00-2021-E-07469

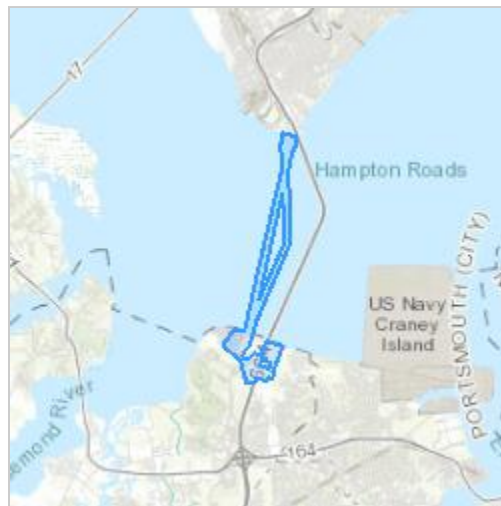
Project Name: James River Crossing Nansemond

Project Type: WATER SUPPLY / DELIVERY

Project Description: WIFIA SWIFT James River Crossing

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.92640275535837,-76.42442626046763,14z>



Counties: Newport News and Suffolk counties, Virginia

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 12/10/2020

Self-Certification Letter

Project Name: Nansemond Treatment Plant and SWIFT Facility

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the determinations described above for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia A. Schulz". The signature is written in a cursive style and is placed on a light blue rectangular background.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>

In Reply Refer To:
Consultation Code: 05E2VA00-2021-TA-1063
Event Code: 05E2VA00-2021-E-03024
Project Name: James River Crossing Nansemond

December 10, 2020

Subject: Verification letter for the 'James River Crossing Nansemond' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Catherine Lavagnino:

The U.S. Fish and Wildlife Service (Service) received on December 10, 2020 your effects determination for the 'James River Crossing Nansemond' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"^[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Red-cockaded Woodpecker, *Picoides borealis* (Endangered)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

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

1. Name

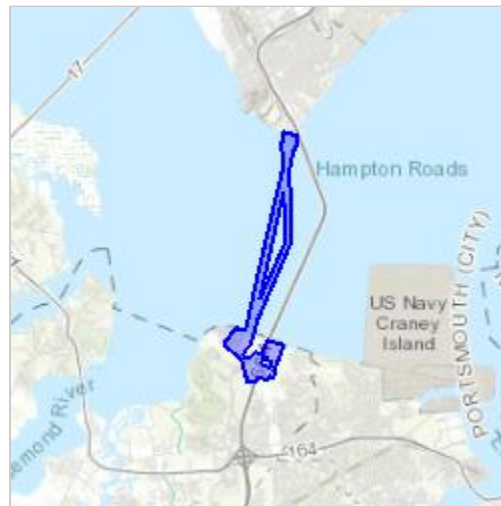
James River Crossing Nansemond

2. Description

The following description was provided for the project 'James River Crossing Nansemond':

WIFIA SWIFT James River Crossing

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/36.92640275535837N76.42442626046763W>

**Determination Key Result**

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?
Yes
2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")
No
3. Will your activity purposefully **Take** northern long-eared bats?
No
4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?
Automatically answered
No
5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/angered/mammals/nleb/nhisites.html.

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

No

7. Will the action involve Tree Removal?

Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

10

2. If known, estimated acres of forest conversion from April 1 to October 31

10

3. If known, estimated acres of forest conversion from June 1 to July 31

10

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

Species Conclusions Table

Project Name: HRSD SWIFT PM FY20 – Nansemond

Date: 11/09/2020

Species / Resource Name	Conclusion	ESA Section 7	Notes / Documentation
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Potential habitat present and no current survey conducted	May Affect, Not Likely to Adversely Affect	No maternity roost or hibernaculum documented in the vicinity of the project area. Relying upon the Final 4(d) Rule of the NLEB and activities excepted from take prohibitions to fulfill our project-specific Section 7 responsibilities.
Eastern Big-eared Bat (<i>Corynorhinus rafinesquii macrotis</i>)	Potential suitable habitat present and no current survey conducted	Not Required	There may be potential roosting and foraging habitat within the study area. No maternity roost or hibernaculum documented in the vicinity of the project area for eastern big-eared bat.
Tri-colored Bat (<i>Perimyotis subflaus</i>)	Potential suitable habitat present and no current survey conducted	Not Required	There may be potential roosting and foraging habitat within the study area. No maternity roost or hibernaculum documented in the vicinity of the project area for tri-colored bat.
Red-cockaded Woodpecker (<i>Picoides borealis</i>)	No suitable habitat present	No Effect	Red-cocked woodpecker's habitat consists of mature pine forests. No positive observations have been made within a 2-mile radius of the project area and no suitable habitat was observed on site.
Peregrine Falcon (<i>Falco peregrinus</i>)	Potential habitat present and no current survey conducted	Not Required	Peregrine falcons prefer wide open spaces and nest on cliffs, trees, and more recently tall buildings in urban areas (Chesapeake Bay Program). A positive observation occurred within a 2-mile radius of the project area. By avoiding tree clearing from February 15 to July 15, proposed project activities are not likely to adversely affect this species.
Piping Plover (<i>Charadrius melodus</i>)	No suitable habitat	No Effect	Piping plover habitat consists of flat, open, sandy beaches with little vegetation. The shoreline within the project area was characterized by rip-rap, broken concrete slabs, and discarded brick located adjacent to

			Tidewater Community College and associated parking areas. No sandy beaches are located within the project area and therefore, no suitable habitat was observed on site.
Wilson's Plover (<i>Charadrius wilsonia</i>)	Potential suitable habitat present and no current survey conducted	Not Required	Wilson's plover habitat consists of open areas including sandy beaches, estuaries, and tidal mudflats. The shoreline within the project area was characterized by rip-rap, broken concrete slabs, and discarded brick located adjacent to Tidewater Community College and associated parking areas. Estuarine emergent wetlands are mapped along the eastern project boundary. A 100-foot RPA buffer has been placed on wetlands fitting this habitat description. No positive observations have occurred within a two-mile radius of the project area.
Canebrake Rattlesnake (<i>Crotalus horridus</i>)	Potential suitable habitat present and no current survey conducted	Not Required	Habitat for canebrake rattlesnakes consists of mature hardwood, mixed hardwood-pine forests, forested cane thickets, and ridges adjacent to swampy areas. The forested areas throughout the project area, adjacent to delineated wetland features may provide suitable habitat for the canebrake rattlesnake. No positive observations have occurred within a two-mile radius of the project area. Due to the species transient nature and the availability of suitable adjacent habitat, proposed project activities are not likely to adversely affect the canebrake rattlesnake.
Mabee's Salamander (<i>Ambystoma mabeei</i>)	Potential suitable habitat present and no current survey conducted	Not Required	Mabee's salamander prefers ephemeral and semi-permanent wetlands free of fish including vernal pools in mature hardwood and mixed hardwood-pine forests, Carolina bays, and sinkhole ponds for breeding and utilize terrestrial habitat outside of the breeding period which includes open fields, pine forest, and hardwood forest. The project area consists of several wetland features free of fish with adjacent uplands that may provide suitable

			habitat. Due to the species transient nature and the availability of suitable adjacent habitat, proposed project activities are not likely to adversely affect the Mabee's salamander.
Loggerhead Sea Turtle (<i>Caretta caretta</i>)	No suitable habitat present	May Affect, Not Likely to Adversely Affect	Nesting in Virginia has been reported on the barrier beach islands off the Eastern Shore. This species requires a reproductive site that is a sand beach. The northern portion of the Project Area consists of in water work, however, due to the lack of nesting habitat along the shoreline and the transient nature of the species, proposed project activities may affect, but are not likely to adversely affect loggerhead sea turtles.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Unlikely to disturb nesting bald eagles	No Eagle Permit Act required	No nests within 660' of proposed project activities.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Does not intersect with an eagle concentration area	No Eagle Permit Act required	The project area is not located within an eagle concentration area
Critical Habitat	No Critical Habitat Present	No Effect	



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>

In Reply Refer To:

March 19, 2021

Consultation Code: 05E2VA00-2021-SLI-2723

Event Code: 05E2VA00-2021-E-07870

Project Name: Nansemond Boat Harbor Side

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

To Whom It May Concern:

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

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

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

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
-

Official Species List

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

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2021-SLI-2723

Event Code: 05E2VA00-2021-E-07870

Project Name: Nansemond Boat Harbor Side

Project Type: WATER SUPPLY / DELIVERY

Project Description: Environmental Constraints Analysis

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.9710146,-76.41468253057462,14z>



Counties: Newport News County, Virginia

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 10/22/2020

Self-Certification Letter

Project Name: Boat Harbor Treatment Plant and SWIFT Facility

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the determinations described above for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia A. Schulz". The signature is written in a cursive style and is placed on a light blue rectangular background.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Species Conclusions Table

Project Name: HRSD SWIFT PM FY20 – Boat Harbor

Date: 10/22/2020

Species / Resource Name	Conclusion	ESA Section 7	Notes / Documentation
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Potential habitat present and no current survey conducted	May affect, Not Likely to Adversely Affect	Relying upon the findings of the 01/05/2016 Programmatic Biological Opinion for Final 4(d) Rule of the NLEB and activities excepted from take prohibitions to fulfill our project-specific Section 7 responsibilities. No Maternity roost or hibernaculum in the vicinity of the Project Area.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Unlikely to disturb nesting bald eagles	No Eagle Permit Act required	According to the Center for Conservation Biology (CCB) Mapping application, there are no bald eagle nests within 660 feet of the Project Area.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Does not intersect with an eagle concentration area	No Eagle Permit Act required	According to the U.S. Fish and Wildlife Service Virginia Field Office's Bald Eagle Map Tool, the Project Area does not intersect with a bald eagle concentration area.
Piping Plover (<i>Charadrius melodus</i>)	No suitable habitat present	No Effect	Piping Plovers habitat consists of sparsely vegetated ocean facing beaches, sandflats, and washovers (Virginia Department of Game and Inland Fisheries). No shoreline work is anticipated within the Project Area.
Atlantic Sturgeon (<i>Acipenser oxyrinchus</i>)	Potential habitat present and no current survey conducted	No Effect	Positive observations have been documented within a two-mile radius of the Project Area. Due to the transient nature of the species and the in-stream work consisting of solely temporary impacts, no adverse effects are anticipated.
Loggerhead Sea Turtle (<i>Caretta caretta</i>)	Potential habitat present and no current survey conducted	No Effect	Positive observations have been documented within a two-mile radius of the Project Area. Due to the transient nature of the species and in-stream work consisting of solely temporary impacts, no adverse effects are anticipated.

Mabee's Salamander (<i>Ambystoma mabeei</i>)	No suitable habitat present	No Effect	Habitat for Mabee's salamander consists of savannas on the edges of bogs or ponds, low wet woods and swamps, and adjacent to ditches and pools. Uplands adjacent to ditches and ponds are highly industrialized and no positive observations have been documented within a two-mile radius of the Project Area.
Canebrake Rattlesnake (<i>Crotalus horridus</i>)	No suitable habitat present	No Effect	Habitat for canebrake rattlesnake consists of mature hardwood, mixed hardwood-pine forests, forested cane thickets, and ridges adjacent to swampy areas. The Project Area is highly industrialized, and no positive observations have occurred within a two-mile radius of the Project Area.
Anadromous Fish	Potential suitable habitat present, no current survey conducted	No Effect	No Time Of Year Restriction (TOYR) required in the James River below Rt. 17 crossing. No adverse effects anticipated
Submerged Aquatic Vegetation	Suitable habit present	No Effect	Submerged aquatic vegetation (SAV) is present in the James River near the Project Area. Due to the Project consisting of Horizontal Directional Drilling near the SAV, no adverse effects are anticipated.
Critical Habitat	No Critical Habitat Present	No Effect	No construction activity will be conducted in any critical habitat.



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

June 9, 2021

Alaina McCurdy
Environmental Scientist, Office of Wastewater Management
U.S. EPA, Region 3
1650 Arch Street
Philadelphia, PA 19103

Re: Boat Harbor Nansemond Treatment Plants, Hampton Roads, VA

Dear Ms. McCurdy:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letter dated May 11, 2021, and received on May 12, 2021, regarding the above-referenced proposed project. We reviewed your consultation request document and related materials. Based on our knowledge, expertise, and your materials, we concur with your conclusion that the proposed action is not likely to adversely affect any National Marine Fisheries Service ESA-listed species.

We would like to offer several clarifications to complement your incoming request for consultation. You state that a number of marine trenching techniques for pipeline burial may be employed during the duration of this project including barge-mounted excavation with side-casting, jetting, and plowing. Barge-mounted excavation with side-casting technique uses an excavator attached to a barge to mechanically cut a trench or dig in the bottom sediment. Jetting uses high pressure water and air to create a trench by fluidizing the seabed to disperse sediments into the water column. Plowing uses sediment collected from digging or a plow pulled over the pipeline to direct trenched soil back into place after a pipeline is installed.

The marine trenching techniques that may be used for this project will suspend sediment in the water column and increase turbidity throughout the action area. In your analysis of effects of turbidity, you state that the effects of the action will impact "adjacent areas," however, effects of the action will be within the action area, not only in surrounding areas. In addition, we concur that turbidity will affect benthic habitat, which will indirectly impact ESA-listed species, but the effects of turbidity may also directly impact ESA-listed species. Direct effects of increased turbidity to sea turtles may occur when they drink seawater in order to hydrate and sturgeon gills may be affected by increased sediment. However, the use of sediment curtains are expected to keep sediment levels below harmful concentrations in the main channel of the river. We expect any sediment released into the river to settle quickly such that any potential for exposure to sea turtles and sturgeon will be temporary and of short duration. Sea turtles and sturgeon would be transient if they were to enter the action area and, therefore, exposure to increased sediments would be brief. Based on these considerations, direct and indirect effects of increased sedimentation on sea turtles and sturgeon will be too small to be meaningfully measured or detected, and therefore, insignificant.

In your analysis of the effects of habitat modification, you state that the effects of the action on habitat will be in "adjacent areas", however, effects of the action will be within the action area, not only in surrounding areas. The habitat that will be modified by the action is a 50-foot wide transect of the river, which is a small portion of the 4.3-mile wide section of the river where vessels associated with the project may transit. Therefore, there will still be sufficient foraging habitat and prey available for sea turtles and sturgeon within the action area. We concur with your determination that effects to habitat will be



temporary and we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of habitat modification will be too small to be meaningfully measured or detected, and therefore, insignificant.

Taking into consideration: (1) The existing baseline conditions; (2) the action and what it adds to existing baseline conditions; and (3) new baseline conditions (the existing baseline conditions and the action together), we concur with your determination that increased vessel traffic is not likely to adversely affect ESA-listed species in the action area. Although the baseline risk of a vessel strike within the James River is unknown, we expect that adding project vessels to the existing baseline will not increase the risk that any vessel in the area will strike an individual, or will increase it to such a small extent that the effect of the action (i.e., any increase in risk of a strike caused by the project) cannot be meaningfully measured or detected. Furthermore, the increase in traffic associated with the proposed project will be extremely small because a minimal number of project vessels will be added to the baseline. The addition of project vessels will also be intermittent, temporary, and restricted to a small portion of the overall action area on any given day. As such, any increased risk of a vessel strike caused by the project will be too small to be meaningfully measured or detected, therefore, the effects of increased risk of a vessel strike in the action area is insignificant.

In your analysis of effects to Atlantic sturgeon critical habitat, you state that the proposed project will overlap with a small section of Atlantic sturgeon critical habitat (approximately 0.18 miles). We concur with your determination that effects to designated critical habitat, including increased turbidity and habitat modification, will be temporary and minimized by deployment of sediment curtains. In addition, we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of the action on Atlantic sturgeon critical habitat will be too small to be meaningfully measured or detected and are insignificant. At this time, no further consultation pursuant to section 7 of the ESA is required.

Reinitiation of consultation is required and shall be requested by the Federal agency or by us, 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; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence, please contact Meagan Riley at (978) 281-9339 or by email at meagan.riley@noaa.gov. For any additional questions related to Essential Fish Habitat, please contact David O'Brien at (804) 684-7828 or david.l.obrien@noaa.gov.

Sincerely,



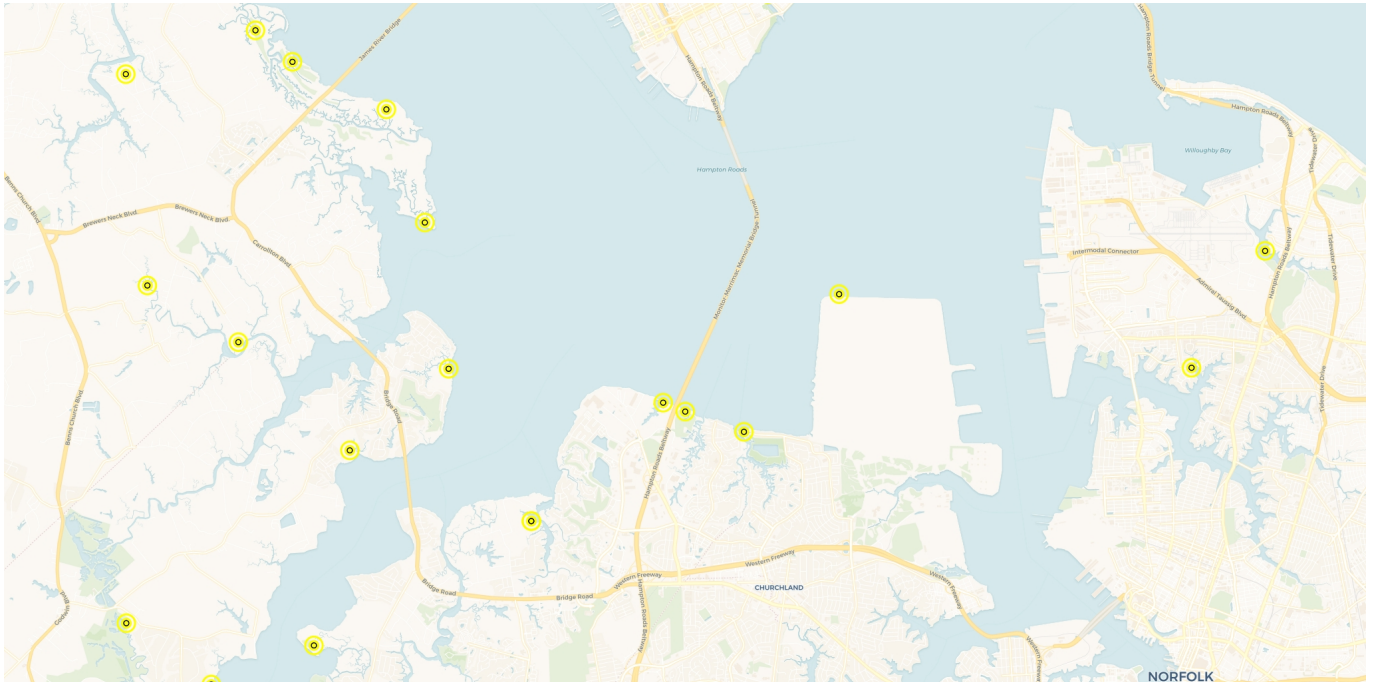
Jennifer Anderson
Assistant Regional Administrator
for Protected Resources

ECO: GARFO-2021-01134

File Code: H:\Section 7 Team\Section 7\Non-Fisheries\EPA\Informal\2021\Boat_Harbor_Nansemond_Treatment_Plants_VA



CCB Mapping Portal



Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers

Map Center [longitude, latitude]: [-76.42227172851562, 36.91833266402325]

Map Link:

<https://www.ccbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&zoom=13&lat=36.91833266402325&lng=-76.42227172851562&base=Street+Map+%28OSM%2FCarto%29>

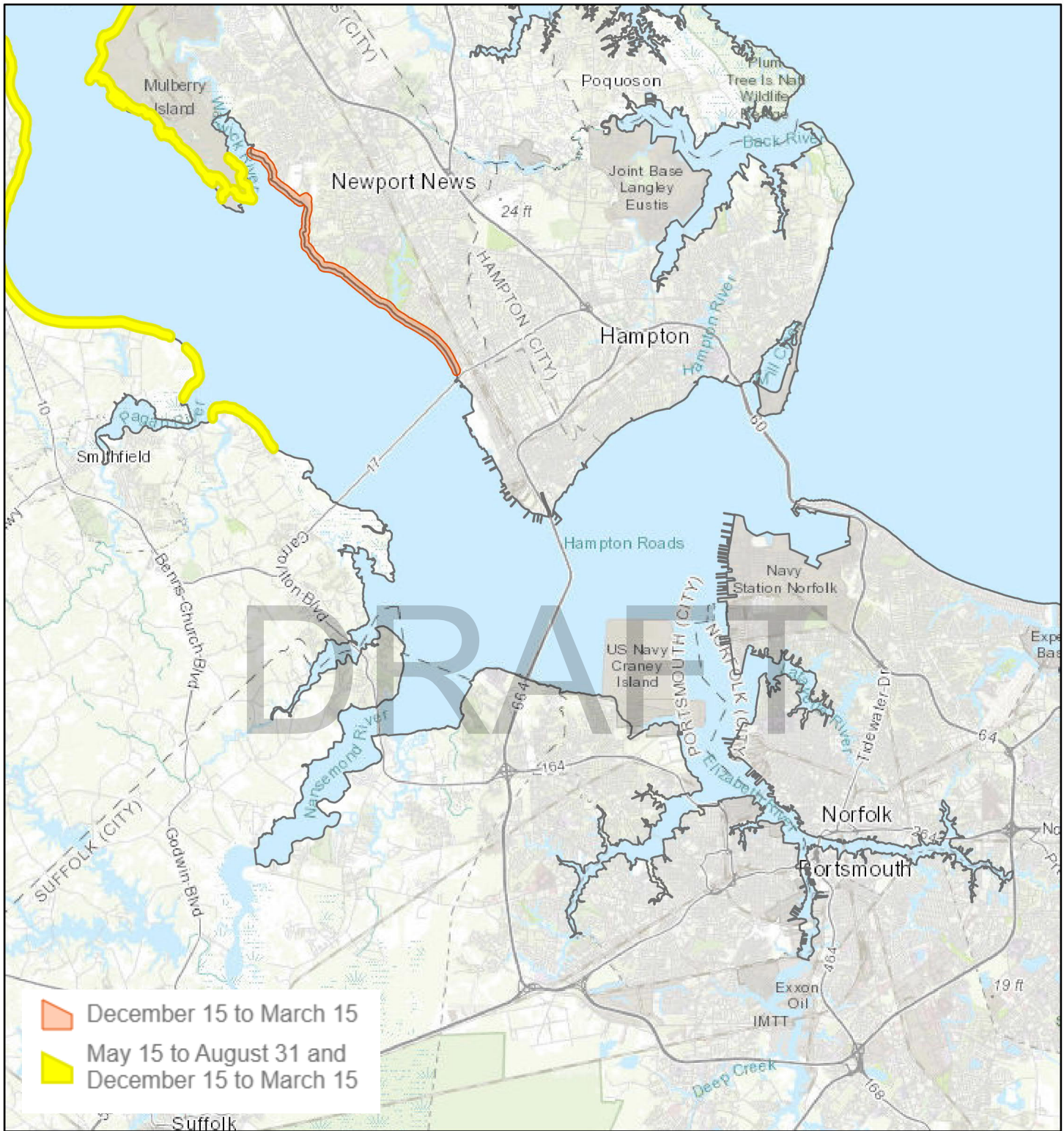
Report Generated On: 12/10/2020

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the [Data Use Agreement](#), to ensure compliance with our data use policies. For additional data access questions, view our [Data Distribution Policy](#), or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

Report generated by [The Center for Conservation Biology Mapping Portal](#).

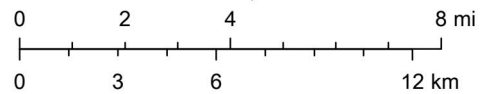
To learn more about CCB visit ccbirds.org or contact us at info@ccbirds.org

VA Bald Eagle Concentration Areas



July 20, 2020

1:288,895



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 36°56'31" N, Longitude = 77°35'54" W
Decimal Degrees: Latitude = 36.94, Longitude = -76.40

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** WARNING ***







Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Little Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
			Atlantic Herring	Juvenile Adult	New England	Amendment 3 to the Atlantic Herring FMP
			Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Winter Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			Windowpane Flounder	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Sandbar Shark	Juvenile Neonate	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Sand Tiger Shark	Neonate/Juvenile Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
			Atlantic Butterfish	Adult Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid, & Butterfish Amendment 11
			Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

HAPCs

Show	Link	Data Caveats	HAPC Name	Management Council
			Sandbar Shark	AHMS
			Summer Flounder	MAFMC

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. **For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)

Mid-Atlantic Council HAPCs,
No spatial data for summer flounder SAV HAPC.

DRAFT



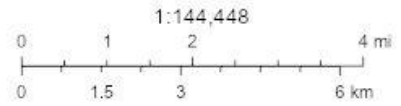
Drawn Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 1,450.98 acres

Dec 10 2020 17:48:37 Eastern Standard Time

DRAFT



Earthstar Geographics, VITA, Esri, HERE, Garmin

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	3	2,246.96	N/A
Shortnose Sturgeon	1	748.99	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	2,995.95	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	17.19	N/A

Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	ANS_JAM_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	James River
2	ANS_JAM_JUV_MAF	Atlantic sturgeon	Juvenile	Migrating & Foraging	James River
3	ANS_JAM_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	James River

#	From	Until	From (2)	Until (2)	Area(acres)
1	03/15	11/30	N/A	N/A	748.99
2	01/01	12/31	N/A	N/A	748.99
3	03/15	11/30	N/A	N/A	748.99

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	SNS_JAM_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	James River

#	From	Until	From (2)	Until (2)	Area(acres)
1	03/01	11/30	N/A	N/A	748.99

Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone
1	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
2	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
3	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
4	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia

#	From	Until	From (2)	Until (2)	Area(acres)
1	5/1	11/30	No Data	No Data	748.99
2	5/1	11/30	No Data	No Data	748.99
3	5/1	11/30	No Data	No Data	748.99
4	5/1	11/30	No Data	No Data	748.99

In or Near Critical Habitat

#	Species	In or Near Critical Habitat Unit	Area(acres)
1	Atlantic Sturgeon	Chesapeake Bay Unit 5: James River	17.19

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.

DRAFT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 5, 2021

David O'Brien
Habitat and Ecosystem Services Division
NOAA Fisheries Service
1375 Greate Road
Virginia Field Office
P.O. Box 1346
Gloucester Point, Virginia 23062

Re: EFH Assessment -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Mr. O'Brien:

The Environmental Protection Agency (EPA) is requesting concurrence from the National Oceanic Atmospheric Administration (NOAA) Fisheries Service regarding essential fish habitat (EFH) the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HSRD to submit an application for credit assistance for the Project.

EPA has evaluated potential affects to listed species as outlined below. Additionally, EPA has evaluated the potential for the project to adversely affect EFH in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The EPA used the EFH Assessment Worksheet from the Greater Atlantic Regional Fisheries Office of National Oceanic and Atmospheric Administration (NOAA) Fisheries (NOAA Fisheries 2020a) to evaluate potentially affected EFH, and we are submitting

our evaluation and findings for your review. The EFH Assessment Worksheet is provided as Attachment II. We have determined that the impact of the Proposed Action on EFH would not be substantial and request an abbreviated EFH consultation.

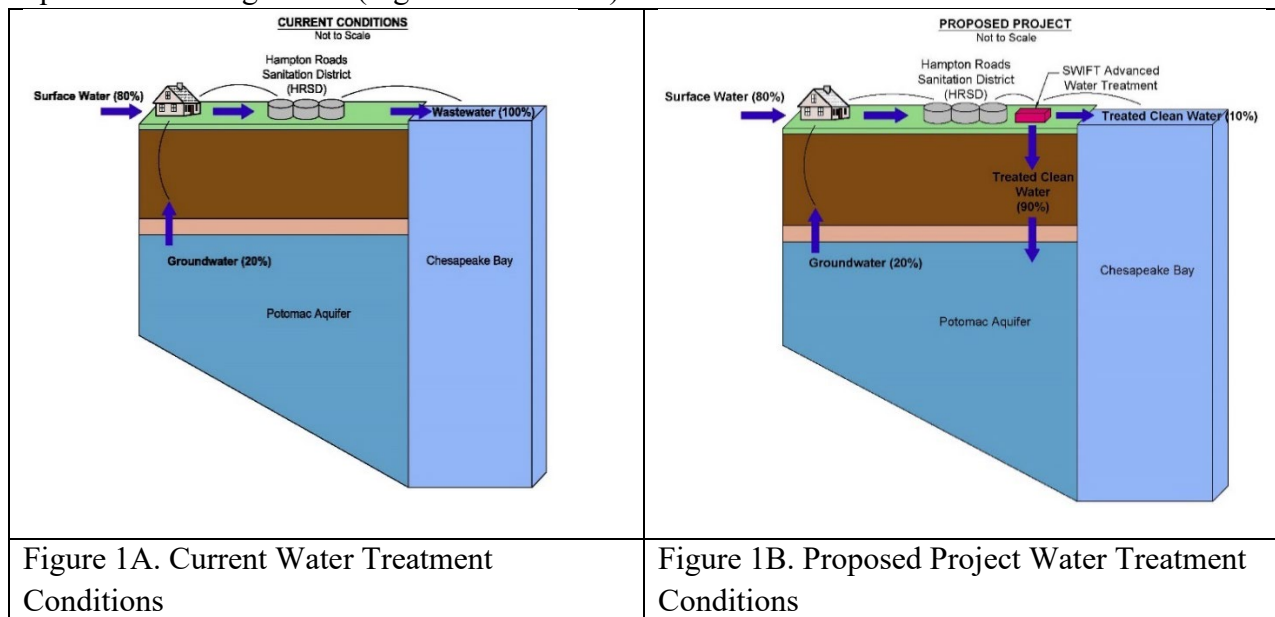
Background

HRSD treats approximately 150 million gallons of wastewater each day and returns it to waterways within the Chesapeake Bay watershed. Groundwater in this area is primarily contained in aquifers that are confined by layers of impermeable soils which prevent rainwater from percolating through to replenish deep aquifers. The Potomac aquifer is the largest and deepest aquifer in eastern Virginia and its primary groundwater supply, containing hundreds of trillions of gallons of pressurized water. With insufficient ability to recharge naturally, the water within the Potomac aquifer is a limited resource and as water is withdrawn, the pressure in the aquifer decreases. The reduced pressure has caused compaction of the aquifer, resulting in land subsidence, vulnerability to sea level rise, and increased potential for saltwater contamination.

Description of the Proposed Action

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (Figures 1A and 1B).



Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP, construction of a new 32-million gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor

Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansmond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of sub-surface horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components involve the preliminary engineering necessary to begin design and construction of improvements to Nansmond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansmond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansmond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not

include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, erosion control blankets, check dams in medium-sized channels, and/or straw bale dikes in smaller drainage channels. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Effects on water quality in the James River from the incidental release of drilling mud during HDD (frac-out) and accidental spills or releases of materials, such as fuels or lubricants, would be minimized using sediment curtains and standard construction BMPs. Mitigation measures would also include development of a Spill Prevention, Control, and Countermeasure Plan and HDD Frac-out Plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, if necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

EFH Assessment

The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," and it requires federal agencies to consult with NOAA Fisheries when proposing activities that may adversely affect EFH. To facilitate consultation, NOAA Fisheries provides an online mapping tool (the EFH Mapper) that can be queried to identify designated EFH species and life stages potentially occurring near the proposed project area (NOAA 2020b).

The proposed transmission force main would be installed across the James River using trenching and HDD. The pipeline would connect the Boat Harbor Treatment Plant (Newport News, VA) and Nansemond Treatment Plant (Suffolk, VA) on the north and south shores of the river, respectively (Attachment I, Figures 2, 3, and 4). EFH for one or more life stages of 12 federally-managed fish species has been designated in the waters in the vicinity of the project area. These species and life stages are identified in Table 1.

Table 1. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)			X	X
Atlantic herring (<i>Clupea harengus</i>)			X	X
Black sea bass (<i>Centropristis striata</i>)			X	X
Bluefish (<i>Pomatomus saltatrix</i>)			X	X
Clearnose skate (<i>Raja eglanteria</i>)			X	X
Little skate (<i>Leucoraja erinacea</i>)				X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
Sand tiger shark (<i>Carcharias taurus</i>) ²		X	X	X
Sandbar shark (<i>Charcharinus plumbeus</i>) ²		X	X	
Summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
Windowpane flounder (<i>Scophthalmus aquosus</i>)			X	
Winter skate (<i>Leucoraja ocellata</i>)				X

Notes:
1. An “X” indicates that EFH has been designated within the project area for that species and life stage.
2. The two shark species bear live young (neonates) and, thus, do not have a free-swimming larval stage.
Source: NOAA (2020a)

The EFH Mapper identified habitat areas of particular concern (HAPCs) for the sandbar shark and summer flounder in the action area. The alignment of the proposed pipeline approximately follows the western boundary of the sandbar shark HAPC in the James River estuary. Summer flounder HAPC is not a discrete area but a habitat type -- beds of submerged aquatic vegetation (SAV). Maps of SAV beds in Chesapeake Bay indicate that potential summer flounder HAPC is not present in the project area. The nearest SAV beds are approximately 2,000 feet northeast of the north end of the pipeline alignment (Attachment I, Figure 5) and would not be affected by pipeline installation.

The information presented in this letter is based on the analysis provided in the EFH Assessment Worksheet (NOAA 2020a) prepared for this consultation (Attachment II). The four primary elements of the EFH assessment are summarized below:

1. Description of the proposed action.
 - Provided above
2. An analysis of the potential adverse effects of the proposed action on EFH and the managed species.
 - Provided in the EFH Assessment Worksheet (Attachment II) and briefly summarized as follows:
 - The 36-inch transmission force main would be installed beneath the James River between the Boat Harbor and Nansemond Treatment Plants on the north and south shores of the James River, respectively, in estuarine subtidal habitat. Direct, temporary, and minor impacts on EFH from sediment disturbance, turbidity, and sedimentation may occur during construction. Long-term operation of the proposed project would not affect EFH. BMPs would be used to minimize or prevent erosion, sedimentation, and turbidity.
3. Conclusions regarding the effects of the proposed action on EFH.
 - Provided in the EFH Assessment Worksheet and briefly summarized as follows:

- The EPA has determined that potential adverse effects on EFH from the proposed action would be minimal and temporary. The overall determination is that adverse effects on EFH would not be substantial.

4. Proposed mitigation measures.

- No mitigation measures are proposed because adverse effects would be minimal and temporary.
- The EPA would implement BMPs, described above and in Attachment II, to avoid and/or minimize temporary adverse effects, which are briefly summarized as follows:
 - Indirect impacts from sediment disturbance and erosion would be prevented or minimized through BMPs such as sediment curtains, silt fence, sandbags, earthen berms, and other approved measures to control erosion, turbidity, and sedimentation.

Conclusions

Based on this assessment, the EPA has determined that the effects of the proposed action on EFH would not be substantial. EPA requests your concurrence with this determination. If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

1. Attachment I, Figures
2. Attachment II, EFH Assessment Worksheet, EFH Mapper report

cc:

HRSD/ Mr. E. Girardi

Literature Cited

National Oceanic and Atmospheric Administration (NOAA). 2020a. Essential Fish Habitat Assessment Worksheet. EFH Consultation Guidance, Greater Atlantic Regional Fisheries Office, NOAA Fisheries. Accessed in December at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations>.

NOAA. 2020b. Essential Fish Habitat Mapper. NOAA Fisheries. Last updated 20 October 2020. <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

VaFWIS Search Report Compiled on 5/27/2020, 7:41:34 PM[Help](#)

Known or likely to occur within a **2 mile radius around point 36,53,48.9 -76,25,35.0**
in **740 Portsmouth City, 800 Suffolk City, VA**

[View Map of Site Location](#)

604 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 35) (35 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
030074	FESE	Ia	Turtle, Kemp's ridley sea	Lepidochelys kempii		BOVA
040228	FESE	Ia	Woodpecker, red-cockaded	Picoides borealis		BOVA
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA,HU6
030071	FTST	Ia	Turtle, loggerhead sea	Caretta caretta	Yes	BOVA,SppObs
040144	FTST	Ia	Knot, red	Calidris canutus rufa		BOVA,HU6
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
040120	FTST	IIa	Plover, piping	Charadrius melodus	Potential	BOVA,Habitat,BBA,HU6
040118	SE	Ia	Plover, Wilson's	Charadrius wilsonia	Potential	BOVA,Habitat,HU6
040110	FPSE	Ia	Rail, eastern black	Laterallus jamaicensis jamaicensis		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA,HU6
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus	Potential	BOVA,Habitat,HU6
040096	ST	Ia	Falcon, peregrine	Falco peregrinus	Yes	BOVA,SppObs,HU6
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040179	ST	Ia	Tern, gull-billed	Gelochelidon nilotica		BOVA,HU6
020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei	Potential	BOVA,Habitat,HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes	BOVA,Habitat,SppObs,HU6
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
040040		Ia	Ibis, glossy	Plegadis falcinellus		BOVA,HU6
040422		Ic	Warbler, Wayne's	Setophaga virens waynei		HU6
070131		Ic	Isopod, Phreatic	Caecidotea phreatica		BOVA
100176		Ic	Skipper, Arogos	Atrytone arogos arogos		BOVA

020063		IIa	Toad, oak	Anaxyrus quercicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes	Potential	BOVA,BBA,HU6
040033		IIa	Egret, snowy	Egretta thula	Yes	BOVA,BBA,SppObs,HU6
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040192		IIa	Skimmer, black	Rynchops niger		HU6
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans	Potential	BOVA,Habitat,HU6
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		BOVA,HU6

To view **All 604 species** [View 604](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;

III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.;

b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;

c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

[View Map of All Query Results from All Observation Tables](#)

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (4 records)

[View Map of All Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C92	James River 1	Confirmed	6		IV	Yes

P118	Nansemond river	Potential	0		Yes
P177	West Creek	Potential	0		Yes
P87	Knotts creek	Potential	0		Yes

Impediments to Fish Passage (1 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
786	MATHEWS DAM	STREETER CREEK	Yes

Colonial Water Bird Survey (1 records)

[View Map of All Query Results Colonial Water Bird Survey.](#)

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE*	Highest Tier**	
Urban, Newport News South, Suffolk	1	May 3 2013	2			Yes

Displayed 1 Colonial Water Bird Survey

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests (3 records)

[View Map of All Query Results Bald Eagle Nests](#)

Nest	N Obs	Latest Date	DGIF	View Map
------	-------	-------------	------	----------

			Nest Status	
PM0001	5	Jan 1 2003	HISTORIC	Yes
PM0101	2	May 1 2001	HISTORIC	Yes
PM9901	6	Apr 24 2000	HISTORIC	Yes

Displayed 3 Bald Eagle Nests

Species Observations (118 records - displaying first 20 , 6
Observations with Threatened or
Endangered species)

[View Map of All Query Results
Species Observations](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
607701	SppObs	Oct 11 2008	Lisa; Wright	1	FTST	I	Yes
607950	SppObs	Oct 10 2008	Christina; Trapani	1	FTST	I	Yes
367005	SppObs	Jan 1 1900		1	FTST	I	Yes
86461	SppObs	Sep 30 1996	David Sausville	3	ST	I	Yes
65062	SppObs	May 18 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	2	CC	II	Yes
5197	SppObs	May 13 1991	Don Schwab, VDGIF	1	CC	II	Yes
86451	SppObs	Sep 30 1996	David Sausville	1		II	Yes
622414	SppObs	May 17 2014	Robyn; Nadolny	1		III	Yes
623371	SppObs	May 8 2014	Robyn; Nadolny	2		III	Yes
65101	SppObs	Aug 16 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		III	Yes
65097	SppObs	Aug 15 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	2		III	Yes

65086	SppObs	Jun 8 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	3		III	Yes
65087	SppObs	Jun 8 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	5		III	Yes
65083	SppObs	Jun 8 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		III	Yes
65064	SppObs	May 18 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		III	Yes
86502	SppObs	Sep 30 1996	David Sausville	3		III	Yes
65096	SppObs	Aug 15 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	3		IV	Yes
65088	SppObs	Jun 28 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	2		IV	Yes
65090	SppObs	Jun 28 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	4		IV	Yes
65080	SppObs	Jun 9 2000	JOSEPH C. MITCHELL (PRINCIPLE PERMITTEE), DEPT. BIOLOGY UNIV. RICHMOND	1		IV	Yes

Displayed 20 Species Observations

Selected 118 Observations [View all 118 Species Observations](#)

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species (7 Species)

[View Map of Combined Terrestrial Habitat Predicted for 7 WAP Tier I & II Species Listed Below](#)

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040120	FTST	IIa	Plover, piping.	Charadrius melodus	Yes
040118	SE	Ia	Plover, Wilson's	Charadrius wilsonia	Yes
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus	Yes

020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei	Yes
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes
040105		IIb	Rail, king	Rallus elegans	Yes
040186		IIIa	Tern, least	Sternula antillarum	Yes

Virginia Breeding Bird Atlas Blocks (2 records)

[View Map of All Query Results](#)
[Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE *	Highest Tier **	
59044	Newport News South, CE	1	FTST	II	Yes
59046	Newport News South, SE	13		II	Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
740	Portsmouth City	414	FESE	I
800	Suffolk City	532	FESE	I

USGS 7.5' Quadrangles:

Bowers Hill
Newport News South

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier

JL49	Nansemond River-Bennett Creek	93	FESE	I
JL50	Hampton Roads-Streeter Creek	91	FTSE	I
JL55	Western Branch Elizabeth River	91	FTSE	I
JL59	Hampton Roads Channel	97	FESE	I

Compiled on 5/27/2020, 7:41:34 PM 11035140.0 report=all searchType= R dist= 3218 poi= 36,53,48.9 -76,25,35.0

PixelSize=64; Anadromous=0.044455; BBA=0.115346; BECAR=0.022982; Bats=0.023413; Buffer=0.098759; County=0.113162; HU6=0.154046; Impediments=0.039204; Init=0.193264; PublicLands=0.040467; Quad=0.098912; SppObs=0.439591; TEWaters=0.064115; TierReaches=0.060014; TierTerrestrial=0.22588; Total=2.029059; Tracking_BOVA=0.229738; Trout=0.050032; huva=0.077274

DRAFT

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Global Conservation Status Rank: Select All

State Conservation Status Rank: Select All

Federal Legal Status: Select All

State Legal Status: Select All

County: Suffolk (City)

Search Run: 9/8/2020 12:48:13 PM

Result Summary

Total Species returned: 11

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

DRAFT

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Suffolk (City)								
AMPHIBIANS								
Mabee's Salamander	Ambystoma mabeei	Ambystoma mabeei	G4	S1S2	None	LT	18	Y
BIRDS								
Red-cockaded Woodpecker	Picoides borealis	Picoides borealis	G3	S1	LE	LE	8	Y
Wayne's Black-throated Green Warbler	Setophaga virens waynei	Setophaga virens waynei	G5T1	S1B	SOC	None	1	Y
MAMMALS								
Eastern Big-eared Bat	Corynorhinus rafinesquii macrotis	Corynorhinus rafinesquii macrotis	G3G4T3	S2	None	LE	44	Y
Northern long-eared Myotis	Myotis septentrionalis	Myotis septentrionalis	G1G2	S1S3	LT	LT	61	Y

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Tricolored bat (=Eastern pipistrelle)	Perimyotis subflavus	Perimyotis subflavus	G2G3	S1S3	SOC	LE	19	Y
NON-VASCULAR PLANTS								
A moss	Campylopus carolinae	Campylopus carolinae	G2	S1	SOC	None	2	Y
REPTILES								
Canebrake Rattlesnake	Crotalus horridus [Coastal Plain population]	Crotalus horridus [Coastal Plain population]	G4T4	S1	None	LE	18	Y
VASCULAR PLANTS								
sandhills bog lily	Lilium pyrophilum	Lilium pyrophilum	G2	S1	SOC	None	8	Y
Raven's Seedbox	Ludwigia ravenii	Ludwigia ravenii	G1G2	S1	SOC	PE	7	Y
Virginia Least Trillium	Trillium pusillum var. virginianum	Trillium pusillum var. virginianum	G3T2	S2	SOC	None	37	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an [information request](#).

To Contribute information on locations of natural heritage resources, please fill out and submit a [rare species sighting form](#).

DRAFT

Appendix E: Natural Resource Agency Consultation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 5, 2021

David O'Brien
Habitat and Ecosystem Services Division
NOAA Fisheries Service
1375 Greate Road
Virginia Field Office
P.O. Box 1346
Gloucester Point, Virginia 23062

Re: EFH Assessment -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Mr. O'Brien:

The Environmental Protection Agency (EPA) is requesting concurrence from the National Oceanic Atmospheric Administration (NOAA) Fisheries Service regarding essential fish habitat (EFH) the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HSRD to submit an application for credit assistance for the Project.

EPA has evaluated potential affects to listed species as outlined below. Additionally, EPA has evaluated the potential for the project to adversely affect EFH in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The EPA used the EFH Assessment Worksheet from the Greater Atlantic Regional Fisheries Office of National Oceanic and Atmospheric Administration (NOAA) Fisheries (NOAA Fisheries 2020a) to evaluate potentially affected EFH, and we are submitting

our evaluation and findings for your review. The EFH Assessment Worksheet is provided as Attachment II. We have determined that the impact of the Proposed Action on EFH would not be substantial and request an abbreviated EFH consultation.

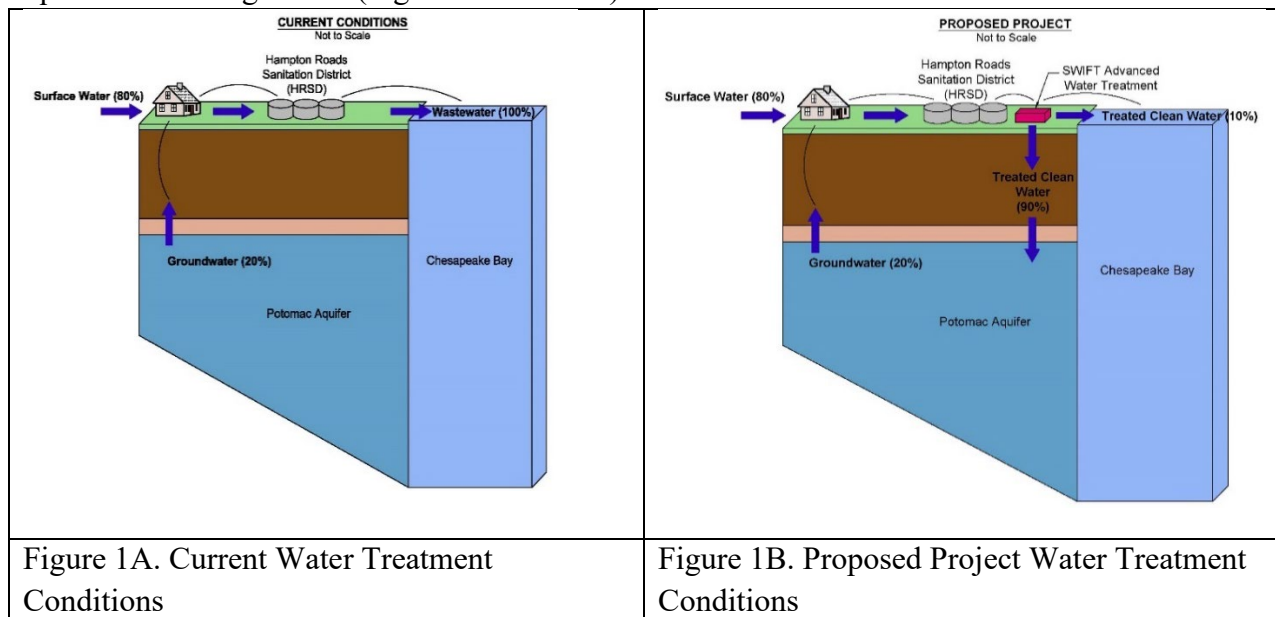
Background

HRSD treats approximately 150 million gallons of wastewater each day and returns it to waterways within the Chesapeake Bay watershed. Groundwater in this area is primarily contained in aquifers that are confined by layers of impermeable soils which prevent rainwater from percolating through to replenish deep aquifers. The Potomac aquifer is the largest and deepest aquifer in eastern Virginia and its primary groundwater supply, containing hundreds of trillions of gallons of pressurized water. With insufficient ability to recharge naturally, the water within the Potomac aquifer is a limited resource and as water is withdrawn, the pressure in the aquifer decreases. The reduced pressure has caused compaction of the aquifer, resulting in land subsidence, vulnerability to sea level rise, and increased potential for saltwater contamination.

Description of the Proposed Action

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (Figures 1A and 1B).



Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP, construction of a new 32-million gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor

Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansmond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of sub-surface horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansmond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components involve the preliminary engineering necessary to begin design and construction of improvements to Nansmond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansmond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansmond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not

include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, erosion control blankets, check dams in medium-sized channels, and/or straw bale dikes in smaller drainage channels. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Effects on water quality in the James River from the incidental release of drilling mud during HDD (frac-out) and accidental spills or releases of materials, such as fuels or lubricants, would be minimized using sediment curtains and standard construction BMPs. Mitigation measures would also include development of a Spill Prevention, Control, and Countermeasure Plan and HDD Frac-out Plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, if necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

EFH Assessment

The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," and it requires federal agencies to consult with NOAA Fisheries when proposing activities that may adversely affect EFH. To facilitate consultation, NOAA Fisheries provides an online mapping tool (the EFH Mapper) that can be queried to identify designated EFH species and life stages potentially occurring near the proposed project area (NOAA 2020b).

The proposed transmission force main would be installed across the James River using trenching and HDD. The pipeline would connect the Boat Harbor Treatment Plant (Newport News, VA) and Nansemond Treatment Plant (Suffolk, VA) on the north and south shores of the river, respectively (Attachment I, Figures 2, 3, and 4). EFH for one or more life stages of 12 federally-managed fish species has been designated in the waters in the vicinity of the project area. These species and life stages are identified in Table 1.

Table 1. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)			X	X
Atlantic herring (<i>Clupea harengus</i>)			X	X
Black sea bass (<i>Centropristis striata</i>)			X	X
Bluefish (<i>Pomatomus saltatrix</i>)			X	X
Clearnose skate (<i>Raja eglanteria</i>)			X	X
Little skate (<i>Leucoraja erinacea</i>)				X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
Sand tiger shark (<i>Carcharias taurus</i>) ²		X	X	X
Sandbar shark (<i>Charcharinus plumbeus</i>) ²		X	X	
Summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
Windowpane flounder (<i>Scophthalmus aquosus</i>)			X	
Winter skate (<i>Leucoraja ocellata</i>)				X

Notes:
1. An “X” indicates that EFH has been designated within the project area for that species and life stage.
2. The two shark species bear live young (neonates) and, thus, do not have a free-swimming larval stage.
Source: NOAA (2020a)

The EFH Mapper identified habitat areas of particular concern (HAPCs) for the sandbar shark and summer flounder in the action area. The alignment of the proposed pipeline approximately follows the western boundary of the sandbar shark HAPC in the James River estuary. Summer flounder HAPC is not a discrete area but a habitat type -- beds of submerged aquatic vegetation (SAV). Maps of SAV beds in Chesapeake Bay indicate that potential summer flounder HAPC is not present in the project area. The nearest SAV beds are approximately 2,000 feet northeast of the north end of the pipeline alignment (Attachment I, Figure 5) and would not be affected by pipeline installation.

The information presented in this letter is based on the analysis provided in the EFH Assessment Worksheet (NOAA 2020a) prepared for this consultation (Attachment II). The four primary elements of the EFH assessment are summarized below:

1. Description of the proposed action.
 - Provided above
2. An analysis of the potential adverse effects of the proposed action on EFH and the managed species.
 - Provided in the EFH Assessment Worksheet (Attachment II) and briefly summarized as follows:
 - The 36-inch transmission force main would be installed beneath the James River between the Boat Harbor and Nansemond Treatment Plants on the north and south shores of the James River, respectively, in estuarine subtidal habitat. Direct, temporary, and minor impacts on EFH from sediment disturbance, turbidity, and sedimentation may occur during construction. Long-term operation of the proposed project would not affect EFH. BMPs would be used to minimize or prevent erosion, sedimentation, and turbidity.
3. Conclusions regarding the effects of the proposed action on EFH.
 - Provided in the EFH Assessment Worksheet and briefly summarized as follows:

- The EPA has determined that potential adverse effects on EFH from the proposed action would be minimal and temporary. The overall determination is that adverse effects on EFH would not be substantial.

4. Proposed mitigation measures.

- No mitigation measures are proposed because adverse effects would be minimal and temporary.
- The EPA would implement BMPs, described above and in Attachment II, to avoid and/or minimize temporary adverse effects, which are briefly summarized as follows:
 - Indirect impacts from sediment disturbance and erosion would be prevented or minimized through BMPs such as sediment curtains, silt fence, sandbags, earthen berms, and other approved measures to control erosion, turbidity, and sedimentation.

Conclusions

Based on this assessment, the EPA has determined that the effects of the proposed action on EFH would not be substantial. EPA requests your concurrence with this determination. If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

1. Attachment I, Figures
2. Attachment II, EFH Assessment Worksheet, EFH Mapper report

cc:

HRSD/ Mr. E. Girardi

Literature Cited

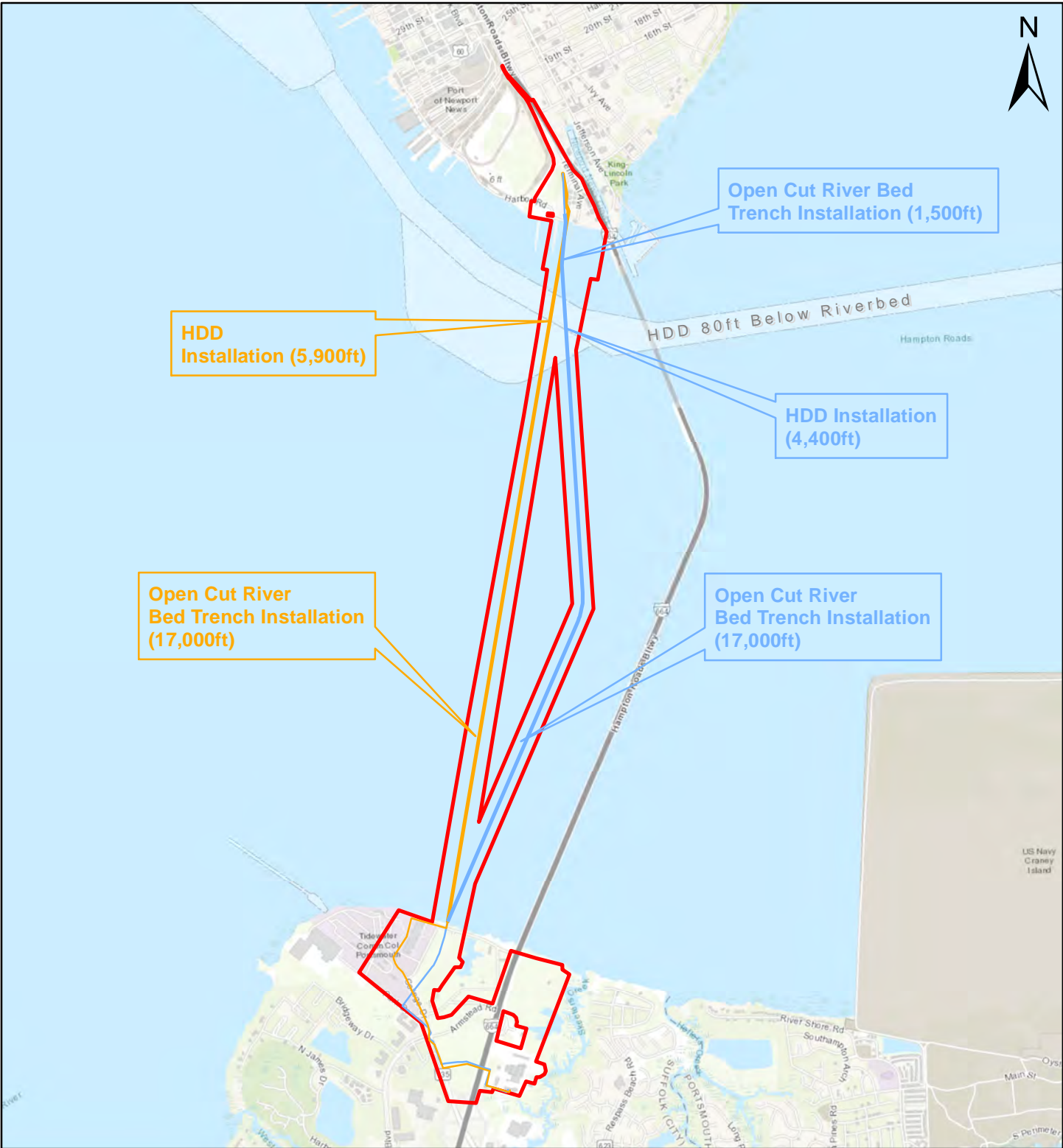
National Oceanic and Atmospheric Administration (NOAA). 2020a. Essential Fish Habitat Assessment Worksheet. EFH Consultation Guidance, Greater Atlantic Regional Fisheries Office, NOAA Fisheries. Accessed in December at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations>.

NOAA. 2020b. Essential Fish Habitat Mapper. NOAA Fisheries. Last updated 20 October 2020. <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

Attachment I

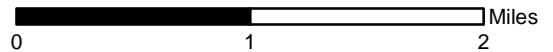
Boat Harbor Treatment Plant, Transmission Force Main, and Nansmond ANRI SWIFT Project Figures 2-5

*Figure 1 located in body of letter



Legend

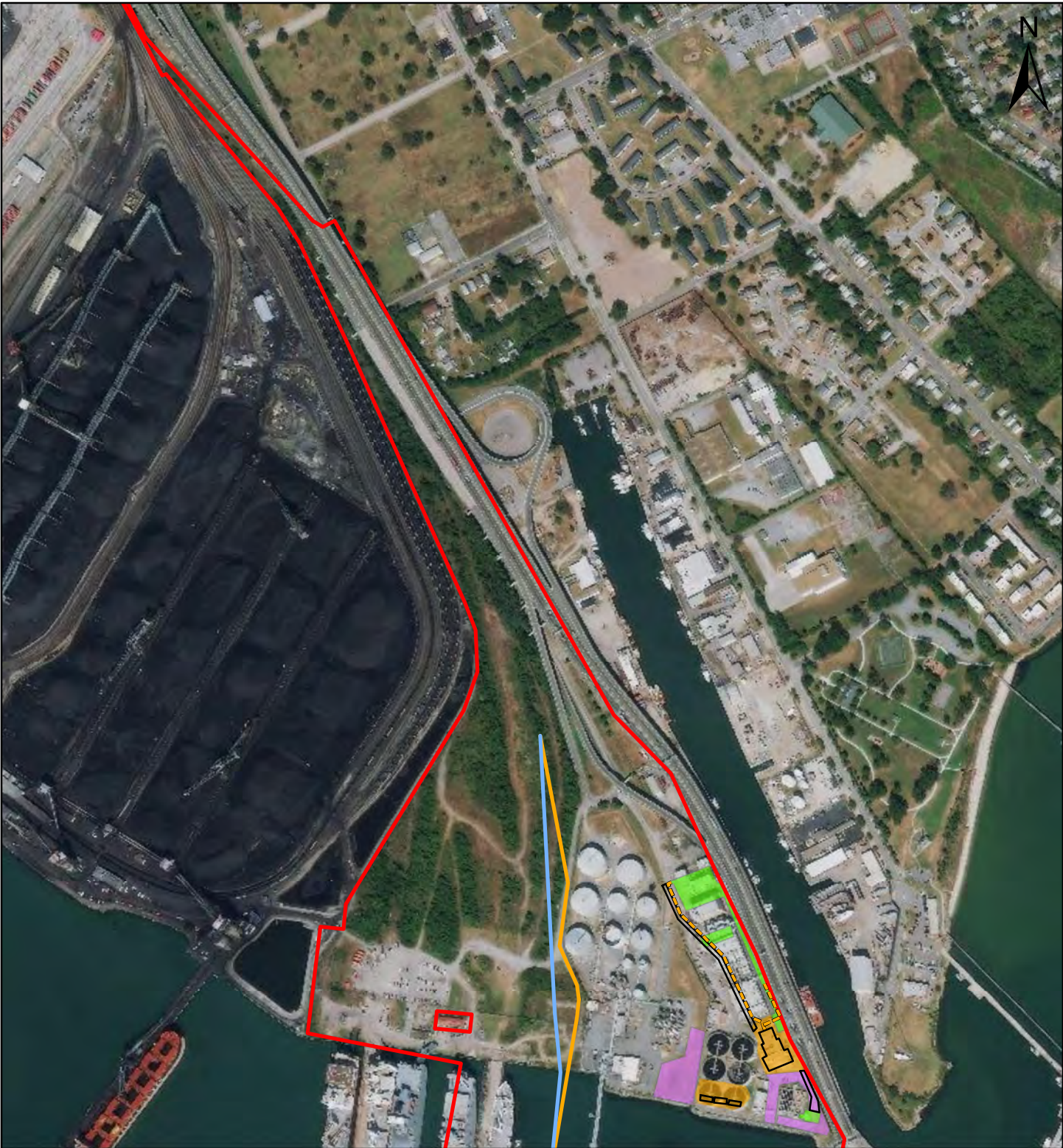
- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Federal Shipping Channel



AECOM 10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

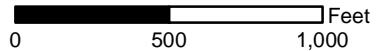
**WIFIA
Site Vicinity Map**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 2
-------------------------	-------------------------	--------------------	----------



Legend

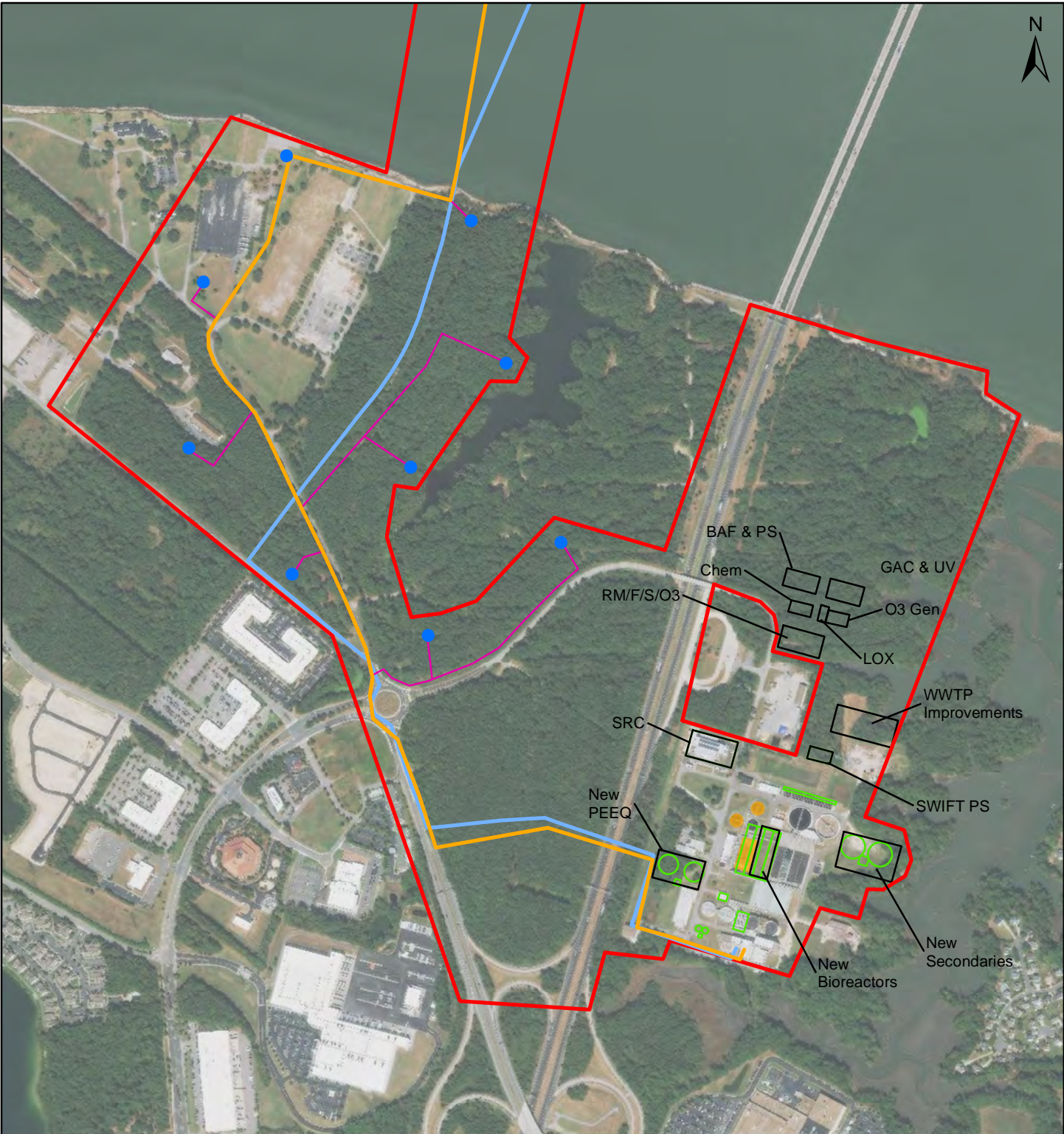
- Proposed Demo Gravity Channel
- Proposed Force Main Alignment
- Alternative Force Main Alignment
- Project Study Area Boundary
- Proposed Site Features
- Keep and Protect Area
- Proposed Demolition Area
- Workspace Alternatives for HDD Equipment



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Greenville, SC 29615

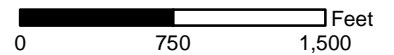
**WIFIA Newport News side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 12/21/2020	Figure 3
-------------------------	-------------------------	--------------------	----------



Legend

- Future Well House
- Alternative Force Main Alignment
- Proposed Force Main Alignment
- Proposed Well Force Main
- Project Boundary
- Proposed Nansemond SWIFT Site Features
- Proposed Nansemond ANRI Site Features
- Proposed Nansemond Demolition



AECOM

10 Patewood Drive,
Building 6, Suite 500
Greenville, SC 29615

**WiFi Suffolk side
of Project Area
Site Layout**

Project No. 60617789	Prepared by K. Clark	Date 3/30/2021	Figure 4
-------------------------	-------------------------	-------------------	----------



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Aerial Image Source: ESRI, 2019;
 Wetland delineation date: 05/27/2020
 SAV boundary source: VIMS and SAV Data Administrator, 2016

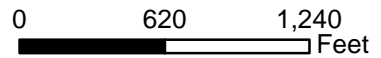


Legend

- Project Study Area Boundary
- Area not available for field survey
- Drainage Ditch
- Pond

**Submerged Aquatic Vegetation
 SAV Density (VIMS, 2016)**

- 0-10%
- 40-70%



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 Building 6, Suite 500
 Greenville, SC 29615

**WIFIA Newport News side
 of Project Area
 Site Wetlands & SAV**

Project No. 60617789	Prepared by K. Clark	Date 12/30/2020	Figure 5
-------------------------	-------------------------	--------------------	----------

Attachment II

EFH Assessment Worksheet &

EFH Mapper Report

NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Worksheet

This worksheet is your essential fish habitat (EFH) assessment. It provides us with the information necessary to assess the effects of your action on EFH under the Magnuson Stevens Fishery Conservation and Management Act and on NOAA trust resources under the Fish and Wildlife Coordination Act (FWCA). Consultation is not required if:

1. there is no adverse effect on EFH or NOAA trust resources (see page 10 for more info).
2. no EFH is designated and no trust resources may be present at the project site.

Instructions

Federal agencies or their non-federal designated lead agency should email the completed worksheet and necessary attachments to nmfs.gar.efh.consultation@noaa.gov. Include the public notice (if applicable) or project application and project plans showing:

- location map of the project site with area of impact.
- existing and proposed conditions.
- all waters of the U.S. on the project site with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked.
- sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom or natural rocky habitat areas, and shellfish beds.
- site photographs, if available.

We will provide our EFH conservation recommendations and recommendations under the FWCA, as appropriate, within 30 days of receipt of a complete EFH assessment (60 days if an expanded consultation is necessary). Please submit complete information to minimize delays in completing the consultation.

This worksheet provides us with the information required¹ in an EFH assessment:

1. A description of the proposed action.
2. An analysis of the potential adverse effects on EFH and the federally managed species.
3. The federal agency's conclusions regarding the effects of the action on EFH.
4. Proposed mitigation, if applicable.

Your analysis **should focus on impacts that reduce the quality and/or quantity of the habitat or result in conversion to a different habitat type** for all life stages of species with designated EFH within the action area.

Use the information on the [HCD website](#) and [NOAA's EFH Mapper](#) to complete this worksheet. If you have questions, please contact the appropriate [HCD staff member](#) to assist you.

¹ The EFH consultation process is guided by the requirements of our EFH regulation at 50 CFR 600.905.

EFH ASSESSMENT WORKSHEET

General Project Information

Date Submitted:

Project/Application Number:

Project Name:

Project Sponsor/Applicant:

Federal Action Agency (if state agency acting as delegated):

Fast-41 or One Federal Decision Project: Yes No

Action Agency Contact Name:

Contact Phone: Contact Email:

Latitude: Longitude:

Address, City/Town, State:

Body of Water:

Project Purpose:

Project Description:

Anticipated Duration of In-Water Work or Start/End Dates:

	Habitat Type	Total impact (sq ft/acres)	Impacts are temporary	Restored to pre-existing conditions	Permanent conversion of all or part of habitat
	Rocky/hard bottom ⁴ :				
	Sand				
	Shellfish beds or oyster reefs				
	Mudflats				
	Submerged aquatic vegetation (SAV) ⁵ , macroalgae, epifauna				
	Diadromous fish (migratory or spawning habitat)				

Indicate type(s) of rocky/hard bottom habitat (pebble, cobble, boulder, bedrock outcrop/ledge) and species of SAV:

Project Effects

Select all that apply	Project Type/Category
	Hatchery or Aquaculture
	Agriculture
	Forestry
	Military (e.g., acoustic testing, training exercises)
	Mining (e.g., sand, gravel)
	Restoration or fish/wildlife enhancement (e.g., fish passage, wetlands, beach renourishment, mitigation bank/ILF creation)

⁴ Indicate type(s). The type(s) of rocky habitat will help you determine if the area is cod HAPC.

⁵ Indicate species. Provide a copy of the SAV report and survey conducted at the site, if applicable.

Select all that apply	Project Type/Category
	Infrastructure/transportation (e.g., culvert construction, bridge repair, highway, port)
	Energy development/use
	Water quality (e.g., TMDL, wastewater, sediment remediation)
	Dredging/excavation and disposal
	Piers, ramps, floats, and other structures
	Bank/shoreline stabilization (e.g., living shoreline, groin, breakwater, bulkhead)
	Survey (e.g., geotechnical, geophysical, habitat, fisheries)
	Other

Select all that apply	Potential Stressors Caused by the Activity	Select all that apply and if temporary or permanent		Habitat alterations caused by the activity
		Temp	Perm	
	Underwater noise			
	Water quality/turbidity/contaminant release			Water depth change
	Vessel traffic/barge grounding			Tidal flow change
	Impingement/entrainment ⁶			Fill
	Prevent fish passage/spawning			Habitat type conversion
	Benthic community disturbance			Other:
	Impacts to prey species			Other:

⁶ Entrainment is the voluntary or involuntary movement of aquatic organisms from a water body into a surface diversion or through, under, or around screens and results in the loss of the organisms from the population. Impingement is the involuntary contact and entrapment of aquatic organisms on the surface of intake screens caused when the approach velocity exceeds the swimming capability of the organism.

Details: project impacts and mitigation

The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. Attach supplemental information if necessary.

Describe how the project would impact each of the habitat types selected above. Include temporary and permanent impact descriptions and direct and indirect impacts.

What specific measures will be used to avoid impacts, including project design, turbidity controls, acoustic controls, and time of year restrictions? If impacts cannot be avoided, why not?

What specific measures will be used to minimize impacts?

Is compensatory mitigation proposed?

Yes

No

If no, why not? If yes, describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation and monitoring plan, if applicable.

Federal Action Agency's EFH determination (select one)	
	There is no adverse effect ⁷ on EFH or EFH is not designated at the project site. EFH Consultation is not required. This is a FWCA-only request.
	The adverse effect ⁷ on EFH is not substantial. This means that the adverse effects are no more than minimal, temporary, or can be alleviated with minor project modifications or conservation recommendations. This is a request for an abbreviated EFH consultation.
	The adverse effect ⁷ on EFH is substantial. This is a request for an expanded EFH consultation. We will provide more detailed information, including an alternatives analysis and NEPA document, if applicable.

EFH and HAPC designations⁸

Use the [EFH mapper](#) to determine if EFH may be present in the project area and enter all species and lifestages that have designated EFH. Optionally, you may review the EFH text descriptions linked to each species in the EFH mapper and use them to determine if the described habitat is present. We recommend this for larger projects to help you determine what your impacts are.

Species	EFH is designated/mapped for:				Habitat present based on text description (optional)
	EFH: eggs	EFH: larvae	EFH: juvenile	EFH: adults/spawning adults	

⁷ An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

⁸ Within the Greater Atlantic Region, EFH has been designated by the New England, Mid-Atlantic, and South Atlantic Fisheries Management Councils and NOAA Fisheries.

HAPCs

Select all that are in your action area.

	Summer flounder: SAV ⁹ Unmapped		Alvin & Atlantis Canyons
	Sandbar shark		Baltimore Canyon
	Sand Tiger Shark (Delaware Bay)		Bear Seamount
	Sand Tiger Shark (Plymouth-Duxbury-Kingston Bay)		Heezen Canyon
	Inshore 20m Juvenile Cod		Hudson Canyon
	Great South Channel Juvenile Cod		Hydrographer Canyon
	Northern Edge Juvenile Cod		Jeffreys & Stellwagen
	Lydonia Canyon		Lydonia, Gilbert & Oceanographer Canyons
	Norfolk Canyon (Mid-Atlantic)		Norfolk Canyon (New England)
	Oceanographer Canyon		Retriever Seamount
	Veatch Canyon (Mid-Atlantic)		Toms, Middle Toms & Hendrickson Canyons
	Veatch Canyon (New England)		Washington Canyon
	Cashes Ledge		Wilmington Canyon

⁹ Summer flounder HAPC is defined as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. In locations where native species have been eliminated from an area, then exotic species are included. Use local information to determine the locations of HAPC.

More information

The [Magnuson-Stevens Fishery Conservation and Management Act \(MSA\)](#) mandates that federal agencies conduct an [essential fish habitat \(EFH\) consultation](#) with NOAA Fisheries on any actions they authorize, fund, or undertake that may adversely affect EFH. An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

We designed this worksheet to help you to prepare EFH assessments. It is important to remember that an adverse effect determination is a trigger to consult with us. It does not mean that a project cannot proceed as proposed, or that project modifications are necessary. It means that the effects of the proposed action on EFH must be evaluated to determine if there are ways to avoid, minimize, or offset adverse effects.

This worksheet should be used as your EFH assessment or as a guide to develop your EFH assessment. At a minimum, you should include all the information required to complete this worksheet in your EFH assessment. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. If your answers in the worksheet and supplemental information you attach do not fully evaluate the adverse effects to EFH, we may request additional information to complete the consultation.

You may need to prepare an expanded EFH assessment for more complex projects to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH assessment worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, you should include an analysis as outlined in this worksheet for an expanded EFH assessment, along with any additional necessary information. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects.
- the views of recognized experts on the habitat or the species that may be affected.
- a review of pertinent literature and related information.
- an analysis of alternatives that could avoid or minimize the adverse effects on EFH.

Please contact our Greater Atlantic Regional Fisheries Office, [Protected Resources Division](#) regarding potential impacts to marine mammals or threatened and endangered species.

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 36°56'31" N, Longitude = 77°35'54" W

Decimal Degrees: Latitude = 36.94, Longitude = -76.40



















The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** WARNING ***







Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Little Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
			Atlantic Herring	Juvenile Adult	New England	Amendment 3 to the Atlantic Herring FMP
			Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Winter Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			Windowpane Flounder	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Sandbar Shark	Juvenile Neonate	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Sand Tiger Shark	Neonate/Juvenile Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
			Atlantic Butterfish	Adult Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid, & Butterfish Amendment 11
			Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

HAPCs

Show	Link	Data Caveats	HAPC Name	Management Council
			Sandbar Shark	AHMS
			Summer Flounder	MAFMC

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. **For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)

Mid-Atlantic Council HAPCs,

No spatial data for summer flounder SAV HAPC.



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

June 9, 2021

Alaina McCurdy
Environmental Scientist, Office of Wastewater Management
U.S. EPA, Region 3
1650 Arch Street
Philadelphia, PA 19103

Re: Boat Harbor Nansemond Treatment Plants, Hampton Roads, VA

Dear Ms. McCurdy:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letter dated May 11, 2021, and received on May 12, 2021, regarding the above-referenced proposed project. We reviewed your consultation request document and related materials. Based on our knowledge, expertise, and your materials, we concur with your conclusion that the proposed action is not likely to adversely affect any National Marine Fisheries Service ESA-listed species.

We would like to offer several clarifications to complement your incoming request for consultation. You state that a number of marine trenching techniques for pipeline burial may be employed during the duration of this project including barge-mounted excavation with side-casting, jetting, and plowing. Barge-mounted excavation with side-casting technique uses an excavator attached to a barge to mechanically cut a trench or dig in the bottom sediment. Jetting uses high pressure water and air to create a trench by fluidizing the seabed to disperse sediments into the water column. Plowing uses sediment collected from digging or a plow pulled over the pipeline to direct trenched soil back into place after a pipeline is installed.

The marine trenching techniques that may be used for this project will suspend sediment in the water column and increase turbidity throughout the action area. In your analysis of effects of turbidity, you state that the effects of the action will impact “adjacent areas,” however, effects of the action will be within the action area, not only in surrounding areas. In addition, we concur that turbidity will affect benthic habitat, which will indirectly impact ESA-listed species, but the effects of turbidity may also directly impact ESA-listed species. Direct effects of increased turbidity to sea turtles may occur when they drink seawater in order to hydrate and sturgeon gills may be affected by increased sediment. However, the use of sediment curtains are expected to keep sediment levels below harmful concentrations in the main channel of the river. We expect any sediment released into the river to settle quickly such that any potential for exposure to sea turtles and sturgeon will be temporary and of short duration. Sea turtles and sturgeon would be transient if they were to enter the action area and, therefore, exposure to increased sediments would be brief. Based on these considerations, direct and indirect effects of increased sedimentation on sea turtles and sturgeon will be too small to be meaningfully measured or detected, and therefore, insignificant.

In your analysis of the effects of habitat modification, you state that the effects of the action on habitat will be in “adjacent areas”, however, effects of the action will be within the action area, not only in surrounding areas. The habitat that will be modified by the action is a 50-foot wide transect of the river, which is a small portion of the 4.3-mile wide section of the river where vessels associated with the project may transit. Therefore, there will still be sufficient foraging habitat and prey available for sea turtles and sturgeon within the action area. We concur with your determination that effects to habitat will be



temporary and we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of habitat modification will be too small to be meaningfully measured or detected, and therefore, insignificant.

Taking into consideration: (1) The existing baseline conditions; (2) the action and what it adds to existing baseline conditions; and (3) new baseline conditions (the existing baseline conditions and the action together), we concur with your determination that increased vessel traffic is not likely to adversely affect ESA-listed species in the action area. Although the baseline risk of a vessel strike within the James River is unknown, we expect that adding project vessels to the existing baseline will not increase the risk that any vessel in the area will strike an individual, or will increase it to such a small extent that the effect of the action (i.e., any increase in risk of a strike caused by the project) cannot be meaningfully measured or detected. Furthermore, the increase in traffic associated with the proposed project will be extremely small because a minimal number of project vessels will be added to the baseline. The addition of project vessels will also be intermittent, temporary, and restricted to a small portion of the overall action area on any given day. As such, any increased risk of a vessel strike caused by the project will be too small to be meaningfully measured or detected, therefore, the effects of increased risk of a vessel strike in the action area is insignificant.

In your analysis of effects to Atlantic sturgeon critical habitat, you state that the proposed project will overlap with a small section of Atlantic sturgeon critical habitat (approximately 0.18 miles). We concur with your determination that effects to designated critical habitat, including increased turbidity and habitat modification, will be temporary and minimized by deployment of sediment curtains. In addition, we expect the impacted areas to repopulate with benthic fauna. Therefore, the effects of the action on Atlantic sturgeon critical habitat will be too small to be meaningfully measured or detected and are insignificant. At this time, no further consultation pursuant to section 7 of the ESA is required.

Reinitiation of consultation is required and shall be requested by the Federal agency or by us, 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; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence, please contact Meagan Riley at (978) 281-9339 or by email at meagan.riley@noaa.gov. For any additional questions related to Essential Fish Habitat, please contact David O'Brien at (804) 684-7828 or david.l.obrien@noaa.gov.

Sincerely,



Jennifer Anderson
Assistant Regional Administrator
for Protected Resources

ECO: GARFO-2021-01134

File Code: H:\Section 7 Team\Section 7\Non-Fisheries\EPA\Informal\2021\Boat_Harbor_Nansemond_Treatment_Plants_VA

NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Worksheet

This worksheet is your essential fish habitat (EFH) assessment. It provides us with the information necessary to assess the effects of your action on EFH under the Magnuson Stevens Fishery Conservation and Management Act and on NOAA trust resources under the Fish and Wildlife Coordination Act (FWCA). Consultation is not required if:

1. there is no adverse effect on EFH or NOAA trust resources (see page 10 for more info).
2. no EFH is designated and no trust resources may be present at the project site.

Instructions

Federal agencies or their non-federal designated lead agency should email the completed worksheet and necessary attachments to nmfs.gar.efh.consultation@noaa.gov. Include the public notice (if applicable) or project application and project plans showing:

- location map of the project site with area of impact.
- existing and proposed conditions.
- all waters of the U.S. on the project site with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked.
- sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom or natural rocky habitat areas, and shellfish beds.
- site photographs, if available.

We will provide our EFH conservation recommendations and recommendations under the FWCA, as appropriate, within 30 days of receipt of a complete EFH assessment (60 days if an expanded consultation is necessary). Please submit complete information to minimize delays in completing the consultation.

This worksheet provides us with the information required¹ in an EFH assessment:

1. A description of the proposed action.
2. An analysis of the potential adverse effects on EFH and the federally managed species.
3. The federal agency's conclusions regarding the effects of the action on EFH.
4. Proposed mitigation, if applicable.

Your analysis **should focus on impacts that reduce the quality and/or quantity of the habitat or result in conversion to a different habitat type** for all life stages of species with designated EFH within the action area.

Use the information on the [HCD website](#) and [NOAA's EFH Mapper](#) to complete this worksheet. If you have questions, please contact the appropriate [HCD staff member](#) to assist you.

¹ The EFH consultation process is guided by the requirements of our EFH regulation at 50 CFR 600.905.

EFH ASSESSMENT WORKSHEET

General Project Information

Date Submitted:

Project/Application Number:

Project Name:

Project Sponsor/Applicant:

Federal Action Agency (if state agency acting as delegated):

Fast-41 or One Federal Decision Project: Yes No

Action Agency Contact Name:

Contact Phone: Contact Email:

Latitude: Longitude:

Address, City/Town, State:

Body of Water:

Project Purpose:

Project Description:

Anticipated Duration of In-Water Work or Start/End Dates:

	Habitat Type	Total impact (sq ft/acres)	Impacts are temporary	Restored to pre-existing conditions	Permanent conversion of all or part of habitat
	Rocky/hard bottom ⁴ :				
	Sand				
	Shellfish beds or oyster reefs				
	Mudflats				
	Submerged aquatic vegetation (SAV) ⁵ , macroalgae, epifauna				
	Diadromous fish (migratory or spawning habitat)				

Indicate type(s) of rocky/hard bottom habitat (pebble, cobble, boulder, bedrock outcrop/ledge) and species of SAV:

Project Effects

Select all that apply	Project Type/Category
	Hatchery or Aquaculture
	Agriculture
	Forestry
	Military (e.g., acoustic testing, training exercises)
	Mining (e.g., sand, gravel)
	Restoration or fish/wildlife enhancement (e.g., fish passage, wetlands, beach renourishment, mitigation bank/ILF creation)

⁴ Indicate type(s). The type(s) of rocky habitat will help you determine if the area is cod HAPC.

⁵ Indicate species. Provide a copy of the SAV report and survey conducted at the site, if applicable.

Select all that apply	Project Type/Category
	Infrastructure/transportation (e.g., culvert construction, bridge repair, highway, port)
	Energy development/use
	Water quality (e.g., TMDL, wastewater, sediment remediation)
	Dredging/excavation and disposal
	Piers, ramps, floats, and other structures
	Bank/shoreline stabilization (e.g., living shoreline, groin, breakwater, bulkhead)
	Survey (e.g., geotechnical, geophysical, habitat, fisheries)
	Other

Select all that apply	Potential Stressors Caused by the Activity	Select all that apply and if temporary or permanent		Habitat alterations caused by the activity
		Temp	Perm	
	Underwater noise			
	Water quality/turbidity/contaminant release			Water depth change
	Vessel traffic/barge grounding			Tidal flow change
	Impingement/entrainment ⁶			Fill
	Prevent fish passage/spawning			Habitat type conversion
	Benthic community disturbance			Other:
	Impacts to prey species			Other:

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Details: project impacts and mitigation

The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. Attach supplemental information if necessary.

Describe how the project would impact each of the habitat types selected above. Include temporary and permanent impact descriptions and direct and indirect impacts.

What specific measures will be used to avoid impacts, including project design, turbidity controls, acoustic controls, and time of year restrictions? If impacts cannot be avoided, why not?

What specific measures will be used to minimize impacts?

Is compensatory mitigation proposed?

Yes

No

If no, why not? If yes, describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation and monitoring plan, if applicable.

Federal Action Agency's EFH determination (select one)	
	There is no adverse effect ⁷ on EFH or EFH is not designated at the project site. EFH Consultation is not required. This is a FWCA-only request.
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	The adverse effect ⁷ on EFH is substantial. This is a request for an expanded EFH consultation. We will provide more detailed information, including an alternatives analysis and NEPA document, if applicable.

EFH and HAPC designations⁸

Use the [EFH mapper](#) to determine if EFH may be present in the project area and enter all species and lifestages that have designated EFH. Optionally, you may review the EFH text descriptions linked to each species in the EFH mapper and use them to determine if the described habitat is present. We recommend this for larger projects to help you determine what your impacts are.

Species	EFH is designated/mapped for:				Habitat present based on text description (optional)
	EFH: eggs	EFH: larvae	EFH: juvenile	EFH: adults/spawning adults	

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HAPCs

Select all that are in your action area.

	Summer flounder: SAV ⁹ Unmapped		Alvin & Atlantis Canyons
	Sandbar shark		Baltimore Canyon
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	Veatch Canyon (Mid-Atlantic)		Toms, Middle Toms & Hendrickson Canyons
	Veatch Canyon (New England)		Washington Canyon
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⁹ Summer flounder HAPC is defined as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. In locations where native species have been eliminated from an area, then exotic species are included. Use local information to determine the locations of HAPC.

More information

The [Magnuson-Stevens Fishery Conservation and Management Act \(MSA\)](#) mandates that federal agencies conduct an [essential fish habitat \(EFH\) consultation](#) with NOAA Fisheries on any actions they authorize, fund, or undertake that may adversely affect EFH. An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

We designed this worksheet to help you to prepare EFH assessments. It is important to remember that an adverse effect determination is a trigger to consult with us. It does not mean that a project cannot proceed as proposed, or that project modifications are necessary. It means that the effects of the proposed action on EFH must be evaluated to determine if there are ways to avoid, minimize, or offset adverse effects.

This worksheet should be used as your EFH assessment or as a guide to develop your EFH assessment. At a minimum, you should include all the information required to complete this worksheet in your EFH assessment. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. If your answers in the worksheet and supplemental information you attach do not fully evaluate the adverse effects to EFH, we may request additional information to complete the consultation.

You may need to prepare an expanded EFH assessment for more complex projects to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH assessment worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, you should include an analysis as outlined in this worksheet for an expanded EFH assessment, along with any additional necessary information. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects.
- the views of recognized experts on the habitat or the species that may be affected.
- a review of pertinent literature and related information.
- an analysis of alternatives that could avoid or minimize the adverse effects on EFH.

Please contact our Greater Atlantic Regional Fisheries Office, [Protected Resources Division](#) regarding potential impacts to marine mammals or threatened and endangered species.

Useful Links

[National Wetland Inventory Maps](https://www.fws.gov/wetlands/)

<https://www.fws.gov/wetlands/>

[EPA's National Estuary Program \(NEP\)](https://www.epa.gov/nep/local-estuary-programs)

<https://www.epa.gov/nep/local-estuary-programs>

[Northeast Regional Ocean Council \(NROC\) Data Portal](https://www.northeastocean.org/)

<https://www.northeastocean.org/>

Mid-Atlantic Regional Council on the Ocean (MARCO) Data Portal

<http://portal.midatlanticocean.org/>

Resources by State

Maine

[Maine Office of GIS Data Catalog](https://geolibrary-maine.opendata.arcgis.com/datasets#data)

<https://geolibrary-maine.opendata.arcgis.com/datasets#data>

[Town shellfish information including shellfish conservation area maps](https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html)

<https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html>

[State of Maine Shellfish Sanitation and Management](https://www.maine.gov/dmr/shellfish-sanitation-management/index.html)

<https://www.maine.gov/dmr/shellfish-sanitation-management/index.html>

[Eelgrass maps](https://www.maine.gov/dmr/science-research/species/eelgrass/index.html)

<https://www.maine.gov/dmr/science-research/species/eelgrass/index.html>

[Casco Bay Estuary Partnership](https://www.cascobayestuary.org/)

<https://www.cascobayestuary.org/>

[Maine GIS Stream Habitat Viewer](https://www.arcgis.com/home/item.html?id=5869c2d20f0b4c3a9742bdd8abef42cb)

<https://www.arcgis.com/home/item.html?id=5869c2d20f0b4c3a9742bdd8abef42cb>

New Hampshire

[NH's Statewide GIS Clearinghouse, NH GRANIT](http://www.granit.unh.edu/)

<http://www.granit.unh.edu/>

[NH Coastal Viewer](http://www.granit.unh.edu/nhcoastalviewer/)

<http://www.granit.unh.edu/nhcoastalviewer/>

[State of NH Shellfish Program](https://www.des.nh.gov/organization/divisions/water/wmb/shellfish/)

<https://www.des.nh.gov/organization/divisions/water/wmb/shellfish/>

Massachusetts

[MA Shellfish Sanitation and Management Program](https://www.mass.gov/shellfish-sanitation-and-management)

<https://www.mass.gov/shellfish-sanitation-and-management>

[MassGIS Data, Including Eelgrass Maps](http://maps.massgis.state.ma.us/map_ol/oliver.php)

http://maps.massgis.state.ma.us/map_ol/oliver.php

[MA DMF Recommended TOY Restrictions Document](https://www.mass.gov/files/documents/2016/08/ry/tr-47.pdf)

<https://www.mass.gov/files/documents/2016/08/ry/tr-47.pdf>

[Massachusetts Bays National Estuary Program](https://www.mass.gov/orgs/massachusetts-bays-national-estuary-program)

<https://www.mass.gov/orgs/massachusetts-bays-national-estuary-program>

[Buzzards Bay National Estuary Program](http://buzzardsbay.org/)

<http://buzzardsbay.org/>

[Massachusetts Division of Marine Fisheries](https://www.mass.gov/orgs/massachusetts-division-of-marine-fisheries)

<https://www.mass.gov/orgs/division-of-marine-fisheries>

[Massachusetts Office of Coastal Zone Management](#)

<https://www.mass.gov/orgs/massachusetts-office-of-coastal-zone-management>

Rhode Island

[RI Shellfish and Aquaculture](#)

<http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/shellfish-aquaculture.php>

[RI Shellfish Management Plan](#)

<http://www.shellfishri.com/>

Eelgrass Maps

<http://edc.maps.arcgis.com/apps/View/index.html?appid=db52bb689c1e44259c06e11fd24895f8>

[RI GIS Data](#)

<http://ridemgis.maps.arcgis.com/apps/webappviewer/index.html?id=87e104c8adb449eb9f905e5f18020de5>

[Narragansett Bay Estuary Program](#)

<http://nbep.org/>

[Rhode Island Division of Marine Fisheries](#)

<http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/index.php>

[Rhode Island Coastal Resources Management Council](#)

<http://www.crmc.ri.gov/>

Connecticut

[CT Bureau of Aquaculture](#)

<https://www.ct.gov/doag/cwp/view.asp?a=3768&q=451508&doagNav=>

[CT GIS Resources](#)

https://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707

[Natural Shellfish Beds in CT](#)

<https://cteco.uconn.edu/viewer/index.html?viewer=aquaculture>

[Eelgrass Maps](#)

https://www.fws.gov/northeast/ecologicalservices/pdf/wetlands/2012_CT_Eelgrass_Final_Report_11_26_2013.pdf

[Long Island Sound Study](#)

<http://longislandsoundstudy.net/>

[CT GIS Resources](#)

<http://cteco.maps.arcgis.com/home/index.html>

[CT DEEP Office of Long Island Sound Programs and Fisheries](#)

<https://www.ct.gov/deep/site/default.asp>

[CT River Watershed Council](#)

<https://www.ctriver.org/>

New York

[Eelgrass Report](#)

http://www.dec.ny.gov/docs/fish_marine_pdf/finalseagrassreport.pdf

[Peconic Estuary Program](#)

<https://www.peconicestuary.org/>

[NY/NJ Harbor Estuary](#)

<https://www.hudsonriver.org/estuary-program>

New York GIS Clearinghouse

<https://gis.ny.gov/>

New Jersey

[Submerged Aquatic Vegetation Mapping](http://www.crssa.rutgers.edu/projects/sav/)

<http://www.crssa.rutgers.edu/projects/sav/>

[Barnegat Bay Partnership](https://www.barnegatbaypartnership.org/)

<https://www.barnegatbaypartnership.org/>

[NJ GeoWeb](https://www.nj.gov/dep/gis/geoweb splash.htm)

<https://www.nj.gov/dep/gis/geoweb splash.htm>

[NJ DEP Shellfish Maps](https://www.nj.gov/dep/landuse/shellfish.html)

<https://www.nj.gov/dep/landuse/shellfish.html>

Pennsylvania

[Delaware River Management Plan](https://www.fishandboat.com/Fish/Fisheries/DelawareRiver/Documents/delaware_river_plan_exec_draft.pdf)

https://www.fishandboat.com/Fish/Fisheries/DelawareRiver/Documents/delaware_river_plan_exec_draft.pdf

[PA DEP Coastal Resources Management Program](https://www.dep.pa.gov/Business/Water/Compacts%20and%20Commissions/Coastal%20Resources%20Management%20Program/Pages/default.aspx)

<https://www.dep.pa.gov/Business/Water/Compacts%20and%20Commissions/Coastal%20Resources%20Management%20Program/Pages/default.aspx>

[PA DEP GIS Mapping Tools](https://www.dep.pa.gov/DataandTools/Pages/GIS.aspx)

<https://www.dep.pa.gov/DataandTools/Pages/GIS.aspx>

Delaware

[Partnership for the Delaware Estuary](http://www.delawareestuary.org/)

<http://www.delawareestuary.org/>

[Center for Delaware Inland Bays](http://www.inlandbays.org/)

<http://www.inlandbays.org/>

[Delaware FirstMap](http://delaware.maps.arcgis.com/home/index.html)

<http://delaware.maps.arcgis.com/home/index.html>

Maryland

[Submerged Aquatic Vegetation Mapping](http://web.vims.edu/bio/sav/)

<http://web.vims.edu/bio/sav/>

[MERLIN](http://dnrweb.dnr.state.md.us/MERLIN/)

<http://dnrweb.dnr.state.md.us/MERLIN/>

[Maryland Coastal Bays Program](https://mdcoastalbays.org/)

<https://mdcoastalbays.org/>

Virginia

[Submerged Aquatic Vegetation mapping](http://www.mrc.virginia.gov/regulations/Guidance_for_SAV_beds_and_restoration_final_approved_by_Commission_7-22-17.pdf)

http://www.mrc.virginia.gov/regulations/Guidance_for_SAV_beds_and_restoration_final_approved_by_Commission_7-22-17.pdf

[VDGIF Time of Year Restrictions \(TOYR\) and Other Guidance](https://www.dgif.virginia.gov/wp-content/uploads/VDGIF-Time-of-Year-Restrictions-Table.pdf)

<https://www.dgif.virginia.gov/wp-content/uploads/VDGIF-Time-of-Year-Restrictions-Table.pdf>

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

[Greater Atlantic Regional Office](#)
[Atlantic Highly Migratory Species Management Division](#)

Query Results

Degrees, Minutes, Seconds: Latitude = 36° 56' 26" N, Longitude = 77° 35' 25" W
 Decimal Degrees: Latitude = 36.940, Longitude = -76.410









The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** WARNING ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH





Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Little Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Atlantic Herring	Juvenile Adult	New England	Amendment 3 to the Atlantic Herring FMP
		Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Windowpane Flounder	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Sandbar Shark	Juvenile Neonate	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
		Sand Tiger Shark	Neonate/Juvenile Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
		Atlantic Butterfish	Adult Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
		Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

Link	Data Caveats	HAPC Name	Management Council
		Sandbar Shark	Secretarial
		Summer Flounder	Mid-Atlantic

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.

****For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)**

All spatial data is currently available for the Mid-Atlantic and New England councils,

Secretarial EFH,

Bigeye Sand Tiger Shark,

Bigeye Sixgill Shark,

Caribbean Sharpnose Shark,

Galapagos Shark,

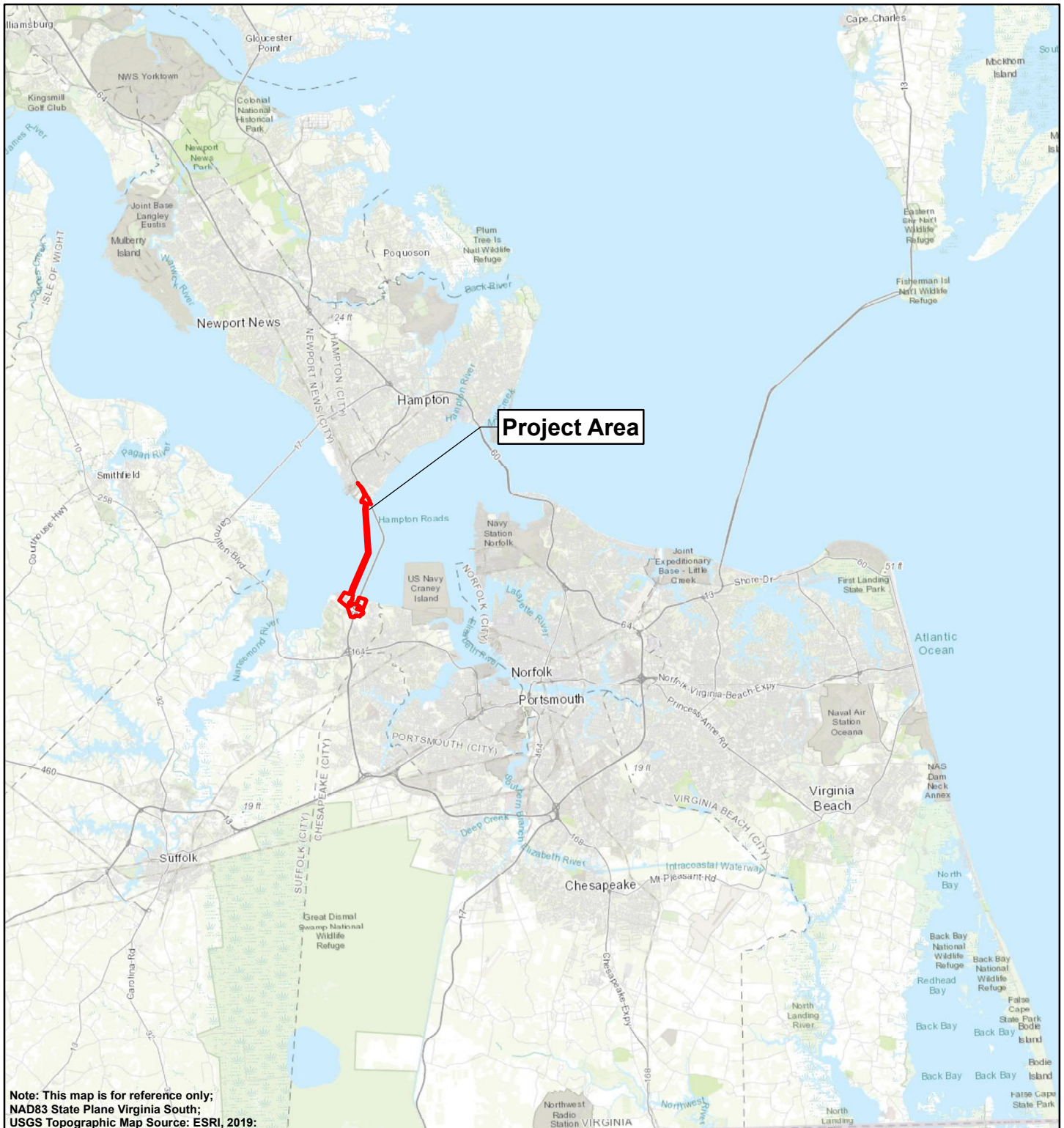
Narrowtooth Shark,

Sevengill Shark,

Sixgill Shark,

Smooth Hammerhead Shark,

Smalltail Shark



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 USGS Topographic Map Source: ESRI, 2019:

HRSD-SWIFT Project 2021

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 11/1/2021

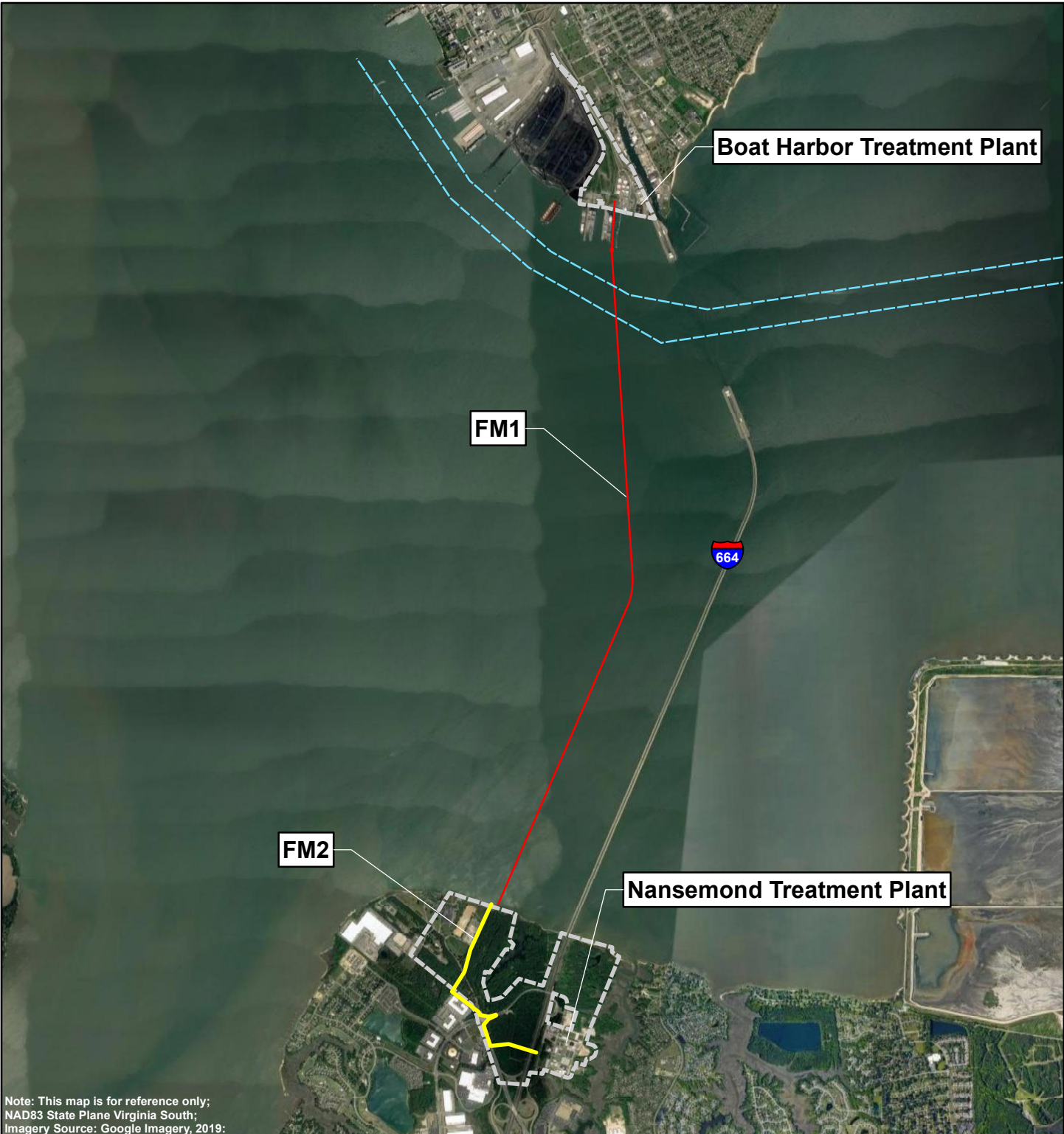
0 5 10
 Miles

Legend

Project Area

**Figure 1
 Vicinity Map**

City of Newport News
 City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019:

**HRSD-SWIFT Project
 2021**

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 11/1/2021

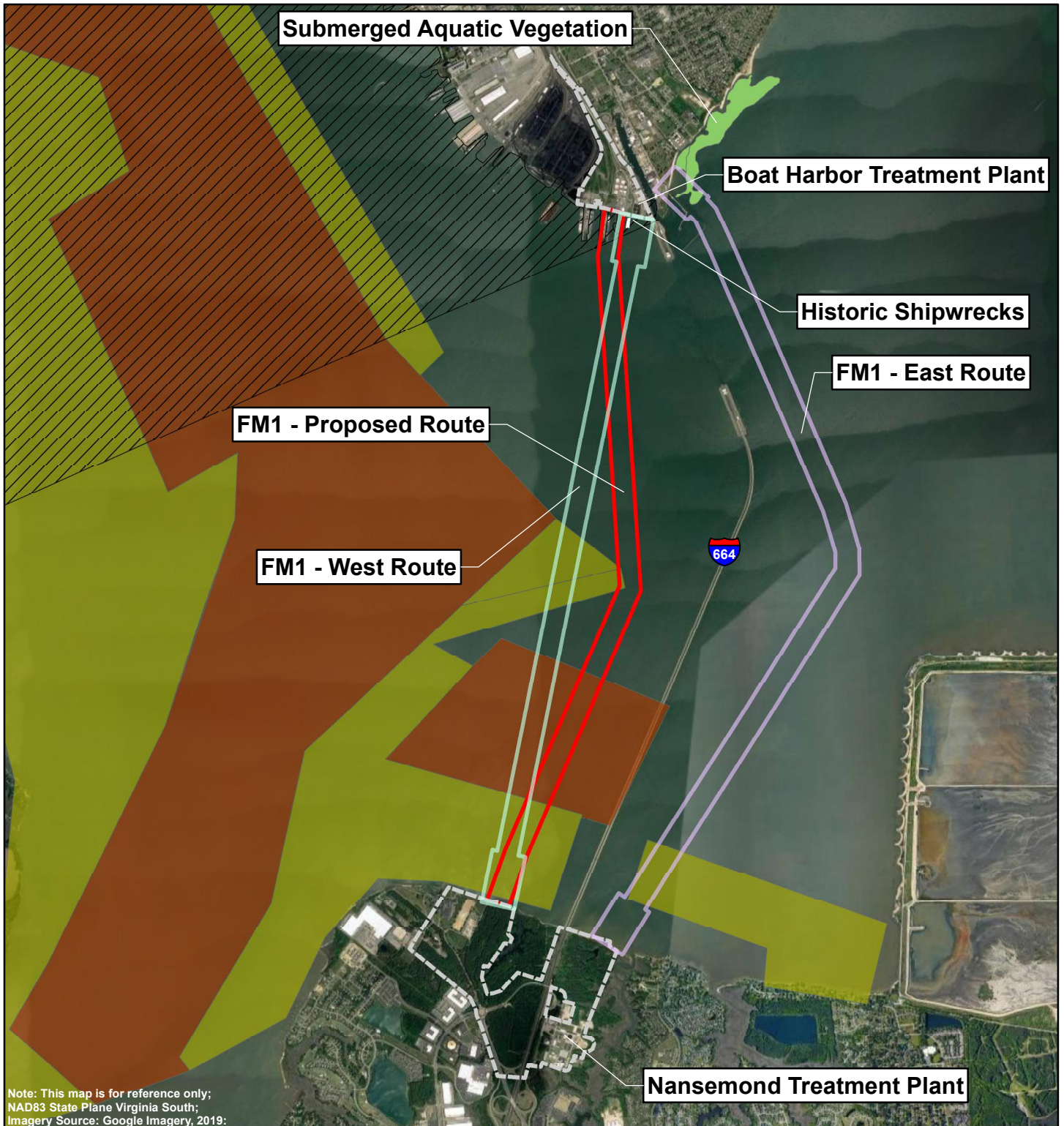
0 1 2
 Miles

Legend

- Study Area
- Force Main Section 1 (Subaqueous)
- Force Main Section 2 (Land)
- Newport News Federal Navigation Channel

**Figure 2
 Project Location Map**

- City of Newport News
- City of Suffolk



Note: This map is for reference only;
 NAD83 State Plane Virginia South;
 Imagery Source: Google Imagery, 2019;

HRSD-SWIFT Project 2021

Boat Harbor Transmission
 Force Main Section 1 and 2
 City of Newport News, VA
 City of Suffolk, VA

Last Date Edited: 11/1/2021

0 1 2
 Miles

Legend

- Study Area (dashed white line)
- FM1 - Proposed Route (red line)
- FM1 - East Route (purple line)
- FM1 - West Route (light blue line)
- Private Oyster Ground Leases (olive green)
- Public Oyster Grounds (brown)
- Atlantic Sturgeon Critical Habitat (hatched)
- Submerged Aquatic Vegetation (light green)

Figure 3
FM1 Alternatives Map

- City of Newport News (blue)
- City of Suffolk (red)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

December 16, 2021

Karen Greene
Mid-Atlantic Field Office Supervisor and EFH Coordinator
Greater Atlantic Regional Fisheries Office
NOAA Fisheries Service
55 Great Republic Drive
Gloucester, Massachusetts 01930

Re: EFH Assessment -- Project Review Request, Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Ms. Greene:

On May 5, 2021, the US Environmental Protection Agency (EPA), on behalf of Hampton Roads Sanitation District (HRSD), initiated consultation with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) regarding Essential Fish Habitat (EFH). Additional information was requested by NOAA Fisheries on May 18, 2021, including additional project details and a more detailed analysis of sediment transport resulting from the riverbed trenching activities and potential impacts on EFH. The information request was further discussed in subsequent calls held with David O'Brien, AECOM, and HRSD on June 7 and October 7, 2021. The purpose of this letter is to provide your office with the requested additional project details and a revised EFH assessment of the HRSD Boat Harbor/Nansemond Sustainable Water Initiative for Tomorrow (SWIFT) Project, and to request your concurrence with our determination regarding potential effects on EFH.

EPA selected HRSD to submit an application for credit assistance for the SWIFT Program under EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program, a federal credit program for eligible water and wastewater infrastructure projects. EPA developed a Programmatic Environmental Assessment (PEA) for the WIFIA program, and the PEA received a Finding of No Significant Impact (FONSI) on April 26, 2018. On behalf of EPA, HRSD prepared supplemental National Environmental Policy Act (NEPA) documents for the Boat Harbor/Nansemond SWIFT Project and EPA issued a

FONSI Adequacy Memorandum for the HRSD Boat Harbor/Nansemond SWIFT Project on August 31, 2021 and executed the WIFIA funding on September 10, 2021, with a condition precedent regarding final EFH concurrence from your office.

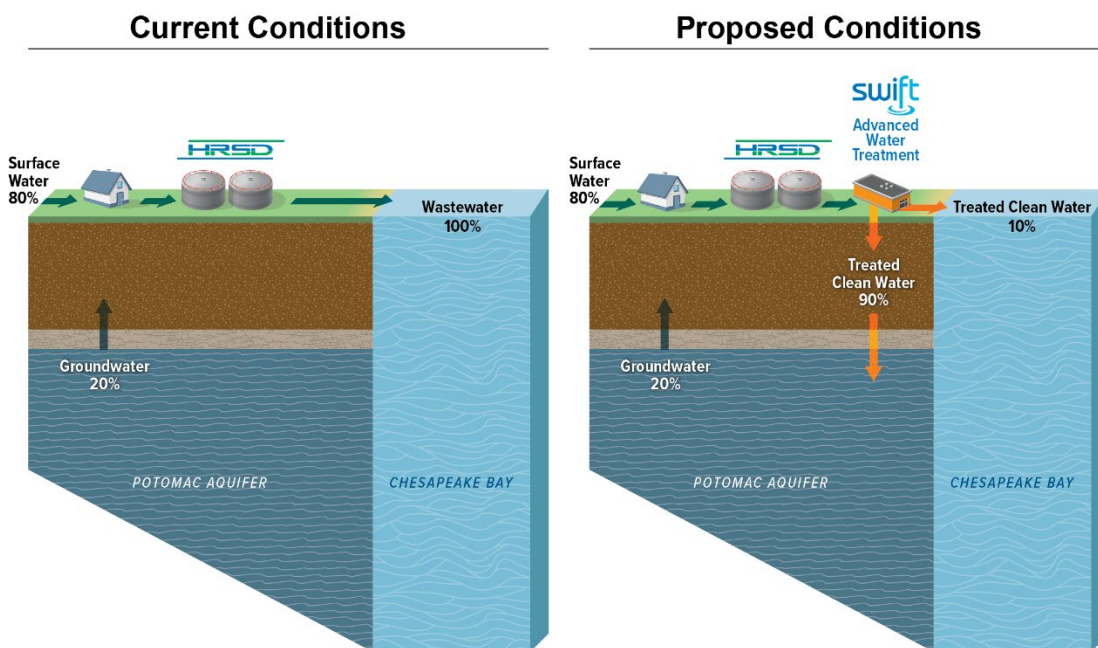
The EPA has evaluated the potential for the project to adversely affect EFH in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The EPA used the EFH Assessment Worksheet from the Greater Atlantic Regional Fisheries Office of NOAA Fisheries (NOAA Fisheries 2020a) to evaluate potentially affected EFH, and we are submitting our revised evaluation and findings for your review. The EFH Assessment Worksheet is provided as an attachment to this letter. We have determined that the impact of the Proposed Action on EFH would not be substantial and request an abbreviated EFH consultation.

Background

The purpose of HRSD’s SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; provide a sustainable source of groundwater to the Potomac Aquifer; increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and reduce future capital investment needs in wastewater treatment plant upgrades.

The Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells (**Exhibit 1**).

Exhibit 1: Conceptual drawing depicting Pre and Post SWIFT Project Water Treatment



Description of the Proposed Action

As part of the HRSD SWIFT Program, HRSD is proposing to install a new, 36-inch-inside-diameter transmission force main beneath the James River to convey flow from a new pump station located near the site of the existing Boat Harbor Treatment Plant in the City of Newport News to the Nansemond Treatment Plant in the City of Suffolk (**Attachment A, Figure 1**). The construction of the transmission force main involves two phases: Force Main Section 1 (Subaqueous, FM1) and Force Main Section 2 (Land, FM2) (**Attachment A, Figure 2**); the SWIFT Project (the Project) also involves the construction of the new Boat Harbor pump station, upgrades and improvements to the Nansemond Treatment Plant, and the installation of 16 recharge wells. For purposes of the EFH consultation, this letter focuses primarily on FM1, the only portion of the Project with potential to directly effect EFH.

The proposed FM1 alignment would be approximately 24,693 feet (4.7 miles) in length and would be installed under the James River roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel (I-664) (**Attachment B**). Installation of the force main would include a combination of approximately 18,300 feet (3.5 miles) of riverbed trenching (i.e., 1,400 feet on the river's north shore and 16,900 feet on the south shore) and approximately 4,330 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. FM1 would continue on land on the Newport News side for approximately 1,545 (0.3 mile) to the new Boat Harbor pump station and on the Suffolk side for 518 feet (0.09 mile). On land sections would be installed via traditional open cut method. before its connection with FM2. The proposed construction methodology for the river crossing contains the following key criteria:

Shipping channel segment:

- Water-to-water HDD
- Temporary platforms for HDD drilling equipment set up in the river off the north shore and south of the channel to provide a length range of approximately 4,500 feet, (estimated as a feasible distance for installing high-density polyethylene (HDPE) pipe via HDD); platform options include barges—anchored or jack-up
- Entire river crossing to be HDPE with no dissimilar material connection
- HDD depth of approximately 60 feet below shipping channel bottom
- Pipe assembly on-land, float-out, and stringing in river for HDD pull-back operation

Riverbed trenching segment:

- Open-cut pipe burial depth of approximately 8 to 10 feet below river bottom over the 16,900-foot length from outside the shipping channel to the south shore
- Side casting of trench materials and back-filling
- Continuous positive slope from HDD section to south shore and north shore to avoid high and low points
- In-river trenched section of approximately 1,400 feet from the north side HDD platform to the north shore exit point
- In-water connection at the HDD temporary work platforms in river (outside shipping channel) for connection between trenched and trenchless segments.

Access and temporary workspace for construction equipment outside of the James River would be in uplands. Equipment en route to the river would use existing roadways or developed land. Performing the

work within the river would require barges and supporting marine equipment such as tugs and personnel/materials boats. Exact methods and equipment would be determined by the selected design-build contractor; however, a preliminary construction operations plan is provided in **Attachment C**.

The proposed FM2 alignment would be approximately 7,500 feet (1.4 miles) in length. FM2 would connect to the FM1 section 518 feet south of the James River shoreline, then continue south, generally paralleling Jamestown Road, Park Drive, and College Drive, and terminate at the existing Nansemond Treatment Plant (**Attachment B**).

Alternatives

Route Alternatives

The start and end points of the force main were established during the concept development and engineering planning stage of work for the overall SWIFT program. The force main would start at a new pump station near the site of the Boat Harbor treatment plant and 11 potential pump station sites were initially identified as part of the pre-planning site selection screening exercise. Five sites were carried forward for further evaluation. Ultimately, a site adjacent to the existing Boat Harbor treatment plant was selected as the preferred site for the pump station. The route alternatives for the two sections of the force main are presented in the following subsections.

Force Main Section 1 (Subaqueous)

Three alternative routes were evaluated for the FM1 section of the force main, one on the east and two on the west side of the I-664 bridge tunnel (**Attachment A, Figure 3**). The preferred FM1 route (one of the west side options) was selected because of land access advantages and environmental advantages. First, the Boat Harbor pump station on the north shore would also be located on the west side facilitating the FM1 connection to this station. Second, there is open land on the south shore sufficient to allow the FM1 to FM2 connection and temporary workspace for a pipe laydown yard. Third, by locating the proposed FM1 route on the west side of the I-664 bridge tunnel, known submerged aquatic vegetation (SAV) beds, public parks, and archaeological sites located to the east side were avoided. Finally, the proposed FM1 alignment also represents an environmental advantage over the far-west alignment by avoiding remnants of historical shipwrecks and minimizing impacts on mapped oyster beds.

Force Main Section 2 (Land)

The FM2 section would connect to FM1 518 feet south of the James River and terminate at the NTP site. Five proposed alignment alternatives were considered for routing FM2; they are not discussed in detail here since FM2 would not affect EFH. The routing alternatives considered the sites' historical significance as well as recent residential, educational, and commercial development. All the alternatives utilize the same route between the Nansemond Treatment Plant and the traffic roundabout at College Drive.

Construction Method Alternatives

Force Main Section 1 (Subaqueous)

The proposed river crossing alternative on the west side of the I-664 bridge tunnel was evaluated to determine applicable construction methods for pipeline installation. The extensive length of the crossing at over 4 miles, the locations of a major, active shipping channel, and the variability of river depth along the profile required an evaluation of multiple construction techniques. Key construction and design factors, including characteristics of the river, pipeline mechanical design requirements, and

environmental setting were assessed to identify feasible methods. **Table 1** summarizes the key evaluation factors.

Table 1. Key Evaluation Factors for Construction Method Planning

Key Factor	Planning Consideration
River Crossing Characteristics	Riverbed topography, bathymetry, existing onshore and riverbed infrastructure/obstructions, offset from existing spans, subsoil characteristics, marine vessel passage and anchoring areas, shore approaches.
Pipeline Mechanical Design	Pipe material, size, wall thickness, corrosion protection, long-term integrity, operational considerations, anchor drop and drag protection.
Environmental Setting	Avoidance/minimization of oyster grounds impacts, cultural/historical areas.

Construction Methods and Design Options

The proposed river crossing alignment would traverse the Newport News Federal Navigation Channel, an active marine channel with commercial, military, and private/recreational vessel transport. The US Army Corps of Engineers (USACE) currently maintains the channel to a 1,000-foot width and 50-foot depth. Anchoring areas of various size exist on the south side of the channel. Given the depth of the channel and the necessity to minimize disruption to marine traffic, trenchless crossing methods were considered in addition to open-cut methods for pipeline installation. HDD was deemed the most appropriate and cost-effective trenchless technique for the channel crossing. The open-cut method would require a long construction time and specialized equipment, blocking the channel and disrupting shipping traffic for extended periods. Laying the FM1 on the channel bottom was not feasible due to periodic dredging and danger from anchor strikes.

While HDD technology provides an unobstructed crossing method under the main shipping channel, use of this technique to cross the entire river is not practical for several reasons. The maximum span length of each HDD depends on pipe material and diameter, and ranges from approximately 8,000 feet (steel pipe) to 4,500 feet (HDPE pipe). To achieve an HDD crossing beneath the entire river, between three and six HDDs would need to be stitched together. Doing so would create high and low points in the pipeline profile with the potential for trapping air and solids. Lack of a practical means of adding air release valves in an underwater environment, potential for solids settling in the pipe, the greater number of marine construction assets, and the longer on-water schedule needed for multiple HDDs were deemed significant disadvantages and, therefore, this approach was not considered feasible. Similarly, micro-tunneling and similar techniques that require intermediate shafts dug along the alignment were judged not feasible because of the increased construction time, greater disruption from the seven to nine intermediate shafts that would need to be placed and maintained for pipe installation and joining, and the higher safety risks to workers.

Beyond the main shipping channel, the river depth gradually decreases from approximately 30 feet to less than 2 feet at the southern end of the alignment. For this shallower section, open-cut or direct-bury techniques such as barge-mounted excavation with side casting, plowing, and jetting, were considered feasible. Based on preliminary engineering for a riverbed open-cut trench, the assumed trench geometry would include a trench bottom width of 8 feet, side slopes of 3:1, and average trench depth of 13 feet. Minimum burial depth was established based on USACE guidance for anchor and non-anchor areas. Estimates of temporary disturbance to the riverbed are provided in **Table 2**.

Table 2. Estimated Temporary Disturbance - FM1 Subaqueous River Crossing¹

Force Main Stationing		Section Length (ft)	Average Pipe Bury Depth (ft)	Average Trench Depth (ft)	Disturbed Riverbed Area (ft ²)	Disturbed Riverbed Area (ac)	Excavated Volume (yd ³)
-13+55.56	01+25.73	1,481	10	13	127,391	3	33,521
41+25.30	86+00.00	4,475	10	13	384,824	9	101,261
86+00.00	204+00.00	11,800	15	18	1,368,800	31	487,733
204+00.00	214+00.00	1,000	7	10	68,000	2	14,074
Totals:					1,949,015	45	636,589
1. Based on preliminary engineering for a marine open-cut trench, the assumed trench geometry would be approximately: the trench bottom width of 8 ft with a side slope of 3:1.							

Pipeline Mechanical Design

Pipe materials including steel, HDPE, and fusible polyvinyl chloride (fPVC) were evaluated. These pipe materials lend themselves to both trenched and trenchless construction techniques and are used by HRSD elsewhere in its conveyance system. Steel pipe has the advantage of superior strength, which allows for longer and deeper trenchless installations. However, steel pipe would require an impressed current corrosion protection system that could not be reliably maintained within the river environment. HDPE and fPVC were therefore considered. Based on key evaluation criteria that include suitability to the selected construction approach, expected subsurface conditions, ease of operations and maintenance (O&M), and desired long-term performance, HDPE was deemed the most appropriate material. Based on projected design flows, a 36-inch nominal inside diameter pipe was selected.

The HDPE pipe requires proper ballasting to prevent floatation. This is typically achieved by concrete anchors attached to the pipe and spaced at appropriate intervals. For this reason, the installation contractors could consider plowing and jetting techniques noted above as more complicated or impractical and opt for the open-cut technique using barge-mounted excavation. Additional site considerations that make plowing or jetting infeasible for this application include: the shallower water depth (large vessels with deep draft would be required to provide plowing installation forces), the large diameter of the pipeline would require larger bend radii (350 feet or more) to install, and the limitations on working space presented by river traffic.

Environmental Setting

The oyster grounds identified along the proposed pipe alignment include both private and publicly held areas. The alignment was adjusted in the center of the river to avoid two private lease grounds. The alignment does run through public grounds and two private lease areas for a total of approximately 7,500 feet. A shellfish survey was conducted to determine the existence and density of oysters, clams, and shells along the alignment (**Attachment D**). Findings indicated that no significant oyster or clam populations are located within the majority of the open cut area.

Disturbance of river bottom during open cut operations would create turbidity, temporarily impacting fish and benthic organisms. Potential mitigation options are available to minimize impacts and include

the use of best management practices (BMPs), such as silt curtains where practicable, construction during low current, low-impact excavating equipment (closed clam shell buckets) to reduce turbidity, and limiting work per time of year restrictions.

As part of the cultural resources survey conducted along the alternative alignments, a marine archaeology investigation identified the historical remnants of two shipwrecks near the north shore. Several of the alternative design options would have resulted in impacts to these historical resources; however, the proposed design and alignment avoid the shipwrecks, thereby avoiding impacts to cultural resources.

Force Main Section 2 (Land)

Both trenchless and open cut trench installation techniques were considered for the proposed FM2 route alignment, and the selected construction option would be a combination of the two methods, with open cut trench for the majority of the alignment, and trenchless crossings of I-664 and potentially the College Road roundabout. Construction method alternatives for FM2 are not discussed in detail in this EFH consultation.

Avoidance, Minimization, and Unavoidable Impacts

Avoidance and Minimization

The FM1 alignment was designed to avoid and minimize impacts to both environmental and cultural resources. By locating the proposed FM1 route on the west side of the I-664 bridge tunnel, known submerged aquatic vegetation (SAV) beds, public parks, and archeological sites located to the east side were avoided. The proposed FM1 route was also designed to avoid remnants of historical shipwrecks that are potentially eligible for the National Register of Historic Places (NRHP) and to minimize crossing known oyster beds. The HDD under the main river channel would allow marine mammals, fish, turtles, and other aquatic species, a zone of passage to swim up and down river during the 2-year construction period. In addition, sediment curtains would be installed where practicable to minimize turbidity from the riverbed trenching activities.

The proposed FM2 route and the remaining portions of the Project would avoid all impacts to tidal and non-tidal wetlands and waterbodies. HRSD anticipates no permanent impacts to jurisdictional Waters of the United States as a result of the Project. The land sections would be restored to pre-construction conditions and the trenched river section would be backfilled using excavated materials where practicable, with final riverbed grades achieved through the dynamic sediment transport in that portion of the river.

Best Management Practices

Several best management practices (BMPs) would be in place for this Project. Soil erosion would be controlled using appropriate erosion and sediment control measures and BMPs. Erosion control BMPs include the use or installation of sandbags, silt fences, earthen berms, fiber rolls, sediment traps, and erosion control blankets. Other BMPs may be specified in the Project Stormwater Pollution Prevention Plan (SWPPP) and fugitive dust control plan.

Although the proposed HDD operation would be 1,500 feet from shore, to address noise from HDD installation, HRSD has committed to installing sound walls and acoustic panels around HDD locations where noise levels would exceed the ambient sound levels, as necessary. With these BMPs in place, the HDD installation is expected to have only short-term and minor noise impacts.

Effects on water quality in the James River from the incidental release of drilling mud during HDD (frac-out) and accidental spills or releases of materials, such as fuels or lubricants, would be minimized using sediment curtains and standard construction BMPs. The development of a Spill Prevention, Control, and Countermeasure Plan and HDD Inadvertent Returns Contingency Plan will be required by the selected design-build team.

Unavoidable Impacts

To meet the purpose and need of the proposed Project, the FM1 alignment must cross the James River. As such, trenching activities would result in direct and indirect impacts to the riverbed. The Project impacts would be temporary and are anticipated to have minimal adverse impacts on the aquatic ecosystem. Approximately 37.8 acres of riverbed sediment would be disturbed during the FM1 construction phase, including 15.8 acres of mapped oyster grounds, and 0.057 acre of nonvegetated wetlands between the Mean High Water (MHW) line and the Mean Low Water (MLW) line. No vegetated wetlands occur within the north and south sides of the James River shoreline within the Project area (**Exhibit 2**).

Exhibit 2: Photos of the James River shore near the Project area



2A. View looking at north side of James River 2B. View looking at south side of James River

Wetlands and Waters Boundary

A wetlands delineation was conducted by AECOM environmental scientists in May, June, August, and October 2020 to determine the extent of jurisdictional Waters of the United States within the Project area. The wetland field investigations identified several aquatic features within the study area. Potential jurisdictional features include 12 non-tidal vegetated wetlands, one tidal vegetated wetland, four open water features, four stormwater detention ponds, one ditch, and the James River. Within the Project area, no vegetated wetlands occur along the banks of the James River. Non-vegetated wetlands along the James River shoreline were delineated using the area between the MHW line and the MLW line. A jurisdictional determination from the USACE has not yet occurred.

Other than temporary impacts to the James River, the Project would avoid impacts to all wetlands and waterbodies.

Federally Listed Threatened and Endangered Species – NMFS

Two NOAA Fisheries Endangered Species Act (ESA)-listed species of fish (Atlantic and shortnose sturgeon) and four listed species of sea turtles (leatherback, loggerhead, Kemp’s ridley, and green) potentially could occur in the Project area. Designated critical habitat for the Atlantic sturgeon in the James River overlaps the northernmost end of the proposed pipeline alignment (**Attachment A, Figure 3**). Approximately 940 feet (0.18 mile) of the north end of FM1, extending south from the Newport News shoreline, would be installed within the boundary of the mapped critical habitat. On May 11, 2021, EPA initiated informal consultation with NMFS with a “may affect, not likely to adversely affect” determination for all identified species and critical habitat. On June 9, 2021, NMFS Protected Resources Division (PRD) concurred with EPA’s conclusion that the proposed action is not likely to adversely affect any NMFS ESA-listed species (**Attachment E**). NMFS PRD also concurred with the determination that effects to designated Atlantic sturgeon critical habitat, including increased turbidity and habitat modification, would be temporary and minimized by deployment of sediment curtains where practicable. NMFS PRD also stated that the effects of the action on Atlantic sturgeon critical habitat would be too small to be meaningfully measured or detected, are insignificant, and that no further Section 7 consultation is required.

Essential Fish Habitat

The MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity,” and it requires federal agencies to consult with NOAA Fisheries when proposing activities that may adversely affect EFH. To facilitate consultation, NOAA Fisheries provides an online mapping tool (the EFH Mapper) that can be queried to identify designated EFH species and life stages potentially occurring near the proposed project area (NOAA 2020b).

According to the NOAA EFH Mapper, EFH for one or more life stages of 12 federally managed fish species has been designated in the waters in the vicinity of the Project area (**Attachment F**). Proposed Project activities within the James River associated with installation of FM1 beneath the riverbed may impact EFH during the construction period. Any impacts during construction would be temporary and minimized using BMPs such as sediment curtains where practicable.

HDD would be used to install approximately 4,330 feet of the pipeline beneath the main river channel, precluding in-water work and sediment disturbance in the main channel. This would allow fish a zone of passage to move up and down river to avoid areas of construction activity and noise during the anticipated two year construction period.

Trenching for installation of the remaining 18,300 feet of pipeline beneath the river would directly damage the benthic community of an approximately 90-foot-wide corridor within the alignment, affecting a riverbed area of approximately 37.8 acres. Direct minor impacts to EFH from sediment disturbance, turbidity, and sedimentation may occur during the construction period associated with the installation of the proposed pipeline beneath the James River. However, impacts would be temporary and prevented or minimized using BMPs, such as sediment curtains where practicable. The area affected would be relatively small compared to the extensive habitats found throughout the James River and Chesapeake Bay. Long-term operation of the proposed Project would not affect EFH. Potential adverse effects of the proposed Project on EFH would be minimal and short-term, and the overall effects on EFH would not be substantial or significant.

Oyster Grounds

The proposed Project alignment would cross public and private oyster grounds off the south shoreline (**Attachment A, Figure 3, Attachment B**). Assuming the width of the corridor in which oyster beds may be directly impacted by trenching would be 90 feet, the total area of oyster ground leases potentially affected would be approximately 15.8 acres. In May 2021, a shellfish resources survey was conducted by the Virginia Institute of Marine Science (VIMS) (**Attachment D**). The survey found that no significant oyster populations were observed in the majority of the proposed trenching area, and clam densities were comparatively low as well, as shown by the comparison of 2001-2002 surveys. Project acknowledgement (with no objection to the project) has been obtained from one oyster ground leaseholder and is in the process of being obtained from the other.

EFH Assessment

On May 5, 2021, the EPA, on behalf of HRSD, initiated consultation with NOAA Fisheries regarding EFH. Additional information was requested by the NOAA Fisheries on May 18, 2021, including a more detailed analysis of sediment transport resulting from the riverbed trenching activities and potential impacts on EFH. As discussed during the October 7, 2021 call, AECOM reviewed existing hydrodynamic sediment studies conducted on the James River in and near the Project area and summarized the results in the enclosed Sediment Impact Assessment Summary Memorandum (**Attachment G**). The memorandum includes a discussion of sediment size and characteristics, and finds that sediments in the Project vicinity include a combination of primarily coarse and fine silt, as well as clay and sand. A geotechnical investigation of the subaqueous alignment is currently underway. The results of the geotechnical investigation are still pending; however, preliminary review of the samples corroborates the sediment data defined in the memorandum. The memorandum concludes that the area of the James River in which the Project lies is hydrodynamically complex, with near-shore sheltered areas, strong currents within the navigational channel, and a persistent eddy immediately downstream. The studies suggest that in the areas where the open-cut trenching approaches the higher currents of the navigational channel dredged sediments could become entrained; however once outside the influence of the navigational channel currents, dredged material and side-casted mounds are likely to stay relatively stable. Extending the length of HDD to include the trenched areas subject to higher currents is not feasible due to the installation stress limits of HDPE pipe. The HDD length is limited to approximately 4,500 feet when installing HDPE pipe via HDD.

The proposed transmission force main would be installed across the James River using trenching and trenchless methods (i.e., HDD). As noted in Table 2, approximately 636,589 cubic yards of riverbed sediment will be excavated and sidecast in temporary mounds as a result of trenching. EFH for one or more life stages of 12 federally managed fish species has been designated in the waters in the vicinity of the project area. These species and life stages are identified in **Table 3**.

Table 3. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)			X	X
Atlantic herring (<i>Clupea harengus</i>)			X	X
Black sea bass (<i>Centropristis striata</i>)			X	X

Table 3. Species and Life Stages with Designated EFH in Waters Near the Proposed Project Area¹

Species	Eggs	Larvae/ Neonates	Juveniles	Adults
Bluefish (<i>Pomatomus saltatrix</i>)			X	X
Clearnose skate (<i>Raja eglanteria</i>)			X	X
Little skate (<i>Leucoraja erinacea</i>)				X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
Sand tiger shark (<i>Carcharias taurus</i>) ²		X	X	X
Sandbar shark (<i>Charcharinus plumbeus</i>) ²		X	X	
Summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
Windowpane flounder (<i>Scophthalmus aquosus</i>)			X	
Winter skate (<i>Leucoraja ocellata</i>)				X
<p>1. An “X” indicates that EFH has been designated within the project area for that species and life stage.</p> <p>2. The two shark species bear live young (neonates) and thus do not have a free-swimming larval stage.</p> <p>Source: NOAA (2020a)</p>				

The EFH Mapper identified habitat areas of particular concern (HAPCs) for the sandbar shark and summer flounder in the action area. The alignment of the proposed pipeline approximately follows the western boundary of the sandbar shark HAPC in the James River estuary. Summer flounder HAPC is not a discrete area but a habitat type -- beds of SAV. Maps of SAV beds in Chesapeake Bay indicate that potential summer flounder HAPC is not present in the project area. The nearest SAV beds are approximately 2,000 feet northeast of the north end of the FM1 alignment (**Attachment A, Figure 3**) and would not be directly affected by pipeline installation.

In accordance with the EFH Final Rule published in the *Federal Register* on 17 January 2002, federal agencies may incorporate an EFH assessment into documents prepared for another purpose, such as an environmental assessment (EA), provided the EFH assessment is clearly identified as a separate and distinct section of the document. The information presented in this letter is based on the analysis provided in the EFH Assessment Worksheet (NOAA 2020a) prepared for this consultation (**Attachment H**). The four primary elements of the EFH assessment are summarized below:

1. Description of the proposed action.
 - Provided above.
2. An analysis of the potential adverse effects of the proposed action on EFH and the managed species.
 - Provided in the EFH Assessment Worksheet (**Attachment H**) and briefly summarized as follows:
 - The 36-inch transmission force main would be installed beneath the James River between the Boat Harbor and Nansemond Treatment Plants on the north and south shores of the James River,

respectively, in estuarine subtidal habitat. Direct, temporary, and minor impacts on EFH from sediment disturbance, turbidity, and sedimentation may occur during construction. Long-term operation of the proposed project would not affect EFH. BMPs would be used to the extent practicable to minimize or prevent erosion, sedimentation, and turbidity.

3. Conclusions regarding the effects of the proposed action on EFH.

- Provided in the EFH Assessment Worksheet and briefly summarized as follows:

- The EPA has determined that potential adverse effects on EFH from the proposed action would be minimal and temporary. The overall determination is that adverse effects on EFH would not be substantial.

4. Proposed mitigation measures.

- HRSD would implement BMPs to the extent practicable, described above and in **Attachment H**, to avoid and/or minimize temporary adverse effects, which are briefly summarized as follows:
 - Indirect impacts from sediment disturbance and erosion would be prevented or minimized through BMPs such as sediment curtains, silt fence, sandbags, earthen berms, and other approved measures to control erosion, turbidity, and sedimentation where practicable.
- No further mitigation measures are proposed because adverse effects would be minimal and temporary.

Conclusions

Based on this assessment, the EPA has determined that the effects of the proposed action on EFH would not be substantial. I certify that we have used the best scientific and commercial data available to complete this assessment and request your concurrence with this determination.

If you have any questions or require additional information, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures (8)

- Attachment A: Figures 1-3
- Attachment B: Conceptual Construction Plans
- Attachment C: Preliminary Construction Sequencing and Operations Plan

Attachment D: Shellfish Survey
Attachment E: NMFS PRD Concurrence Letter
Attachment F: EFH Mapper Report
Attachment G: Sediment Impact Assessment Summary Memorandum
Attachment H: EFH Worksheet

cc: HRSD/ Mr. E. Girardi

Literature Cited

National Oceanic and Atmospheric Administration (NOAA). 2020a. Essential Fish Habitat Assessment Worksheet. EFH Consultation Guidance, Greater Atlantic Regional Fisheries Office, NOAA Fisheries. Accessed in December at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations>.

NOAA. 2020b. Essential Fish Habitat Mapper. NOAA Fisheries. Last updated 20 October 2020. <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

Attachment G: Sediment Impact Assessment Summary

Note: All other attachments are included elsewhere in this document; only Attachment G is attached here.

MEMORANDUM

Date: December 8, 2021

To: HRSD Boat Harbor SWIFT Project Team

From: Ryan Edison, PE, Senior Hydraulic Engineer, AECOM

Distribution: David O'Brien, NOAA Fisheries

Subject: **Sediment Impact Assessment Summary**

Date: December 8, 2021

Objective

This memorandum is intended to provide additional information on the potential impacts to aquatic species and essential fish habitat from suspended sediments as a result of the proposed Hampton Roads Sanitation District (HRSD) Boat Harbor Treatment Plant Transmission Force Main project (Project) across the James River (see **Figure 1**). The Project is part of HRSD's Sustainable Water Initiative for Tomorrow (SWIFT) program.

Definitions of the proposed construction methods are presented along with an assessment of sediment impacts based on existing information and modeling studies of the James River. An assessment of the fate of sediment from dredging spoils that may be side-casted next to trenching operations is also presented.

Key Studies Identified

The three studies listed below provided information used to make a sediment impact assessment, including the general hydrodynamics (e.g., currents) of the Project site and the information needed to understand the impact of dredging in the James River.

- ERDC TR-20-21, *Hydrodynamic and Sediment Transport Modeling for James River Dredged Material Management*; prepared for the U.S. Army Corps of Engineers (USACE) (Lackey et al. 2020).
- "Development of the Hydrodynamic Model for Long-Term Simulation of Water Quality Processes of the Tidal James River, Virginia," *Journal of Marine Science and Engineering* 4(4):82 (Shen et al. 2016).
- *Hampton Roads Crossing Study Supplemental Environmental Impact Statement: Evaluation of Potential Impact on Surface Water Elevation, Flow, Salinity, and Bottom Shear Stress*; prepared for the Virginia Department of Transportation Environmental Division (Zhang et al. 2017).

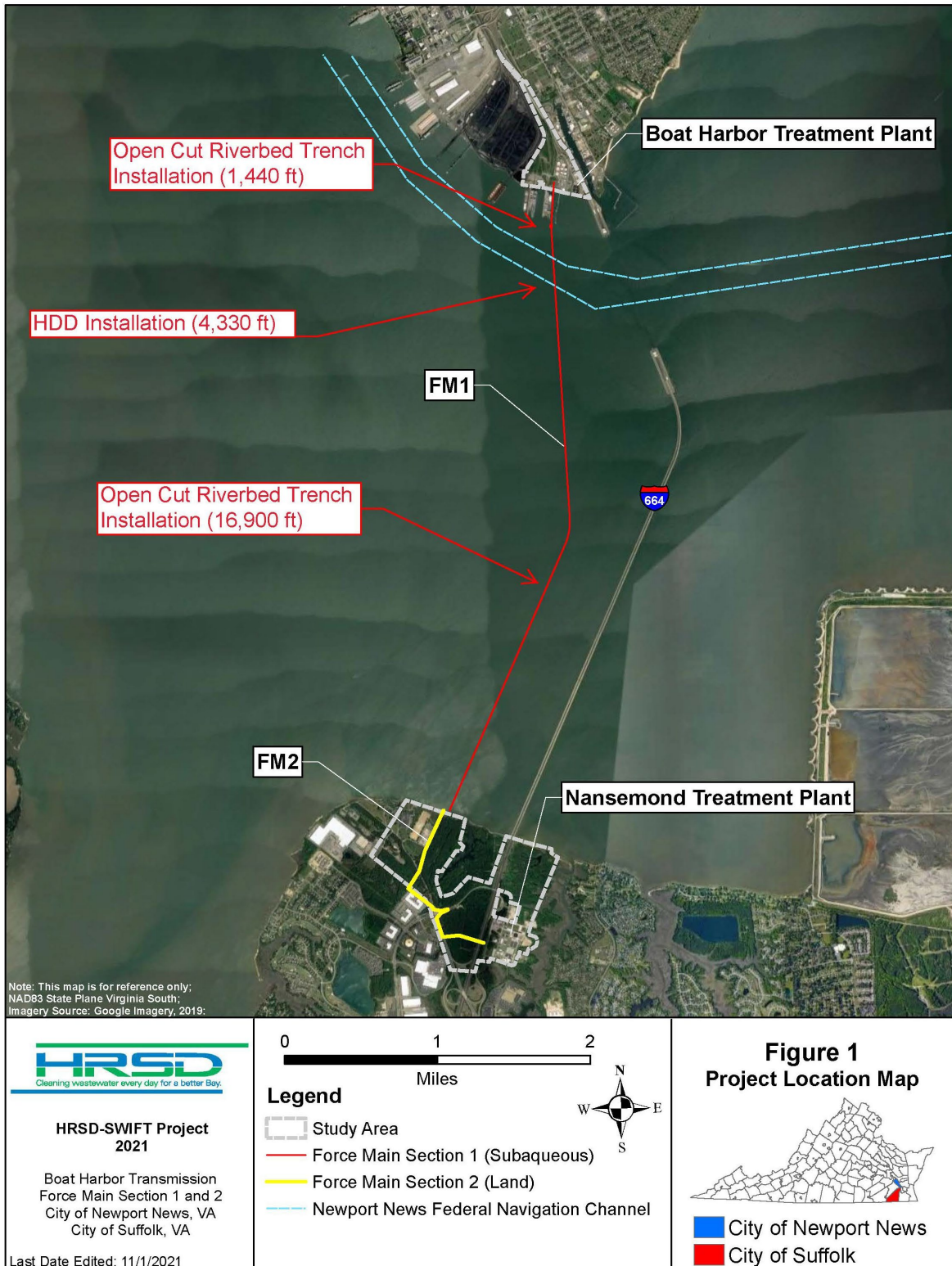


Figure 1. Construction Segment Locations
(Project Location Map)

James River Site Conditions

The proposed forcemain crossing is located in a portion of the James River that is hydrodynamically complex due to the presence of a salt wedge (or barocline) which influences transport. Lackey et al. (2020) found that both meteorological and astronomical tidal forcing strongly drives the dynamics in this reach of the river; as such, long-term calibrated ocean circulation models are needed to correctly define both currents and transport. Assessing James River conditions requires a well-calibrated and validated hydrodynamic model; such models require years of development and testing. Virginia Institute of Marine Science (VIMS) has studied the James River over many years and has continuously advanced well-calibrated and documented models. Two examples are Shen et al. (2016) and Zhang et al. (2017).

Overview of Construction Activities

As shown in **Figure 1**, construction is divided into three segments of riverbed trench installation or horizontal directional drilling (HDD) installation. The northern segment includes approximately 1,440 feet of open cut riverbed trench installation; the middle segment, under the federal navigational channel, includes approximately 4,330 feet of HDD installation; and the southern segment includes approximately 16,900 feet of open cut riverbed trench installation.

Table 1 summarizes the construction activities for the three segments. Notes and assumptions are listed in the table footnotes. A large dredge bucket (20 cubic yards) was used to better capture a likely accelerated construction schedule. A large bucket increases the release rate. The release rate in **Table 1** ($3 \text{ m}^3/\text{hr}$) is considered conservative in terms of suspended sediment impacts.

Table 1. Summary of Construction Activity

Segment	Zone	Construction Type	Major Equipment	Location ⁽¹⁾	Construction Duration ⁽²⁾ (in Water)	Dredging Description	Total Dredge Volume ⁽³⁾		Dredging Advance Rate ⁽²⁾ (m/hr)	Dredging Production Rate ⁽²⁾ (m ³ /hr)	Release (1%)	Release Rate (m ³ /hr)
							yd ³	m ³				
Northern	1	Open Cut	Barge-mounted clam shell (closed type), side casting of spoils followed by backfilling	Station -14+00 to 0+00 North Channel (1,400 ft length)	1–2 weeks	Mechanical dredging, trench, closed clamshell, average dimensions of trench: 16 ft deep, 12 ft wide	10,000	8,000	20	11	25%	3
Middle	2	HDD	N/A ⁽⁴⁾	Station 0+00 to 43+28	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾
Southern	3	Open Cut	Barge-mounted clam shell (closed type), side casting of spoils followed by backfilling	Station 43+28 to 172+00 South Channel (~12,900 ft length)	1–2 months	Mechanical dredging, trench, closed clamshell, average dimensions of trench: 16 ft deep, 12 ft wide	92,000	80,000	20	11	25%	3
	4	Cofferdam or Open Cut	Isolate alignment using cofferdam, piles, or bladder dam (open cut within). Alternative, open cut with dredged area for barge access (worst-case scenario for sediment)	Station 172+000 to South End of FM1 Contract (~3,950 ft length)	2–3 months ⁽⁵⁾	Mechanical dredging channel for barge (100 ft), pipe trench 16 ft deep, 12 ft wide	170,000	130,000	10	11	25%	3

(1) Refer to AECOM / Hazen drawings C-101, C-102, C-103, and C-104 issued April 2021. Minor changes in lengths have occurred since the April 2021 estimates.

(2) Construction duration and dredging advance rate will depend on equipment used. The estimates are based on a 20 yd³ bucket, 20 cycles per hour, and 12-hour shifts.

(3) Conservative estimate based on average trench volume equivalent to 12 ft wide and 18 ft deep in Zones 1 and 3, and 100 ft wide barge access, 10 ft deep in Zone 4 with a deeper pipe trench 12 ft deep and 8 ft wide. Trench width may be reduced depending on method and pipe laying sequencing.

(4) HDD construction not expected to have any impact on river sediment, except at point of entry and exit, which are covered by adjacent open cut sections (Zones 1 and 3).

(5) Based on a worst-case scenario construction method regarding sediment release. However, it is expected that contractors will propose an alternate means of construction (i.e., cofferdam area isolation), which may be completed within a shorter period; however, the alternate means will not be confirmed until after project award.

N/A = Not Applicable

Dredged Sediment Characteristics

Although the results of geotechnical borings are pending, sediment data from Lackey et al. (2020) provide insight into the sediment that is likely to be found along the alignment. Lackey et al. (2020) performed a detailed hydrodynamic and sediment transport modeling assessment of James River dredged material management. The area of proposed dredging was the Dancing Point-Swann Point reach of the James River, which is approximately 30 miles upstream of the Project. The modeling showed that the “transport of dredged sediment in the James River is dominated by cohesive transport processes ... [and that] cohesive sediments are generally a mixture of sand, silt, and clay-sized particles” (Lackey et al. 2020, p. 23). Grain size distribution results based on site samples (see **Table 2**) are associated with a solids concentration of approximately 103 g/L.

Table 2. Grain Size Distribution

	Method 1	Method 2
Particle soil type		
Sand	10.99%	1.56%
Course silt	33.15%	29.28%
Fine silt	42.59%	42.62%
Clay	13.27%	26.54%
Particle size		
D10 ⁽¹⁾	3.4 μm	1.2 μm
D35 ⁽¹⁾	8.4 μm	4.6 μm
D50 ⁽¹⁾	13.3 μm	8.0 μm
D90 ⁽¹⁾	68.1 μm	38.5 μm

Source: Lackey et al. (2020), Table 3-1

(1) Diameter of which x percentage of the particles are smaller

Lackey et al. (2020) states that adjusting the grain size distribution to account for aggregation of fine particles was warranted to develop the characteristics of source dredge material susceptible to transport. The adjustments are shown in Table 3.

Table 3. Adjusted Grain Size Distribution

Particle Soil Type	Method 1	Method 2	Method 2, Adjusted ⁽¹⁾
Sand	10.99%	1.56%	1.56%
Course silt	33.15%	29.28%	93.60%
Fine silt	42.59%	42.62%	2.98%
Clay	13.27%	26.54%	1.86%

Source: Lackey et al. (2020), Table 4-1

(1) Adjusted to account for particles in bed aggregates and flocs

Sediment Impact Assessment by Construction Segment

Each of the three segments listed in **Table 1** is sited within varied and unique hydrodynamic conditions in the James River. The sediment impacts of each segment are therefore evaluated separately.

Northern Segment (1,440-foot Open Cut)

The northern segment open cut trenching would extend approximately 1,440 feet into the river, perpendicular to the shoreline, as shown in **Figure 2**. In terms of exposure to currents, the northern segment lies within what appears to be a relatively sheltered area between the downstream landmass used for the Hampton Roads Beltway tunnel entrance/exit and the upstream River Port docks.

The main concern in this area is the southern end's proximity to the stronger currents associated with the navigational channel. NOAA (n.d.) shows an active current station (#cb0601) along the proposed alignment of the middle segment (HDD section). The location of the current station is shown in **Figure 3**. Along-channel currents (knots) were reported at the current station at 15, 21, and 31 feet below the surface on October 18, 2021 (see **Figure 4**). Zhang et al. (2017) used the current station to calibrate the Semi-implicit Cross-scale Hydroscience Integrated System Model (SCHISM). In March 2011, the current station recorded maximum currents of up to approximately 1 m/s (approximately 2 knots).

Current modeling output from the work presented in Zhang et al. (2017) shows that persistent average surface velocities of 0.50 m/s are predicted moving away from the protected areas near the shore in the northern segment (**Figure 5**). Zhang et al. (2017) also notes a persistent feature, referred to as the Hampton Roads Flat Eddy, which occurs on the downstream side of the Hampton Roads Beltway tunnel crossing.

Based on the above information, it seems possible that dredging activities in the last approximately 400 feet (see **Figure 2**) would be exposed to the higher navigational channel currents. Given the sustained strength of these currents and the tightness of their streamlines, little to no dispersion can be anticipated, and it is likely that the sediment impacts would reach and be entrained by the downstream Hampton Road Flats Eddy.

The current SCHISM model does not appear to include the effects of the River Port docks, but the effects of the docks are not anticipated to change the fundamental assessment that is provided above.



Figure 2. Northern Segment General Arrangement

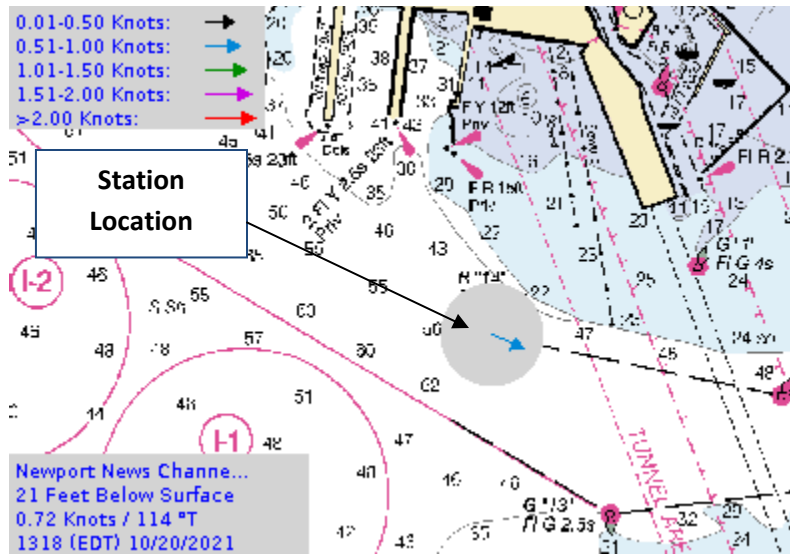


Figure 3. Location of NOAA Current Station (#cb0601)

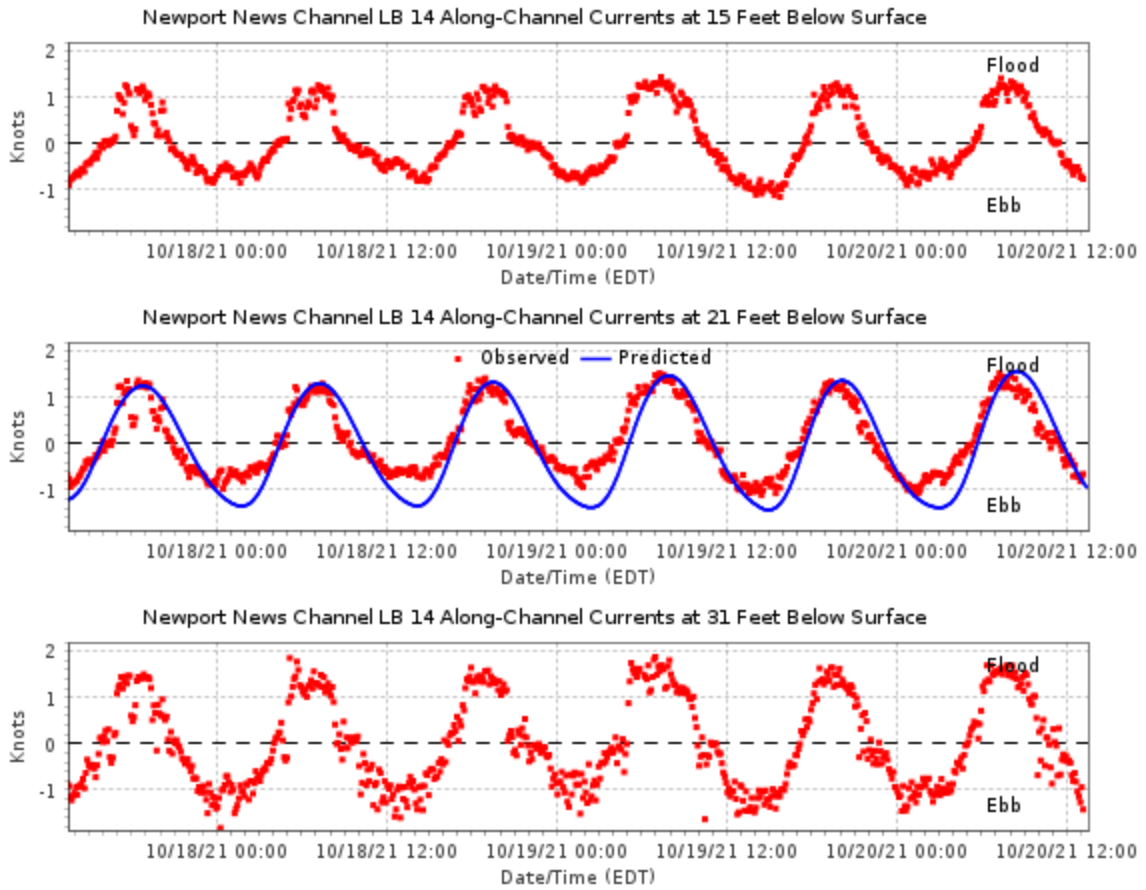


Figure 4. NOAA Current Measurements (from station #cb0601)

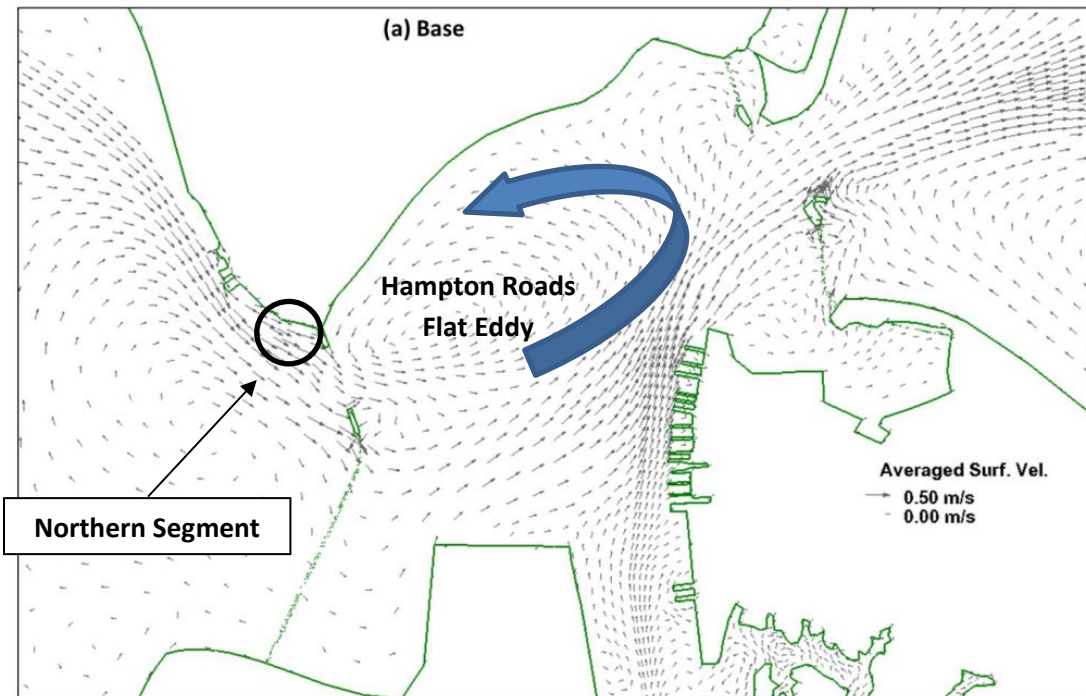


Figure 5. SCHISM Modeling Output from Zhang et al. (2017)

Middle Segment (4,330 feet HDD)

The middle segment of the Project would be a water-to-water HDD installation underneath the navigational channel and would extend for approximately 4,330 feet, roughly parallel with the Hampton Roads (I-664) tunnel (see **Figure 6**). Because HDD is being used in this area, no sediment assessment was considered. The activities associated with the launching and retrieval areas are considered part of the activities in the northern and southern segments.



Figure 6. Middle Segment General Arrangement

Southern Segment (16,900-foot Open Cut)

The southern segment open cut trenching would extend for approximately 16,900 feet from the terminus of the HDD (middle segment) to the southern shore shown (see **Figure 7**). In terms of exposure to currents, most of the trenching activities appear to be in relatively sheltered areas, as indicated by the SCHISM modeling results (see **Figure 8**) with persistent currents on the order of <0.2 m/s (0.4 knot).

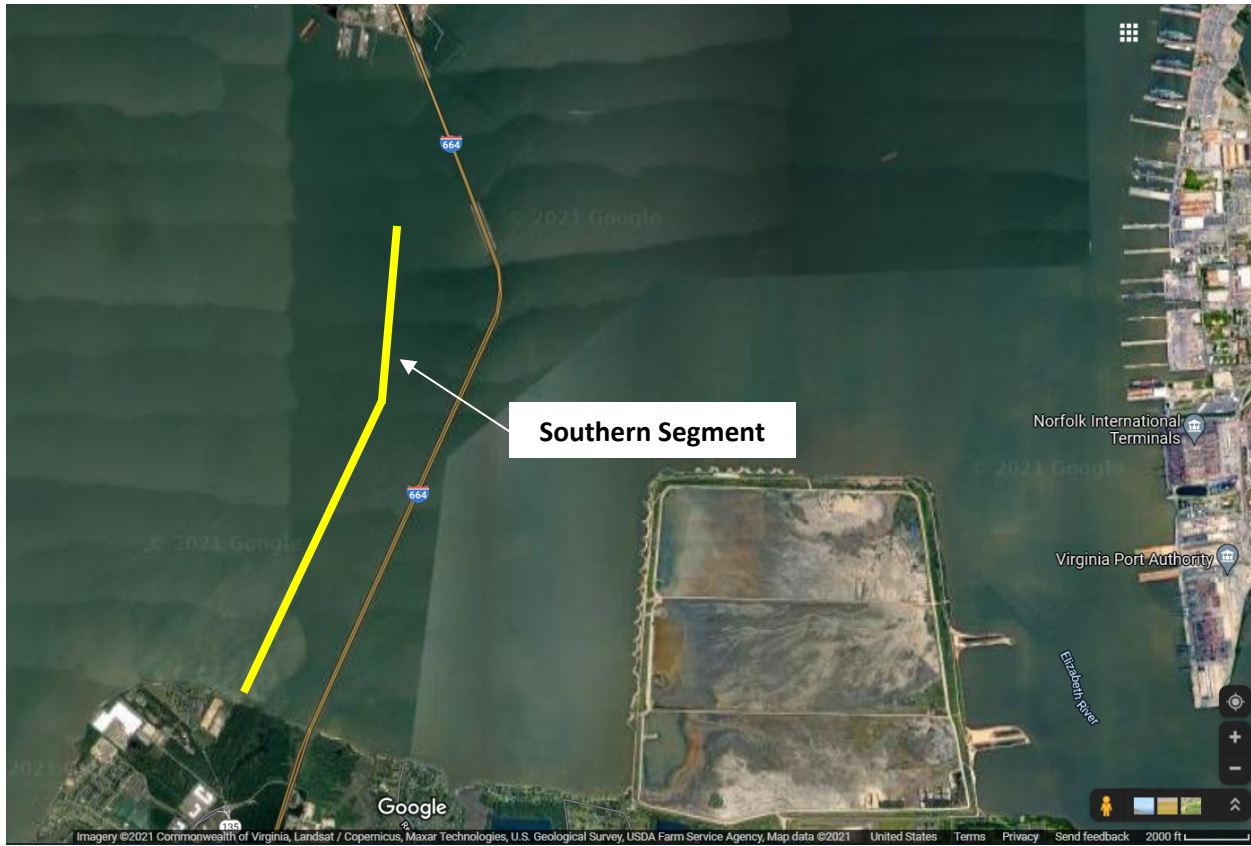


Figure 7. Southern Segment General Arrangement

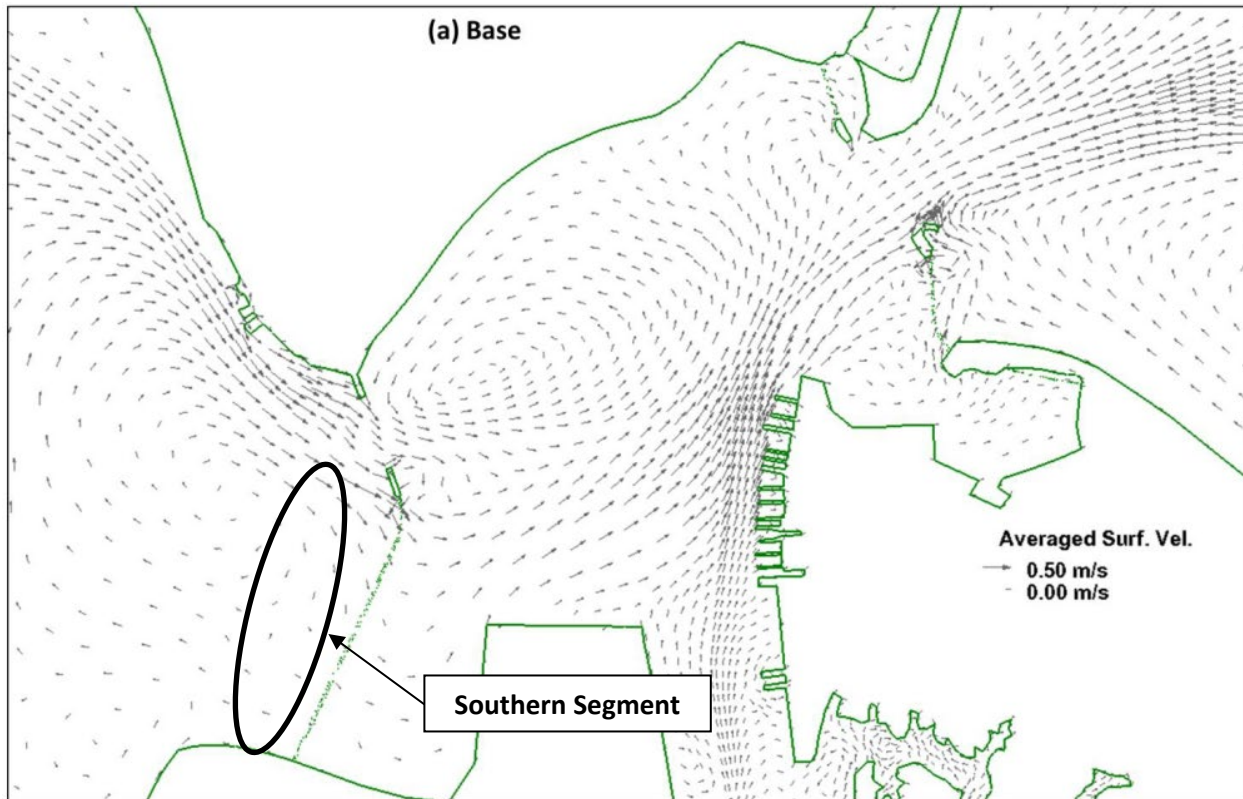


Figure 8. SCHISM Modeling Output (Zhang et al. 2017)

This area shares similar site conditions to the area of the river that was studied for dredging in Lackey et al. (2020). In the study, the Particle Tracking Model (PTM) was used to calculate the depth of deposited sediment and suspended sediment concentration (SSC) resulting from discharge of dredge material into the dredging spoils area. Results showed a maximum concentration of 100 mg/L SSC in the immediate release area. By the end of the simulated month, most of the sediment had deposited out of the water column or had been transported away. Maximum values of SSC outside the immediate release site were less than 30 mg/L, which was viewed as “relatively modest in comparison to background suspended sediment for this area, which can range from 5 mg/L to 300 mg/L, depending on the meteorological and hydrodynamic conditions” (Lackey et al. 2020, p. 63).

Figure 9 shows SSC concentrations from a dredge release at various times. It was found that 95% of the sediment deposited immediately in the placement area. The remaining transport sediment resulted in maximum depositional depths ranging from 0.2 to 0.5 cm, as shown in **Figure 10** Lackey et al. (2020).

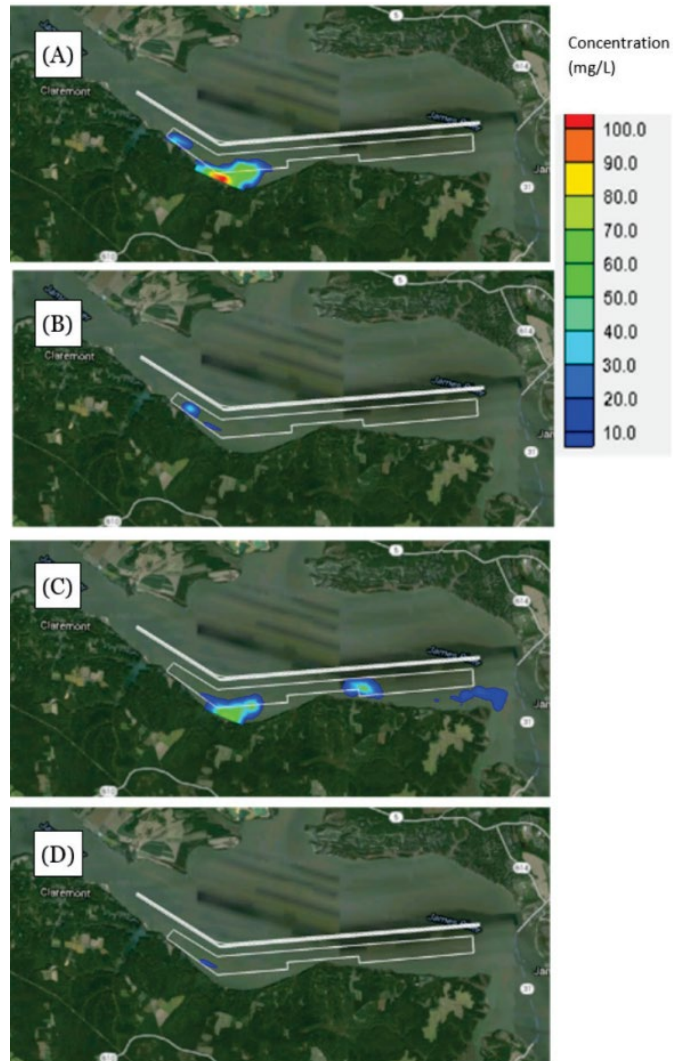


Figure 9. Suspended Sediment Concentrations (Lackey et al. 2020, Figure 5-4)

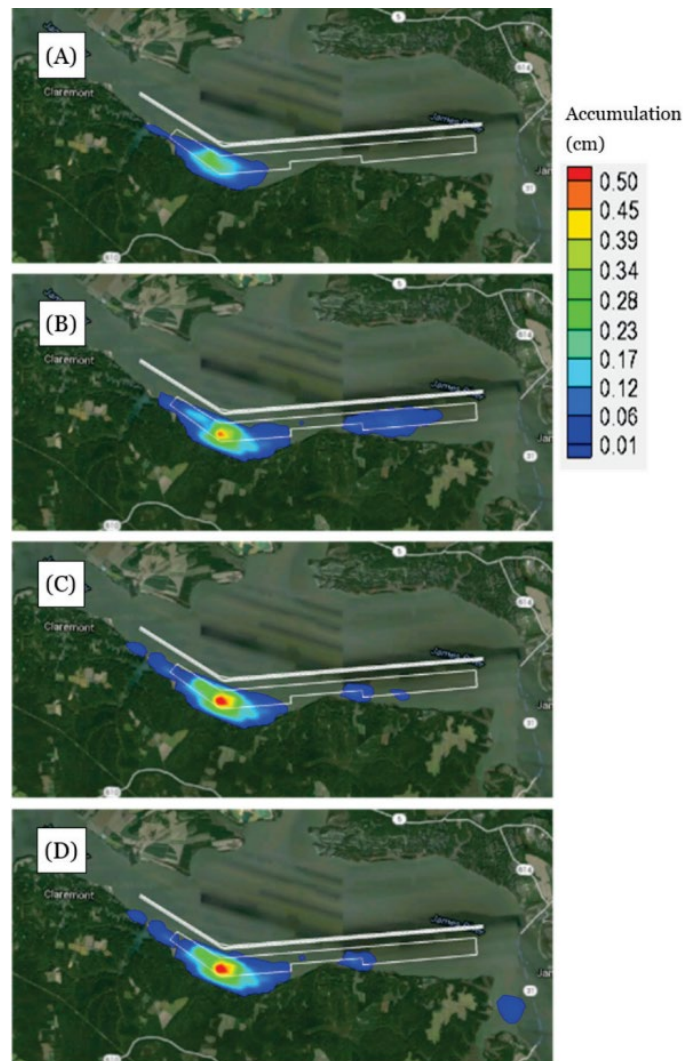


Figure 10. Sediment Depositional Depths (Lackey et al. 2020, Figure 5-7)

Similar to the northern segment, the main concern in this area is on the northern end of the segment where currents are still elevated from the navigational channel. Inspection of the SCHISM modeling results (see **Figure 8**) suggests that sediment from dredging activities would be transported downstream by elevated currents. It appears that these sediments would not be entrained into the Hampton Roads Flat Eddy because the release would be on the southern side of the navigational channel. Given this information, it seems possible that dredging activities in the first approximately 1,000 to 1,500 feet would be exposed to the higher navigational channel currents.

In addition to sediment impacts associated with direct dredging activities, dredged materials that are placed adjacent to the open cut trench are susceptible to transport through erosion and the subsequent resuspension. This process was studied in Lackey et al. (2020) by using the long-term fate of dredged material (LTFATE) model to investigate the fate of sediments and the morphology change from dredged material mounds. It was generally observed that these mounds reach a quasi-steady state, meaning that

there is a point where the deposition rate equals the erosion rate. Also, it was noted that during a spring freshet, the dredge channel starts to accrete sediment with sediment eroded from the bed upstream. These observations suggest that side-casted material during trenching will likely stay relatively stable, but its height will be limited by a quasi-steady state equilibrium. However, during spring flows, the trench will likely fill in with sediment rather quickly.

Summary

- This area of the James River is hydrodynamically complex. It can be characterized as having some near-shore sheltered areas of the north and south segments and a navigational channel with strong currents. A persistent Hampton Flats Eddy has been observed immediately downstream, which could entrain sediment into this area.
- VIMS has studied the hydrodynamics of the James River extensivity. As such, two VIMS reports were used in this sediment assessment (Zhang et al. 2017; Shen et al. 2016).
- Proposed construction activities consist of open-cut and HDD, as defined in **Table 1**.
- To assess potential sediment impacts from the anticipated construction activities, three segments were identified based on their construction type and position on the river: northern segment, middle segment, and southern segment.
- The northern and southern segments both have a risk of dredged sediments being exposed to larger currents as the extent of the sediments gets close to the navigational channel. On the northern side, sediment that is entrained by the navigational channel currents is likely to be caught in the Hampton Flats Eddy.
- Lackey et al. (2020) suggest that once outside the influence of the navigational channel currents, and in particular the southern segment, side-casted mounds will likely stay relatively stable, but their height will be limited by a quasi-steady state equilibrium. However, during spring flows, the trench will likely fill in with sediment rather quickly.
- In the areas where the open-cut trenching approaches the higher currents of the navigational channel, use of the PTM or similar models would provide information on the fate and transport of the sediment. This model could be used to design mitigation measures or potentially demonstrate that risks are below ambient SSC within the James River. Extending the length of HDD to include the trenched areas subject to higher currents is not feasible due to the installation stress limits of high-density polyethylene (HDPE) pipe. The HDD length is limited to approximately 4,500 feet when installing HDPE pipe via HDD.

References

- Lackey, T.C., Bailey, S., Gailani, J., Kim, S-C., and Schroeder, P. 2020. *Hydrodynamic and Sediment Transport Modeling for James River Dredged Material Management*. Engineer Research and Development Center (ERDC) TR-20-21. Prepared for USACE. <https://erdc-library.erd.c.dren.mil/jspui/bitstream/11681/38255/1/ERDC%20TR-20-21.pdf>.
- NOAA (National Oceanic and Atmospheric Administration). n.d. "Tides & Currents." <https://tidesandcurrents.noaa.gov/>.
- Shen, J., Wang, Y., and Sisson, M. 2016. "Development of the Hydrodynamic Model for Long-Term Simulation of Water Quality Processes of the Tidal James River, Virginia." *Journal of Marine Science and Engineering* 4(4):82. https://www.researchgate.net/publication/310811881_Development_of_the_Hydrodynamic_Model_for_Long-Term_Simulation_of_Water_Quality_Processes_of_the_Tidal_James_River_Virginia.
- Zhang, J., Wang, H., Liu, Z., Sisson, M., and Shen, J. 2017. *Hampton Roads Crossing Study Supplemental Environmental Impact Statement: Evaluation of Potential Impact on Surface Water Elevation, Flow, Salinity, and Bottom Shear Stress*. Prepared for the Virginia Department of Transportation Environmental Division. https://www.hrbtexpansion.org/documents/2017/hydrodynamic-technical-report/hydrodynamic_tech_report.pdf.



COMMONWEALTH of VIRGINIA

Marine Resources Commission

380 Fenwick Road

Building 96

Fort Monroe, VA 23651

Ann F. Jennings
Secretary of Natural and Historic
Resources

Steven G. Bowman
Commissioner

January 6, 2022

Hampton Roads Sanitation District

c/o AECOM

Attn: Mr. David Steele

440 Monticello Avenue, Suite 1500

Norfolk, VA 23510

David.Steele1@aecom.com

Re: VMRC #21-2356

Dear Sir or Madam:

We received your application to construct a wastewater transfer pipeline across the James River from the City of Newport News to HRSD Nansemond Treatment Plant in the City of Suffolk. The proposal is part of the Sustainable Water Initiative for Tomorrow (SWIFT) project.

A review of your application reveals that additional information and/or drawings will be necessary to enable the regulatory agencies to thoroughly evaluate your project. Please provide the following information:

1. The application mentions both side casting and backfilling and letting the river currents naturally re-bury in the riverbed trenching segment. Which will occur and how will that determination be made? What areas (LF) will actually be backfilled? VMRC staff has not historically supported side casting of trenched material. Staff would encourage the consideration of barging the trenched material as was previously agreed to and required of HRSD for the York River Outfall Project.
2. Written consent of both oyster leaseholders that the project construction is permissible within their leases.
 - a. Lease #21997- Lake Packing Co. Inc & Bevans Oyster Co., 755 Lake Landing Rd, Lottsburg, VA 22511, (804) 529-5981
 - b. Lease #21559- Julie Ann Seafood Co., PO Box 113, Gloucester Point, VA 23602, (804) 642-4360

An Agency of the Natural and Historic Resources Secretariat

www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD

3. Details and location of the collection, transport and disposal of material that is generated from HDD portion of the project. Disposal of HDD material and sidecasting backfill need to be added to the construction operations plan.
4. Details on the proposed sediment curtains and a cross sectional drawing. Graphic showing where the sediment curtains will be placed.
5. Details on the proposed concrete anchors used for ballasting. Will these remain on the bottom or are they only used for sinking the pipe?
6. A typical/schematic of the proposed concrete anchors.
7. Data from geotechnical borings conducted for JPA #21-0289 showing fossil shell deposits. Providing this data to VMRC was a condition of the issued permit.

Please include all items required for drawings associated with a JPA, as described in Appendix D of the Standard JPA. Appendix D also shows example drawings for each type of project that may be helpful to you.

Once this information is provided and found to be complete, we will resume processing the application request. If I may be of further assistance, please do not hesitate to contact me at (757) 247-2250 or lauren.pudvah@mrc.virginia.gov.

Sincerely,



Lauren Pudvah
Environmental Engineer

LP/lra
HM

cc: U.S. Army Corps of Engineers
Department of Environmental Quality #6
City of Newport News Wetlands Board
City of Suffolk Wetlands Board
Applicant

Appendix F: Shellfish survey

A Final Report entitled:

Survey of shellfish resources in the proposed force main alignment route in the Lower James River, 2021

submitted to:

Waterway Surveys & Engineering, Ltd.
321 Cleveland Place,
Virginia Beach, VA 23462

Attn:

Rebecca Francese; beccaf@waterway.net

by:

Virginia Institute of Marine Science (VIMS), PO Box 1346, Gloucester Point, VA 23062
and

Virginia Marine Resources Commission (VMRC)

Lead investigators: Roger Mann, Professor of Marine Science, VIMS
rmann@vims.edu, (804) 684-7360 (office), (804) 815-3550 (cell)
Melissa Southworth, Marine Scientist Senior, VIMS
melsouth@vims.edu, (804) 684-7821 (office phone)

VIMS Office of Sponsored Research Contact: Benita Debreaux, badebreaux@vims.edu, (804) 684-7029

Executive Summary

A forced main pipeline is to be installed across the lower James River from (approximately) Newport News Point to the Suffolk shoreline east of Pig Point. This part of Hampton Roads has long supported a fishery for hard clam (*Mercenaria mercenaria*) and contains a portion of Baylor Grounds, which supports an oyster (*Crassostrea virginica*) fishery. The last comprehensive survey of hard clam resources in Hampton Roads was completed by a joint effort of the Virginia Institute of Marine Science (VIMS) and the Virginia Marine Resources Commission (VMRC) in 2001-2002 when hard clams were present both upstream and downstream of the proposed construction location. AECOM, through Waterways, approached VIMS to perform a survey of the current hard clam and oyster resource in the proposed installation area. A field survey was completed in May 2021 in a swath extending 100 m both downstream and upstream of the proposed cut. A sampling grid was developed by the Repletion Program at VMRC based on a sampling density of one sample station per every 5 acres (389.2 acres for a total of 78 samples). Each sample was a one-meter square collection with a hydraulic patent tong. Mean clam density was 0.08 m⁻², for a total of approximately 122,728 clams present on the 389.2 acres. Oysters were present within the boundary of the Baylor Grounds (102 acres) as well as on a small section of the area near the proposed bend in the line (3 acres), covering approximately 105 acres of the proposed cut area. Mean oyster density within this area was 2.0 oysters m⁻², for a total of approximately 849,828 live oysters present. There were no significant oyster populations in the majority of the proposed cut area, and clam densities were comparatively low as well as shown by the comparison of previous surveys.

Rationale and work statement

AECOM requested assistance in surveying shellfish resources in the proposed path of a forced main installation across the lower James River from (approximately) Newport News Point to the Suffolk shoreline east of Pig Point. The installation will be in part by directional drilling with no surface (that is sediment-water interface at the river bottom) signature and in part by open cut excavation with a surface signature. The open cut section is where AECOM is seeking assistance.

The goal of the AECOM request was (to quote correspondence between Mr. J Moore of AECOM and R. Mann of VIMS dated 4/16/2021):

“Project construction will include horizontal drilling under the main channel and adjacent deeper areas (well below mudline, no impacts anticipated) and open cut excavation to install the remaining portion of the pipe from the channel to the Suffolk shore. The open cut portion is where we need to assess shellfish populations.

The goal of this request is to assess “concentrated shellfish populations” to be avoided in accordance with Clean Water Act Section 404 - Nationwide Permit 58, I inserted the applicable permit condition language below*. Not clear on the appropriate methodology

to assess this, hoping VIMS could apply whatever standard methods you have used in the past for similar linear projects. Assume some kind of sampling interval following the proposed alignment to verify presence/absence/density of shellfish populations? Final deliverable could be a simple letter report documenting work performed with a map, findings, and a conclusion re shellfish populations in this alignment?

*”5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27. “

The proposed installation crosses Hampton Roads in a region that has historically supported both hard clam (*Mercenaria mercenaria*) and oyster (*Crassostrea virginica*) resources. The last comprehensive survey of hard clam resources in Hampton Roads was completed by a joint effort of the Virginia Institute of Marine Science (VIMS) and the Virginia Marine Resources Commission (VMRC) in 2001-2002 (report can be supplied if needed)¹. Oyster resources are surveyed annually although not regularly in this particular region. Of note is that the Lower James also contains substantial oyster shell resources (much as buried fossil shell) that is used by VMRC in shellfish replenishment in support of the oyster fishery. The proposed area of impact contains unassigned grounds, Baylor Grounds (public oyster grounds) and private leased grounds.

Through Mr. J Moore, AECOM approached the VIMS PI (Mann) requesting a scope of work statement, timetable for possible survey, and cost estimate for a survey to specifically address the scope of work described above. In preparing the proposal Mann worked both internally at VIMS with staff scientist Southworth and with the VMRC Repletion Program Staff (Button and Rowe) to (a) review the maps provided by AECOM outlining the region of interest; (b) prepare a sampling grid at an appropriate density for a corridor extending 100m downstream of and 100m upstream of the proposed installation for the entire length of the open cut section; (c) determine a time window in late spring 2021 when all parties and resources (notably including the survey vessel) required to implement a field program would be available; (d) determine any modifications (materials, costs, installation time) to the survey vessel required to access to the deeper waters in the survey swath; (e) determine effort and vessel days required to complete the survey; (f) determine time and effort to prepare a final report for submission to AECOM after completion of the field survey; and (g) provide a concise summary of expected cost to complete the tasks outlined in (a) through (f) as listed.

The submitted list was approved and field work was completed in mid-May 2021. Data compilation was completed in late May 2021 and this report prepared in early June 2021. A brief review of the items (a) through (f) above is given below, followed by a concise summary of field data and project conclusion in respect to hard clam and oyster presence in the proposed cut area.

¹ Final report to Chesapeake Bay Stock Assessment Committee under project number NA07FU0535, from Virginia Institute of Marine Science and the Virginia Marine Resources Commission and entitled: “Fishery independent standing stock surveys of hard clam populations in the Chesapeake Bay and a comparison with continuing estimates from fishery dependent data.”

(a) and (b). Coordinates for the proposed force main alignment were provided to the Repletion Program at VMRC by AECOM. From these a sampling polygon extending 100m both upstream and downstream of the boring line was prepared. The resulting polygon was 389.2 acres. A sampling grid was then overlaid on the polygon and the computer randomly selected 78 Lat/Long coordinates to target for sampling, representing coverage of one sample per every 5 acres. This density of sampling is similar to that used in the 2001-2002 survey and based on tests of sampling density performed at that time, considered adequate to generally represent hard clam population. The sampling tool used was a hydraulic patent tong with an open sampling area of one square meter operated from the VMRC owned vessel R/V J.B. Baylor. Tong depth penetration was approximately 15 cm, the length of the “teeth” on the tong extremities. Oysters live on the surface on hard bottom and hard clams have short siphons and bury only minimally when closed to avoid predation or disturbance. Thus, we consider them both to be representatively sampled by this tong. The tong was deployed at each computer-generated random station (Lat/Long coordinate) within the sampling grid. The tong is designed such that the closing and retrieval mechanisms act in sequence to insure minimal loss of sampled material. Once returned to the support survey vessel the sample was picked through, the material collected was washed and all hard clams and oysters were counted and measured. The summary hard clam density per unit area (one square meter) provides the basis for extrapolation to total standing stock estimates for the sampling grid as a whole. This is a standard procedure that has been approved by peer review for prior surveys by VIMS and VMRC of both hard clams and oysters in the Hampton Roads, James River and regions further afield in the Chesapeake Bay. The choice of a 100m survey zone on either side of the proposed force main alignment is based on prior precedent with other VDOT construction of crossings in the Hampton Roads region (e.g., the Lafayette River Bridge adjacent to the Norfolk Yacht Club and the expansion of the HRBT) and a reasoned estimate of navigation clearance required by the coring vessel. A more comprehensive description of sampling site is given in the field results section later in this report.

(c) The original request by AECOM to complete the survey in late Spring 2021 was accommodated within the prior commitments of the survey vessel and crew.

(d) There were no modifications required to complete this work. The maximum depth encountered during the sampling effort was approximately 45 ft and the hydraulic hoses available on the survey vessel were able to reach this depth (available hoses are 50 ft long and can reach to approximately 46 ft).

(e) Based on survey design a 2-day window was set aside to complete the survey and the survey was completed on May 12, 2021.

(f) The final report format was agreed upon to include a single hard copy (more can be provided if requested) with an additional digital copy. The digital copy (this document) a database with individual station data (Lat, Long, depth, total number of clams, clam size frequency distribution, total number of oysters, oysters size frequency, total culch material, along with other ancillary information collected) and calculation as employed to estimate total standing stock of clams and oysters within the survey area as a whole.

Field survey results

Figures 1 through 4 respectively describe sediment type (by visual observation; this protocol followed in the 2001-2002 clam survey as well as that regularly used by the investigators for other surveys they conduct) for the sampled stations, catches of live hard clams, catches of live oysters, and other live bivalves. Values in Figure 2 and 3 are per square meter (= patent tong sample area). Sediment types varied between sand and mud-sand mixes throughout the sampling polygon, indicating sufficient water movement to continually grade sediments and oxygenate the near bottom environment. For comparative purposes Figure 5 presents the sampling strata as occupied in the 2001-2002 joint VIMS-VMRC hard clam survey. Clam densities were 0.08 m^{-2} in the current study and 1.06 m^{-2} and 0 m^{-2} in James River areas 16 and 18, respectively, during the 2001-2002 VIMS/VMRC survey (Table 1). The 2001-2002 value in James River 16 was on the lower end of densities in areas targeted for commercial fishing (typically $\sim 1.00 - 8.00 \text{ clams m}^{-2}$) as described in the 2002 final assessment report referenced earlier. The total number of estimated clams in the 2021 surveyed area are $122,728^2$. Oysters were found to be present within the boundary of the Baylor Grounds (covering 102 acres of total area surveyed) as well as on a small section of the area near the proposed bend in the line (approximately 3 acres of the total area surveyed), covering approximately 105 acres of the proposed cut area. Mean oyster density within this area was $2.0 \text{ oysters m}^{-2}$, for a total of approximately 849,828 live oysters present within the survey area. Approximately 11% (0.2 m^{-2}) of the oysters collected were market oysters (oysters $>75 \text{ mm SL}$).

This sampling protocol leads to the discussion of commercially viable, “fishable” densities. Finding a small number of stations with higher densities among many with lower densities/absence of oysters does not portray a region with commercially viable populations. It simply portrays patchy distribution. The three stations in this where oysters were found contained a total of six market sized oysters ($>76 \text{ mm}$). Certain fishing gear types, such as dredges, can partially overcome patchy distributions by fishing over large areas, but oyster tongs are limited in this respect. The term commercially viable is better applied to natural extensive reefs or oyster plantings. The area surveyed herein does not represent extensive distribution and it is not appropriate to characterize it as commercially viable. For comparison, consider Point of Shoals in the Burwell Bay region of the James River as a viable commercial reef – 154 acres with a mean density of market oysters in the $20+ \text{ m}^{-2}$ for at least the past decade (see <http://cmap2.vims.edu/VOSARA/viewer/VOSARA.html>).

A record of all 2021 survey data is given as an EXCEL file in digital Appendix 1 wherein the following data are presented on a station by station basis: sample #, Longitude, Latitude, Depth (feet), brown shell (shell found above the sediment water interface; volume L), black shell (buried shell that was exhumed in the sampling process; volume L), # live clams, # clam “boxes” (dead shells still attached as a pair, years since death unknown), # live oysters, # live other bivalves, and ancillary comments including shell length (SL, mm) and shell height (SH, mm) of any hard clams collected, shell height (SL, mm) of any live oysters collected, and shell length of any other live bivalves collected. An explanation of standard bivalve measurements are included in the metadata for the table.

² Absolute numbers of clams and oysters per sampled region are estimated by: # of clams or oysters $\text{m}^{-2} * 4046.8 * \text{\# acres in the sampled region}$. One acre = 4046.8 m^2 .

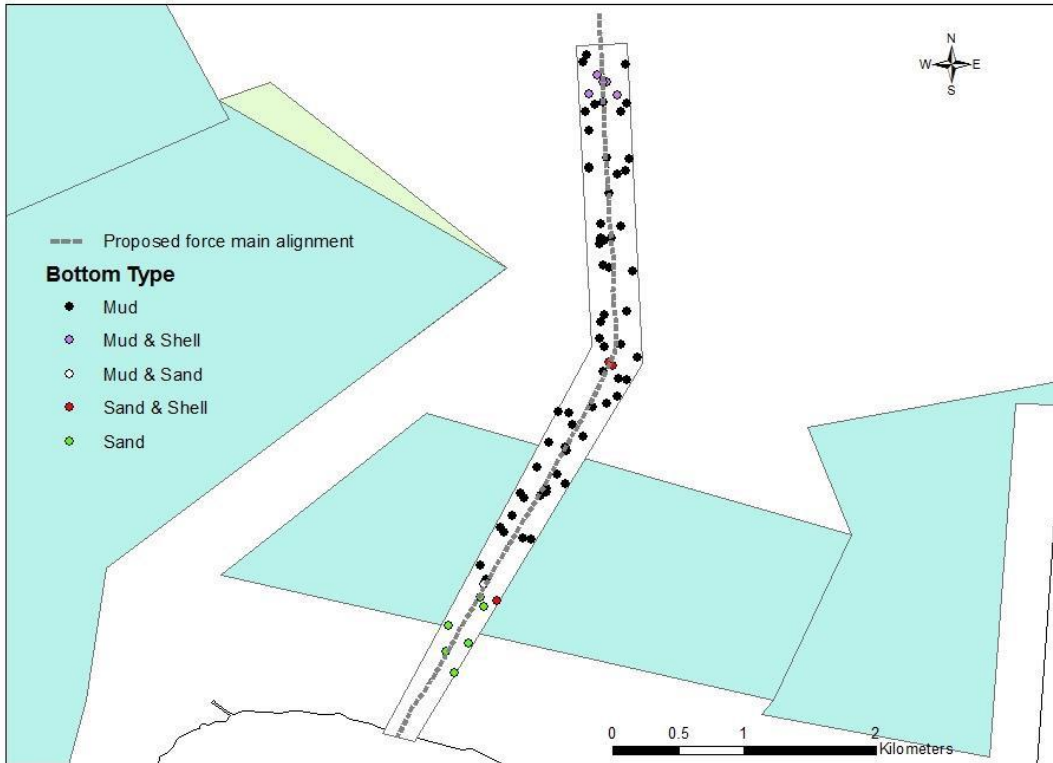


Figure 1. Sediment types throughout sampling polygon.

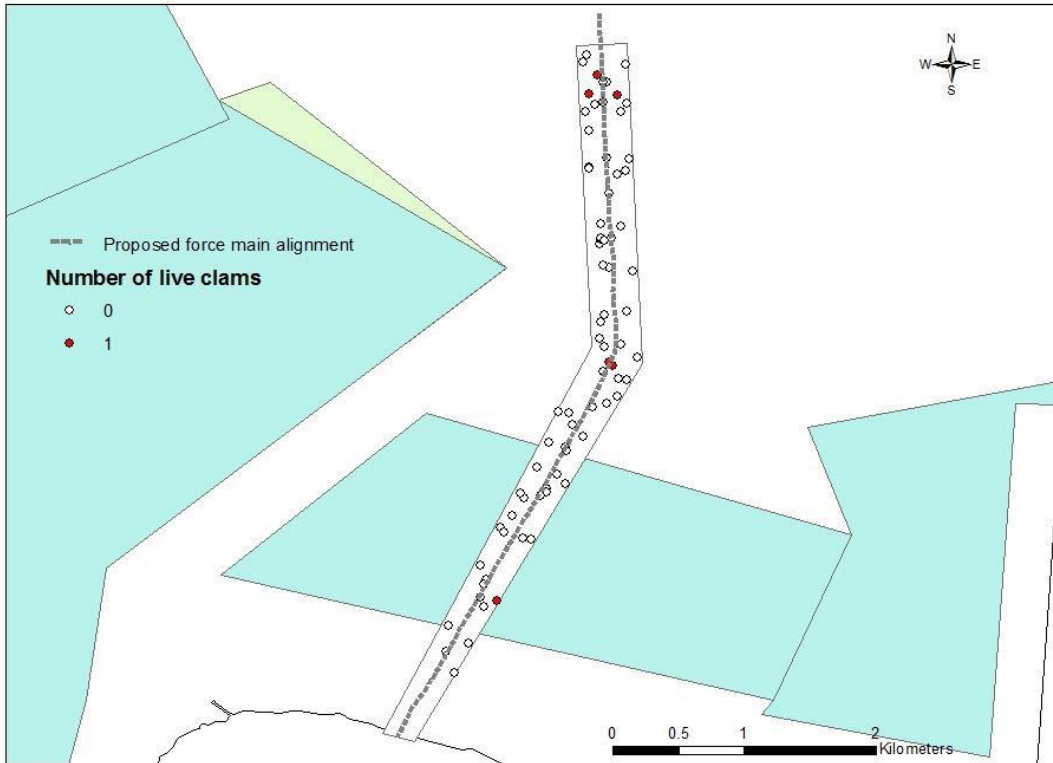


Figure 2. Density of live hard clams (#/m²) throughout the sampling polygon.

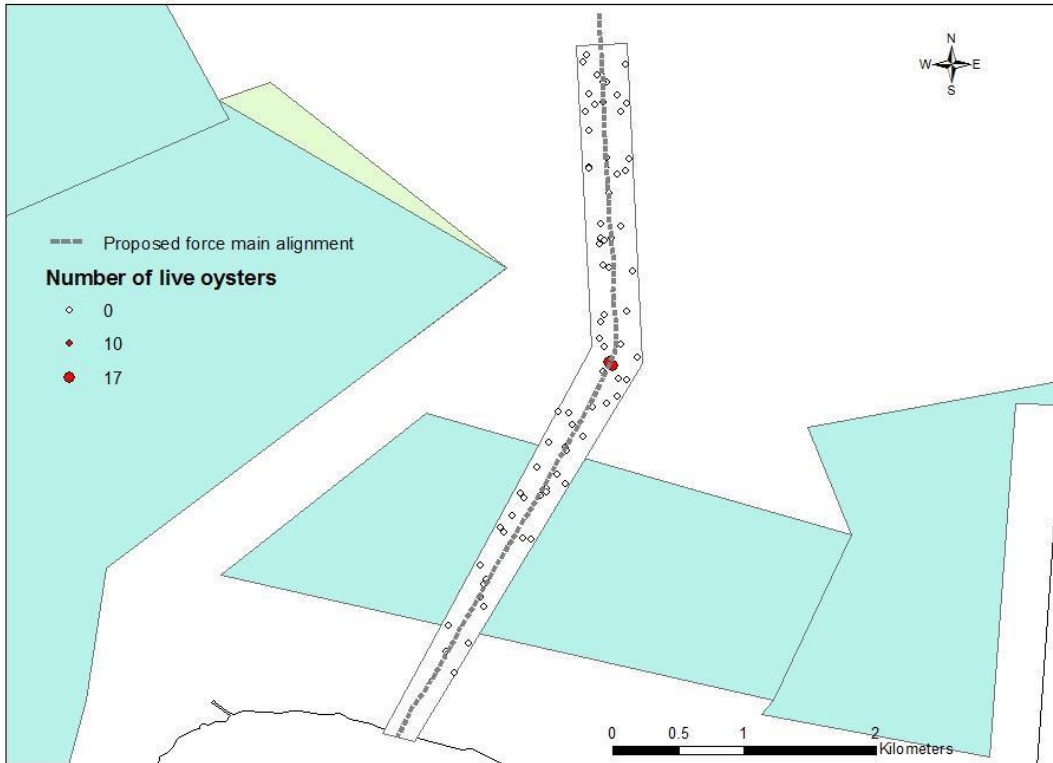


Figure 3. Density of live oysters ($\#/m^2$) throughout the sampling polygon.

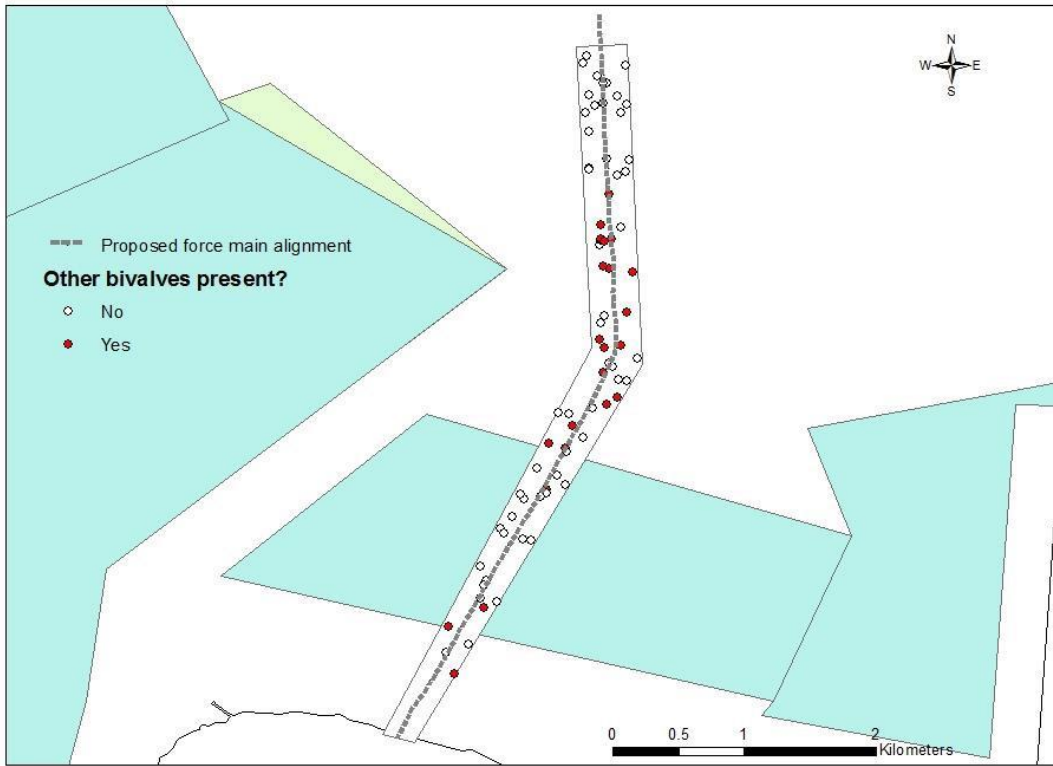


Figure 4. Presence/absence of other bivalves throughout the sampling polygon (see database for specific types of other bivalves observed).

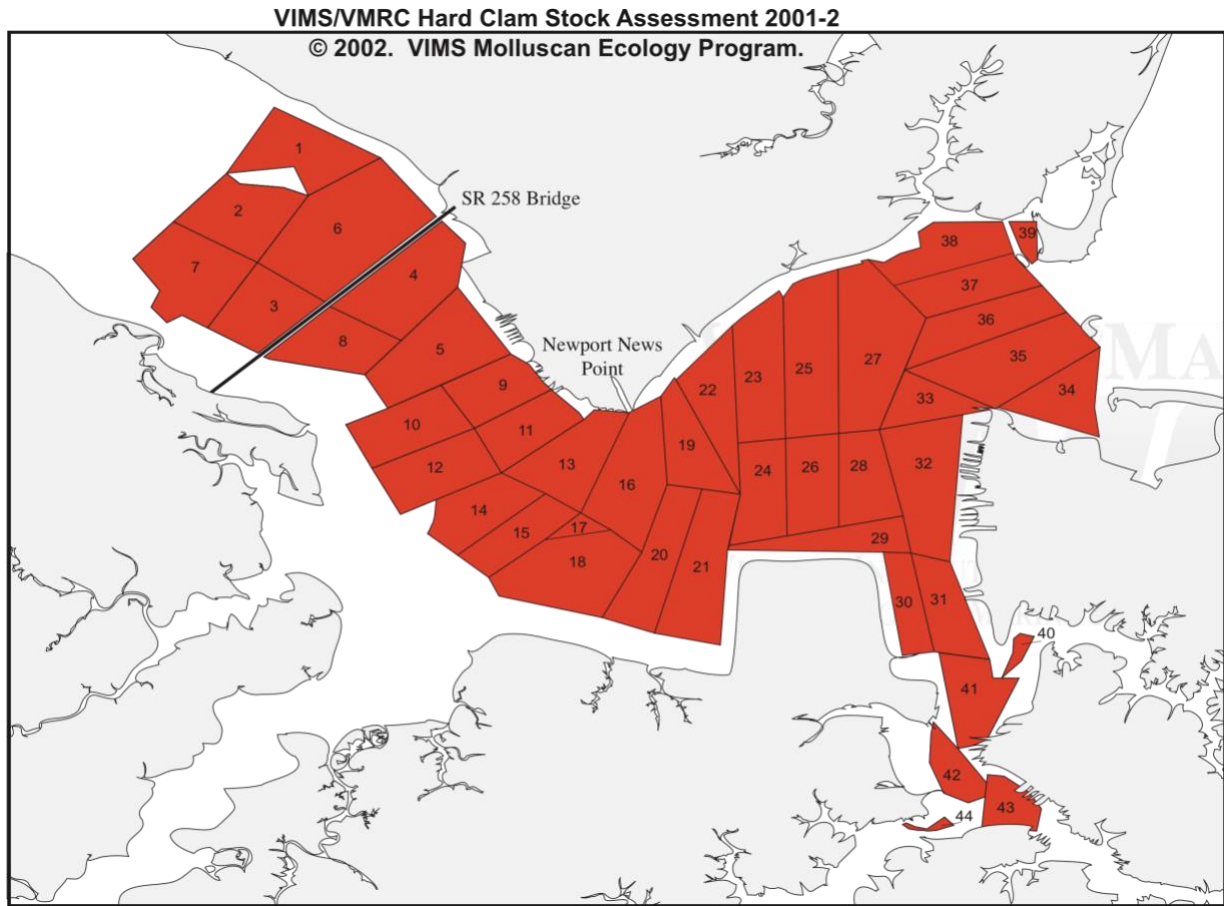


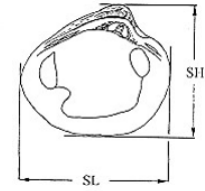
Figure 5. Hard clam stock assessment sampling regions in the Lower James River 2001-2002.

Area	Year	Acreage	# samples	# live hard clams	# live hard clams per sq. m	# of clams in area
Proposed cut (this study)	2021	389.2	77	6	0.08	122,728
James River 16	2001	1126.4	141	149	1.06	4,817,181
James River 18	2001	1248.7	78	0	0	0

Table 1: Summary of hard clam densities in the 2021 sample area and selected regions (James River 16 and 18; see Figure 5) from the 2001-2002 VIMS/VMRC hard clam stock assessment in the lower James River.

Appendix 1

Sample #: Number assigned to sample
 Longitude W: west longitude where sample was collected
 Latitude N: north latitude where sample was collected
 Depth: depth in feet where sample was collected
 Bottom: code for type of bottom (1 = 100% mud, 2 = mix of mud and shell, 3 = mix of sand and mud, 5 = mix of sand and shell, 6 = 100% sand)
 Sampling device: hydraulic patent tong with opening of one square meter - all data is per square meter
 Brown shell: Amount of brown shell (shell on surface of sediment) in liters collected in the sample
 Black shell: Amount of black shell (shell buried in sediment) in liters collected in the sample
 # Live clams: the number of Mercenaria hard clams collected in the sample
 # Clam boxes: the number of Mercenaria hard clam boxes (dead clams) collected in the sample
 # live oysters: the number of live oysters collected in the sample
 # live other bivalves: the number of other live bivalves (not including clams and oysters) collected in the sample
 Comments: Sizes of all bivalves included in this section as well as other pertinent information



NOTES

Samples were collected on May 12, 2021.
 Bottom temperature on day of sampling ranged from 17.1-17.4 C (62.8-63.3 F)
 Bottom salinity ranged from 16.8-19.6 ppt (salinity was higher at the deeper sites)
 Most of the mud samples had a good amount of tube worms in them.
 Animals collected: Mercenaria mercenaria (hard clam), Crassostrea virginica (oyster), Tagelus plebeius (stout razor clam), Cyrtopleura costata (angel wing clam), Upogebia affinis (burrowing mud shrimp)
 Measurements are as follows: Mercenaria (SLxSH, mm), Crassostrea (SH, mm), Tagelus and Cyrtopleura (SL, mm)

[This Photo](#) by Unknown Author is licensed under [CC BY-NC-ND](#). SL = shell length, SH = Shell height)

Sample #	Longitude W	Latitude N	Depth (ft)	Bottom	Brown shell (L)	Black Shell (L)	# Live Clams	# Clam boxes	# live oysters	# live other bivalves	Comments
1	-76.41628333	36.92793333	15	1	0	0	0	0	0	1	Tagelus (25 mm)
2	-76.41696667	36.92738333	15	1	0	0	0	0	0	1	Tagelus (55 mm)
3	-76.41793333	36.92716667	16	1	0	0	0	0	0	0	
4	-76.4196	36.92673333	16	1	0	0	0	0	0	0	
5	-76.42028333	36.92683333	15	1	0	0	0	0	0	0	
6	-76.41931667	36.92595	16	1	0	0	0	0	0	1	Tagelus (67 mm)
7	-76.41863333	36.92518333	16	1	0	0	0	0	0	0	
8	-76.41986667	36.92441667	16	1	0	0	0	0	0	0	Tagelus (55 mm)
9	-76.41973333	36.9242	16	1	0	0	0	0	0	1	
10	-76.42096667	36.92408667	16	1	0	0	0	0	0	0	
11	-76.42096667	36.92475	16	1	0	0	0	0	0	1	Tagelus (64 mm)
12	-76.4218	36.923	15	1	0	0	0	0	0	0	
13	-76.42041667	36.92256667	15	1	0	0	0	0	0	0	
14	-76.41986667	36.9219	15	1	0	0	0	0	0	0	
15	-76.42111667	36.92156667	13	1	0	0	0	0	0	1	Tagelus (53 mm)
16	-76.42111667	36.92135	14	1	0	0	0	0	0	0	
17	-76.42151667	36.92113333	14	1	0	0	0	0	0	0	
18	-76.42263333	36.92091667	14	1	0	0	0	0	0	0	
19	-76.4229	36.92125	15	1	0	0	0	0	0	0	
20	-76.42345	36.9197	12	1	0	0.1	0	0	0	0	
21	-76.42428333	36.91893333	12	1	0	0	0	0	0	0	
22	-76.42401667	36.91861667	12	1	0	0	0	0	0	0	
23	-76.42276667	36.91816667	12	1	0	0	0	0	0	0	
24	-76.42221667	36.91806667	12	1	0	0	0	0	0	0	
25	-76.42566667	36.91631667	12	1	0	0	0	0	0	0	
26	-76.42525	36.91531667	11	1	0	0	0	0	0	0	
27	-76.42538333	36.915	11	3	0	0	0	0	0	0	
28	-76.42566667	36.91411667	9	6	0	0	0	0	0	0	
29	-76.42538333	36.91345	8	6	0	0	0	0	0	1	Tagelus (47 mm)
30	-76.42456667	36.9139	10	5	3	2	1	0	10	0	1 Mercenaria (57x51 mm), 10 Crassostrea (16, 1:
31	-76.4265	36.91093333	5	6	0	0	0	0	0	0	
32	-76.42801667	36.91038333	5	6	0	0	0	0	0	0	
33	-76.42746667	36.90896667	5	6	0	0	0	0	0	1	Tagelus (38 mm)
34	-76.42786667	36.91215	5	6	0	0	0	0	0	1	Tagelus (42 mm)
35	-76.42995	36.90643333	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Too shallow to safely sample
36	-76.41725	36.92958333	16	1	0	0	0	0	0	1	Tagelus (71 mm)
37	-76.41683333	36.93023333	13	5	3	1	1	0	17	0	1 Mercenaria (70x68 mm), 17 Crassostrea (17, 1:
38	-76.41655	36.93001667	13	5	5	0	1	0	17	0	1 Mercenaria (82x71 mm), 17 Crassostrea (15, 1:
39	-76.41615	36.92913333	16	1	0	0	0	0	0	0	
40	-76.41558333	36.92903333	16	1	0	0	0	0	0	0	
41	-76.4149	36.93056667	16	1	0	0.1	0	0	0	0	
42	-76.416	36.93143333	15	1	0	0	0	0	0	2	Tagelus (75, 67 mm)
43	-76.41711667	36.93133333	15	1	0	0	0	0	0	1	Tagelus (69 mm)
44	-76.41751667	36.93188333	15	1	0	2	0	0	0	1	Tagelus (62 mm)
45	-76.41738333	36.93298333	15	1	0	0	0	0	0	0	
46	-76.41711667	36.93351667	15	1	0	0	0	0	0	0	
47	-76.41558333	36.93375	16	1	0	0	0	0	0	2	Tagelus (75, 61 mm)
48	-76.41518333	36.93648333	20	1	0	0	0	0	0	1	Tagelus (42 mm)
49	-76.41683333	36.9367	19	1	0	0	0	0	0	1	Tagelus (76 mm)
50	-76.41725	36.93691667	19	1	0	0	0	0	0	1	Tagelus (59 mm)
51	-76.41751667	36.93835	21	1	0	0	0	0	0	0	
52	-76.41738333	36.93868333	21	1	0	0	0	0	0	0	
53	-76.41738333	36.93878333	21	1	0	0	0	0	0	2	Tagelus (52, 71 mm)
54	-76.41711667	36.93856667	21	1	0	0	0	0	0	6	Tagelus (66, 75, 74, 53, 64, 54 mm)
55	-76.4167	36.93878333	22	1	0	0	0	0	0	2	Tagelus (68, 64 mm)
56	-76.416	36.93955	22	1	0	0	0	0	0	0	
57	-76.41738333	36.93976667	22	1	0	0	0	0	0	2	Tagelus (68, 59 mm)
58	-76.41683333	36.94185	24	1	0	0	0	0	0	1	Cyrtopleura (63 mm)
59	-76.41628333	36.94316667	25	1	0	0	0	0	0	0	
60	-76.41573333	36.94338333	25	1	0	0	0	0	0	0	
61	-76.41545	36.94416667	26	1	0	0	0	0	0	0	
62	-76.41696667	36.94426667	25	1	0	0	0	0	0	0	
63	-76.41821667	36.94361667	23	1	0	0	0	0	0	0	
64	-76.41821667	36.9435	23	1	0	0	0	0	0	0	
65	-76.41821667	36.94613333	26	1	0	0	0	0	0	0	1 Upogebia affinis
66	-76.41848333	36.94745	29	1	0	0	0	0	0	0	
67	-76.4178	36.94788333	30	1	0	0	0	0	0	0	
68	-76.41725	36.9481	30	1	0	0	0	0	0	0	
69	-76.41628333	36.94855	31	2	0.1	0	1	0	0	0	Mercenaria (59x51 mm), 1 Upogebia affinis
70	-76.41558333	36.948	29	1	0	0	0	0	0	0	1 Upogebia affinis
71	-76.416	36.94745	29	1	0	0	0	0	0	0	
72	-76.41696667	36.94941667	32	2	0.1	0	0	0	0	0	
73	-76.41725	36.94941667	32	2	0.1	0	0	0	0	0	
74	-76.41766667	36.94996667	34	2	0.1	0	1	0	0	0	Mercenaria (77x68 mm)
75	-76.41863333	36.95085	42	1	0	0	0	0	0	0	
76	-76.41835	36.95128333	45	1	0	0	0	0	0	0	
77	-76.41821667	36.94865	31	2	0.1	0	1	0	0	0	Mercenaria (71x64 mm)
78	-76.41573333	36.95063333	36	1	0	0	0	0	0	0	

Appendix G: SHPO Correspondence



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

April 27, 2021

Julie V. Langan
State Historic Preservation Officer
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

RE: Initiation of Section 106 Consultation -- Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main, and Nansemond Treatment Plant Advanced Nutrient Reduction Improvements and SWIFT Facilities Project, HRSD SWIFT, Hampton Roads, Virginia

Dear Ms. Langan:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 Code of Regulations [CFR] Part 800) "Protection of Historic Properties" (Section 106), the Environmental Protection Agency (EPA) is initiating the Section 106 consultation process and seeks concurrence from the Virginia Department of Historic Resources (DHR) for the Hampton Roads Sanitation District (HRSD) Sustainable Water Initiative for Tomorrow (SWIFT) Program. The proposed project proposes improvements to existing water treatment plants and installation of a new transmission force main beneath the James River from Newport News to Suffolk, Virginia.

The proposed project will be partially financed by the EPA Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected HRSD to submit an application for credit assistance for the Project.

The purpose of this letter is to inform your office about the proposed project and to request your concurrence with our determinations regarding potential effects on federally listed threatened and endangered species under USFWS jurisdiction in the proposed project area.

Background

The HRSD is a municipal wastewater treatment service, founded in 1940 as a political subdivision of the Commonwealth of Virginia. HRSD services 18 counties and cities, serving 1.7 million people. HRSD operates nine plants in the Hampton Roads/Virginia Beach region and four smaller plants located in the Middle Peninsula with the capacity to treat 249 million gallons per day (MGD) of wastewater.

HRSD intends to start a multi-phase effort to improve the water quality of the Chesapeake Bay under its SWIFT program initiative. The SWIFT program will add advanced water treatment processes, thereby producing highly treated water meeting drinking water standards. The SWIFT project is needed to aid in recharging the Potomac Aquifer by adding 100 MGD of SWIFT water. The goal of the SWIFT program is to:

- provide a sustainable source of groundwater to the Potomac Aquifer;
- increase the hydrostatic pressure within the aquifer to prevent saltwater contamination;
- slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and
- reduce future capital investment needs in wastewater treatment plant upgrades.

The SWIFT projects include design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells.

Description of the Undertaking

The purpose of HRSD's SWIFT Program is to improve the quality of the Chesapeake Bay by reducing surface water discharge of treated effluent; to provide a sustainable source of groundwater to the Potomac Aquifer; to increase the hydrostatic pressure within the aquifer to prevent saltwater contamination; to slow, stop, or reverse land subsidence related to aquifer withdrawals in coastal Virginia; and to reduce future capital investment needs in wastewater treatment plant upgrades.

Specifically, the Boat Harbor/Nansemond SWIFT Project includes design and construction of new facilities that will apply advanced water treatment to already highly treated wastewater effluent from several existing treatment plants. The treated water would subsequently be used to recharge the Potomac Aquifer via recharge wells.

Boat Harbor Treatment Plant Pump Station Conversion, Land Acquisition, and Transmission Force Main Project Components

The Boat Harbor Treatment Plant (TP) Pump Station Conversion, Land Acquisition, and Transmission Force Main Project (also referred to as the Boat Harbor Project) components includes the acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat

Harbor TP, construction of a new 32-million gallons per day (MGD)-pump station, and installation of a new 36-inch diameter transmission force main beneath the James River. The transmission force main will convey flow from the new Boat Harbor Treatment Plant pump station on the north shore of the James River to the proposed HRSD's Nansemond TP on the river's south shore. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. The underwater pipeline construction period is anticipated to occur from October 2022 to October 2024.

An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore.

Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project Components

The Nansemond Advanced Nutrient Reduction Improvements and SWIFT Facilities Project components (also referred as the Nansemond Project) involve the preliminary engineering necessary to begin design and construction of improvements to Nansemond TP to support reliable treatment of raw, screened wastewater from the Boat Harbor TP service area and raw influent from the Nansemond TP service area.

The scope includes preliminary engineering for equalization of primary effluent and upgrades to preliminary and secondary treatment, solids handling including the Struvite Recovery Facility (SRF), disinfection facilities, odor control system, effluent pump station and drain pump station. Preliminary engineering will include planning which will determine the appropriate design conditions for the upgraded and new facilities and ensure optimal and efficient treatment performance will be maintained. This effort will include all associated pumping, piping, tankage, mechanical, and electrical equipment, and all necessary ancillary facilities will be upgraded as required.

The Nansemond SWIFT Facilities scope includes advanced water treatment facilities, conveyance of SWIFT water to recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system, improvements to the existing wastewater treatment process, nor drilling of the recharge and monitoring wells.

The recharge wells are scheduled for future construction. Construction of the 16 recharge wells and associated monitoring wells will include the development, logging, testing, and conditioning of the wells for the Nansemond TP. The recharge wells would be sited on HRSD's property and nearby properties at a minimum of approximately 1,000 feet apart from one another to recharge the Potomac Aquifer most efficiently. Project construction is anticipated to begin in 2022 and last through 2025.

Area of Potential Effects

The area of potential effects (APE), as defined in 36 CFR Part 800.16(d), is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.”

The APE consists of the area where the proposed undertaking has the potential to cause effects on historic properties, and has been delineated to reflect the nature, scale, and location of the Project.

The above-ground APE for the Nansemond project consists of the treatment plant and the area immediately surrounding the proposed Project work and staging area. The above-ground APE is depicted in Attachment 2b -Area of Potential Effects Maps.

The Nansemond APE for archaeological resources, also shown in Attachment 2a, was developed for areas where subsurface ground disturbance associated with the Project would occur.

The above-ground APE for the Boat Harbor project is depicted in Attachments 2c and 2d (Above-Ground Area of Potential Effects Maps)

The Boat Harbor APE for archaeological resources is the Project Limits of Disturbance in which the proposed undertaking could have the potential to cause effects on archaeological historic properties. The terrestrial archaeological APE is depicted in Attachment 2e and the marine archaeological APE is depicted in Attachment 2f. At present, the marine archaeological APE consists of two corridors, the proposed alignment, and an alternative alignment.

Identification of Historic Properties

To identify above-ground historic properties in the APE, HRSD’s consultants, who exceed the Secretary of the Interior’s Professional Qualification Standards, conducted a review of available information, including data provided by HRSD, National Register of Historic Places (NRHP) listings, and historic maps and images (e.g., Sanborn fire insurance maps, historic aerial photographs, historic topographic quadrangles, plat maps). They also conducted online research of various agencies, historical societies, and other sources. The records search included review of the site-specific records from geotechnical borings, county soil surveys, and the Virginia DHR online database, Virginia Cultural Resources Information System (V-CRIS) and other sources, and a Phase I marine archaeological remote sensing survey.

Above-Ground Historic Properties

The records search identified two (2) previously recorded architectural resources within the Nansemond APE: Nansemond Ordnance Depot Historic District (DHR ID: 133-5038), determined not NRHP-eligible by DHR; and Battle of Hampton Roads (DHR ID: 114-5471), determined potentially NRHP-eligible by DHR. Field surveys in October 2020 confirmed there are no other resources 50 years or older

within the APE. The Nansemond Plant was constructed in 1983 (confirmed through a records search and field verification), is less than 50 years old, and is not eligible for listing in the NRHP.

1. Nansemond Ordnance Depot Historic District (DHR ID: 133-5038)

Not NRHP eligible

The Nansemond Ordnance Depot Historic District, also known as Pig Point Ordnance Depot and Tidewater Community College Historic District, is the site of the former Nansemond Ordnance Depot (originally designated the Pig Point Ordnance Depot), an Army ammunition base acquired in 1917. A 2016 architectural survey identified five (5) remaining buildings as the only extant above-ground resources associated with this property; all of which are located well outside the Project APE. DHR determined the site not eligible in 2016.

2. Battle of Hampton Roads/Battle of the Ironclads (DHR ID: 114-5471)

Potentially NRHP Eligible

The Battle of Hampton Roads, also known as the Battle of the Ironclads, is the site of a Civil War naval battle fought in 1862 between the USS Monitor and the CSS Virginia (formerly USS Merrimack). A 2009 American Battlefield Protection Program I survey identified Forts Monroe and Wool as the only extant above-ground resources associated with this event; both forts are located well outside the Project APE. DHR determined the site potentially eligible in 2007.

The V-CRIS records search identified three previously recorded above-ground resources within the Boat Harbor Project APE: Battle of Hampton Roads/Battle of the Ironclads (DHR ID# 114-5471), Jefferson Avenue Commercial Historic District (DHR ID# 121-0038), and Pier 15 (DHR ID# 121-0084). These historic locations are depicted on Area of Potential Effects Maps in Attachment 2c and 2d.

1. Battle of Hampton Roads/Battle of the Ironclads (DHR ID# 114-5471)

Potentially NRHP Eligible

The Battle of Hampton Roads, also known as the Battle of the Ironclads, is the site of a Civil War naval battle fought March 8 and 9, 1862, between the USS Monitor and the CSS Virginia (formerly USS Merrimack) (Attachments 2c and 2d). A 2009 American Battlefield Protection Program survey identified Forts Monroe and Wool as the only extant above-ground resources associated with this event; both forts are located well outside the Project APE. DHR determined the site potentially eligible in 2007.

2. Jefferson Avenue Commercial Historic District (DHR ID #121-0038)

Not NRHP Eligible

The Jefferson Avenue Commercial Historic District is an area of approximately 56 residential, commercial, and industrial buildings located along I-664, with most buildings constructed in a

variety of architectural styles on level lots close to Jefferson Avenue (Attachments 2c and 2d). The district was surveyed in 1999, and again in 2016, with both surveys recommending the district not eligible for the NRHP due to lack of significance under Criteria A, B, and C. In 2016, DHR determined the Jefferson Avenue Commercial Historic District not eligible for the NRHP. The district has not been studied for significance under Criterion D.

3. Pier 15 (DHR ID# 121-0084)
Recommended Not NRHP Eligible
(Photograph 1)

Pier 15 is located on the southern tip of Newport News at the mouth of the James River (Attachments 2c and 2c). The resource consists of an early twentieth century steel-truss coal pier, a mid-century pier, and a gable-roofed building of unknown date. A 1990 survey identified Pier 15 and nine additional secondary resources. A 2016 survey identified only Pier 15 as extant, with the other secondary resources demolished; the 2016 survey recommended Pier 15 not eligible for the NRHP due to lack of integrity. The V-CRIS record does not indicate whether DHR concurred with this recommendation. Pier 15 has not been studied for significance under Criterion D.



Photograph 1: Pier 15, Looking West (AECOM 2020).

As a result of archival research and on-site fieldwork conducted on October 20, 2020, HRSD identified two previously unrecorded resources in the Project APE: Boat Harbor Treatment Plant (DHR ID# 121-5464) shown on Attachment 5 and Semmaterials Energy Company Plant (DHR ID# 121-5465).

1. Boat Harbor Treatment Plant (DHR ID# 121-5464)
Recommended Not NRHP Eligible
(Photographs 2-5)

The BHTP is located on a 5-acre site and is located at the confluence of the James River and the Newport News Creek (Attachments 2c and 2d). To the north is a storage facility and to the east is I-664, also known locally as Hampton Roads Beltway. To the south is the James River and to the west is a marina and energy (gas) company. The BHTP was constructed in two building campaigns, the first in 1948 and the second in 1978 (Attachment 6 – BHTP Facilities Map with Surveyed Resources). The 1978 building campaign demolished all but two of the original 1948 buildings and built 26 new buildings and structures. The two 1948 resources remaining include the one-story, masonry BHTP Administration Building (Photograph 2) and an abandoned concrete holding tank (Photograph 3). A communications tower was added in 2015.

The two BHTP buildings remaining from the 1948 building campaign were evaluated for NRHP eligibility both on an individual basis and as part of a potential BHTP historic district. Neither building is individually significant for its association with an event or person under NRHP Criteria A and B, nor is either significant for its architecture or craftsmanship under Criterion C. With the exception of the two 1948 buildings, the BHTP was built in 1978 and is less than 50 years old. Photographs 4 and 5 show aeration tanks and the Jefferson Avenue Pump Station, respectively. The demolition of all but two original 1948 buildings and construction of 26 additional buildings at the BHTP diminishes the integrity of setting, association, materials, workmanship, design, and feeling of the original 1948 complex. The BHTP plant is recommended not eligible for the NRHP as a historic district. The BHTP plant was not evaluated for significance under Criterion D.



Photograph 2: North and West Elevations of the 1948 Administration Building (AECOM 2020).



Photograph 3: Abandoned 1948 Holding Tank and Elevated I-664 in Background, Looking East (AECOM 2020).



Photograph 4: 1978 Aeration Tanks #1 and #2, Looking Southeast (AECOM 2020).



Photograph 5: Jefferson Avenue Pump Station, Looking Southwest (AECOM 2020).

2. Semmaterials Energy Company, LLC (DHR ID# 121-5465)
Recommended Not NRHP Eligible
(Photograph 6)

The Semmaterials Energy Company plant is located on a 13.4-acre property between Pier 15 to the west and the BHTP to the east (Attachments 2a and 2b). The facility was not accessible for field survey or photography, but aerial photographs indicate the plant currently consists of approximately 40 buildings and structures. According to USGS topographic maps, the site was constructed between 1952 and 1958, although it is unknown whether all these buildings are still extant. The construction dates for current plant buildings are unknown. Based on available data, the Semmaterials Energy Company plant is not associated with an event, pattern of event, or significant person and is not NRHP eligible under Criterion A or B. Although not accessible for detailed inspection or assessment of integrity, the architecture and/or craftsmanship of the Semmaterials Energy Company plant is not significant and is not NRHP eligible under Criterion C. The Semmaterials Energy Company plant has not been studied for significance under Criterion D.



Photograph 6: Semmaterials Energy Company plant, Looking West (AECOM 2020).

For additional information on the surveyed resources within the Project APE, see Attachment 7 – V-CRIS Survey Forms with Photographs.

Archaeological Historic Properties

To identify archaeological historic properties in the Nansemond APE, HRSD's consultants, who exceed the Secretary of the Interior's Professional Qualification Standards, conducted a Phase I archaeological survey pursuant to DHR's Guidelines for Conducting Historic Resources Survey in Virginia (DHR 2017). This survey covered three portions of the APE designated as Area 1, Area 2, and Area 3. The results of this survey are detailed in the Phase I Archaeological Survey of the Sustainable Water Initiative for Tomorrow Improvements to the Nansemond Treatment Plant, Tidewater Community College, and Former Nansemond Ordnance Depot, Hampton Roads Sanitation District, Suffolk, Virginia (2020) by Kelsey Johnson and Benjamin Stewart, which is provided as Attachment 4 to this letter. The portions of the APE not covered by the archaeological survey of Areas 1-3 will be subjected to archaeological survey at a later date, prior to the initiation of any ground disturbing activities, and the results of this additional survey will be described in an addendum to the report. This archaeological survey did not identify any archaeological historic properties within the APE.

Terrestrial Archaeology – Boat Harbor

The eastern edge of the terrestrial portion of the archaeological APE for the Boat Harbor Project is within the archaeological survey polygon for DHR Report No. CS-055, the *Cultural Resources Survey, Hampton Roads Crossing Study, Candidate Build Alternatives 1, 9, and 2, Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Suffolk, Virginia* by Louis Berger Group (1999) (See Attachment 3a for location of survey area). That project, however, did not include any field investigations within the BHTP terrestrial archaeological APE. No previously recorded terrestrial archaeological sites are located within, or in close proximity to, the BHTP.

The BHTP Project area is within DHR 114-5471, Battle of Hampton Roads/Battle of the Ironclads/Monitor vs. Virginia (Merrimack) (Attachment 3a). The Project area is also fully within the Study Area, mostly within the Core Area, and partially within the Potential National Register Area of the National Park Service American Battlefield Protection Program Civil War Battlefield VA008, Hampton Roads. These components represent the same resource. While the battlefield boundaries include terrestrial components, the potential for the Project area to contain evidence of the battle is considered low.

The terrestrial portion of the archaeological APE for the Boat Harbor Project is mapped by the United States Department of Agriculture Natural Resources Conservation Service as containing two soil units: Tomotley-Urban Land complex, 0-2% slopes, and Udorthents-Dumps complex (Attachment 3b). Tomotley-Urban Land complex is comprised of a mixture of Tomotley soils, which are a poorly drained soil formed in marine and fluvial sediments, while Urban land is classified as soils that may have been significantly changed by human impacts and may contain buildings or impervious surfaces. Udorthents-Dumps complex is comprised of a mixture of stockpiled overburden and waste rock, soil material cut or filled during road or building construction, or areas that have been cut or filled for disposal of waste and refuse. Both soil series are indicative of a high level of disturbance that is not conducive to the preservation of intact archaeological sites.

Historic maps and aerial photographs document the historic and modern evolution of the terrestrial portion of the archaeological APE, including the development of the port of Newport News during the late nineteenth and early twentieth centuries as well as the high degree of ground disturbance that has occurred since the mid-twentieth century. The first notable map showing historical development in the Project area is the 1893 nautical chart (Attachment 3c). As shown on this map, little development had occurred within the Project area; the focus of the port facilities at Newport News was farther upstream to the northwest. The creek that is now channelized as Boat Harbor was in a natural state and the only improvement depicted in the Project area is a single building on Newport News Point. A larger polygon depicted by a dashed line also is shown on the map within the northern and southwestern portions of the Project area, but there is no indication what the polygon represents.

The 1913 nautical chart (Attachment 3d) shows a generally north-south running road cutting through the northern portion of the Project area that led to a collection of buildings and road spurs just west of the Project area, one of which is depicted within the southwestern corner of the Project area. The 1913 nautical chart also shows a road running northwest from two buildings at the tip of Newport News Point towards the main port facilities at Newport News.

By 1931, the creek along the eastern edge of the Project area had been channelized and turned into Small Boat Harbor (Attachment 3e). Two piers and an inland dock had been built at the southern end of the Project area as well as a jetty protecting the mouth of Small Boat Harbor. Multiple rail lines spurred from the main rail yard west of the Project area into the Project Area to serve the piers and dock. Several new buildings are also depicted in the 1931 nautical chart, in addition to buildings at the southwestern edge of the Project area that were originally shown on the 1913 nautical chart, though numerous new cross streets had been built. Although not of a high resolution, a 1937 aerial photograph of this area (Attachment 3f) appears to depict the same built environment as the 1931 nautical chart.

The 1952 Newport News United States Geographical Survey (USGS) quadrangle (Attachment 3g) shows several changes within the Project area since 1937. By 1952, a series of rail lines had replaced the road and buildings shown on earlier maps west of the Project area and a new pier was added; only a single building is depicted at the landward side of this new pier. Along the west side of Small Boat Harbor, the road and rail lines were extended to the two piers, new buildings were built at the south side of the Project area, and a road was built to run along the shoreline towards the main port facilities and to the main rail lines west of the Project area. A single tank is also depicted on the in the southwest corner of the proposed Project area. The map also shows a shipwreck (circled in RED) that corresponds to Target 1, documented as part of a Phase I marine archaeological remote sensing survey discussed below.

A 1959 aerial photograph shows a notable change in the built environment within the Project area as compared the 1952 USGS quadrangle, and more clearly identifies buildings within the Project area (Attachment 3h). The map also shows a shipwreck (circled in RED) that corresponds to Target 1, documented as part of a Phase I marine archaeological remote sensing survey discussed below. Additional rail lines had been built, as well as a large collection of storage tanks and a new pier. Numerous buildings are shown at the southern end of the Project area that appear to represent warehouses. The photograph also reveals that none of the buildings along the west side of Small Boat Harbor were within the Project area. But the most notable change is that the southwest corner of the

Project area, which was originally water, is now a built land area between the two westernmost piers. This additional pier and build land area are also depicted in the 1966 nautical chart, which also appears to show that the rail line leading to the western pier had been removed by this time (Attachment 3i). The 1966 nautical chart also shows a shipwreck (circled in RED) that corresponds to Target 1, documented as part of a Phase I marine archaeological remote sensing survey discussed below.

As shown on the 1994 Newport News South quadrangle (Attachment 3j) and the 1994 aerial photograph (Attachment 3k), all of the rail lines that once led to the two piers had been removed by this time; the area is now crossed by a variety of dirt and gravel roads. The extant BHTP has been built, labeled as Sewage Disposal on the quadrangle map, and the tank farm depicted on aerials and maps since 1959 is also still extant. The Project area is still very similar in form and function today as it was in 1994.

Based on this information, the terrestrial portion of the archaeological APE is interpreted as having a low potential to contain significant, intact archaeological sites due to a wide variety of twentieth century disturbances, and it is recommended that there will be No Effect to terrestrial archaeological historic properties by the undertaking.

Marine Archaeology for the Boat Harbor Project

In 2020, AECOM conducted a Phase I marine archaeological remote sensing survey of two corridors proposed for the 36-inch diameter transmission force main beneath the James River to convey flow from the new pump station to HRSD's Nansemond Treatment Plant. The report for this survey is included as Attachment 5: *Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 5700), Hampton and Norfolk, Virginia* (2020) by Chris Cartellone, J.B. Pelletier, and Pete Regan.

The survey identified 757 magnetic and 88 acoustic contacts grouped in 94 spatially modelled targets. One of these targets, Target 1, consists of two shipwrecks located near the northern terminus of the route, along the west side of the Monitor-Merrimac Bridge-Tunnel. These two shipwrecks are recommended as potentially eligible for listing in the NRHP. Information regarding engineering and construction techniques for the marine portion of the undertaking is currently being reviewed to ascertain if adverse effects to Target 1 can be avoided or minimized.

Due to engineering changes of the transmission force main alignment since the 2020 survey, the marine archaeological APE shifted and now includes the new proposed alignment and an alternative alignment; portions of both alignments intersect the original marine APE. A Phase I marine archaeological remote sensing survey of the revised alignments was conducted in January 2021. The January 2021 survey produced 322 magnetic and 62 acoustic contacts that resulted in clusters of 58 spatially modelled targets. The targets were all associated with isolated debris, channel markers, shoreline armoring, or hardware from submerged maritime infrastructure. No other potentially significant submerged cultural resources were identified within the marine APE. The addendum report is included as part of Attachment 5.

Assessment of Effects and Request for Section 106 Concurrence

In accordance with 36 CFR 800.4(d)(1), the EPA has determined that there are no historic properties present in the terrestrial archaeological APE and the above-ground APE for the Boat Harbor Project. Additional study is needed to fully determine if historic properties are located within the marine archaeological APE, and if so, whether the project can be designed to avoid or minimize any potential effects; this will be further addressed in the forthcoming addendum to the marine archaeological survey report.

Additionally, the EPA has determined that there are historic properties present (the potentially NRHP-eligible Battle of Hampton Roads), but that the undertaking will have no effect upon them, as the proposed Project construction would occur outside the footprint of the forts, would not be visible from the forts, and would not otherwise impact the integrity of the forts.

The EPA seeks the concurrence of your office with the definition of the Nansemond and Boat Harbor Projects APE for archaeological and above-ground resources, the findings of the assessment of the low archaeological potential of the terrestrial portion of the archaeological APE for the Boat Harbor Project, the findings of the Phase I marine archaeological remote sensing survey report, and the NRHP eligibility determinations for Pier 15, the BHTP, and the Semmaterials Energy Company Plant within the Boat Harbor APE. The EPA further seeks concurrence with the finding of no historic properties affected within the terrestrial archaeological APE and the above-ground APE for the Boat Harbor Project, and the finding of no effect to historic properties for the Nansemond Project, pursuant to 36 CFR §800.11(d). In the event your office disagrees, please notify us within 30 days.

If you have any questions or require additional information regarding this undertaking, please contact me at Mccurdy.alaina@epa.gov or 202-564-6996.

Sincerely,



Alaina McCurdy
Environmental Scientist
WIFIA Management Division
Office of Wastewater Management

Enclosures

- Attachment 1 – Project Location Map
- Attachment 2 – Area of Potential Effects Maps
- Attachment 3 – Terrestrial Archaeological Assessment Figures
- Attachment 4 – Nansemond Phase I Archaeological Survey Report

Attachment 5 – Phase I Marine Archaeological Remote Sensing Report and Addendum Report

Attachment 6 – BHTP Facilities Map with Surveyed Resources

Attachment 7 – V-CRIS Survey Forms with Photographs

cc: Mr. Erin Girardi, PMP - HRSD Capital Program Manager



COMMONWEALTH of VIRGINIA

Matthew Strickler
Secretary of Natural Resources

Department of Historic Resources
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Director

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May 28, 2021

Alaina McCurdy
Environmental Protection Agency
1200 Pennsylvania AVE, NW
Washington, DC 20460

Re: Boat Harbor and Nansemond SWIFT Facilities Project
Suffolk and Newport News Virginia
DHR Project No. 2021-3743

Dear Ms. McCurdy:

We have received for review three reports, *Phase I Archaeological Investigation for the Sustainable Water Initiative for Tomorrow Improvements to the Nansemond Treatment Plant, Tidewater Community College, and Former Nansemond Ordnance Depot, Hampton Roads Sanitation District* (Report 1) and *Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 2), and *Report addendum :Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 3) prepared by AECOM, on behalf of the Hampton Roads Sanitation District (HRSD) in support of the SWIFT program, funded in part by a loan financed the U.S. Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program.

The undertaking consists of improvements to the existing Nansemond Treatment Plant, acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP and installation of a new 36-inch transmission force main beneath the James River. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft (3.2 miles) of riverbed trenching to the river's south shore

Archaeology

Report 1 documents an archaeological survey of the proposed undertaking's terrestrial footprint. Three archaeological sites had been previously identified within the project area. These include: 44SK0377, a scatter of prehistoric flakes and fire-cracked rock; 44SK0378, a scatter including prehistoric flakes and firecracked rock

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as well as historic glass fragments; and 44SK0379, a scatter of prehistoric flakes and fire-cracked rock. During the course of the survey, 44SK0379, was re-identified and four (4) new archaeological sites (44SK0633-44SK0636 *inclusive*) were identified. No evidence of the previously recorded sites 44SK0377 or 44SK0378 were identified during this study. AECOM recommends **44SK0379** and **44SK0633-44SK0636 (inclusive)** as *not eligible* for listing in the National Register of Historic Places. *DHR concurs with these recommendations.*

Please note that hard copy of this report lists the new sites as “44SKXXXX” in several places throughout the report. **Please send a revised hard copy with the correct site numbers.**

Report 2 documents an underwater cultural resources survey along three potential project routes (East, West, and Tanner Point), totaling 1,084 acres. The survey results produced 757 magnetic and 88 acoustic contacts that resulted in clusters of 94 targets. One of these targets is two shipwrecks adjacent to one another in the northern terminus of the West route (Target 1). These wrecks were recommended as *potentially eligible* for inclusion in the National Register of Historic Places (NRHP). AECOM recommends avoidance of Target 1. If avoidance is not possible, additional investigations may be necessary.

According to Report 2, the 93 remaining targets were all associated with isolated debris, channel markers, shoreline armoring, or hardware from submerged maritime infrastructure. No additional investigations were recommended for these targets and anomalies.

In order for DHR to provide comments regarding the eligibility of Target 1, the wrecks should be recorded as an archaeological site and be given a site number. **Please complete an archaeological VCRIS form for the wrecks and submit a revised report (digital and hard copy) with the appropriate site number.**

Report 3 documents an additional underwater cultural resources survey along two proposed alternative routes, totally approximately 765.84 acres. The survey results produced 322 magnetic and 62 acoustic contacts that were aggregated into 58 targets. The targets and anomalies were determined to be modern shoreline structures, engineering features, fishing gear, and/or modern trash. No additional investigations were recommended for these targets and anomalies. *DHR concurs with these recommendations.*

Please note that it appears the addendum report was not uploaded through the ePIX system. **Please submit a digital copy of the addendum report.**

Architecture

The architecture portion of the project will be addressed in a follow-up letter.

We look forward to receiving the revised reports and continuing our review. If you have any questions regarding these comments, please contact me at 804-482-8091 or via email, jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,



Jenny Bellville-Marrion, Project Review Archaeologist
Review and Compliance Division

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July 9, 2021

Scott Seibel
AECOM
12420 Milestone Center Drive, Suite 150
Germantown, Maryland 20876

Re: Boat Harbor and Nansemond SWIFT Facilities Project
Suffolk and Newport News Virginia
DHR Project No. 2021-3743

Dear Mr. Seibel:

We have received for review three revised reports, *Phase I Archaeological Investigation for the Sustainable Water Initiative for Tomorrow Improvements to the Nansemond Treatment Plant, Tidewater Community College, and Former Nansemond Ordnance Depot, Hampton Roads Sanitation District* (Report 1) and *Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 2), and *Report addendum :Phase I Marine Archaeological Survey of the Sustainable Water Initiative for Tomorrow Army Base to VIP Transmission Force Main (ABO 1 1800) and Boat Harbor Treatment Plant Effluent Pump Station and Transmission Force Main (BHO 1 5700), Hampton and Norfolk, Virginia* (Report 3) prepared by AECOM, on behalf of the Hampton Roads Sanitation District (HRSD) in support of the SWIFT program, funded in part by a loan financed the U.S. Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program.

The undertaking consists of improvements to the existing Nansemond Treatment Plant, acquisition of property adjacent to the existing Boat Harbor TP, the demolition of the majority of the existing Boat Harbor TP and installation of a new 36-inch transmission force main beneath the James River. The proposed transmission force main would be approximately 22,900 feet (4.3 miles) in length and roughly parallel to the west side of the Monitor-Merrimac Bridge-Tunnel. Installation of the pipeline would include a combination of approximately 18,500 feet (3.5 miles) of riverbed trenching (i.e., 1,500 feet on the river's north shore and 17,000 feet on the south shore) and approximately 4,400 feet (0.8 mile) of horizontal directional drilling (HDD) between the trenched sections. An alternative pipeline route, located west of the proposed alignment, serves as a secondary option should design constraints preclude installation along the proposed alignment. The alternative alignment would involve 5,900 feet (1.1 miles) of HDD installation from the north shore of the river and 17,000 ft. (3.2 miles) of riverbed trenching to the river's south shore

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Archaeology

Report 1 documents an archaeological survey of the proposed undertaking's terrestrial footprint. Three archaeological sites had been previously identified within the project area. These include: 44SK0377, a scatter of prehistoric flakes and fire-cracked rock; 44SK0378, a scatter including prehistoric flakes and firecracked rock as well as historic glass fragments; and 44SK0379, a scatter of prehistoric flakes and fire-cracked rock. During the course of the survey, 44SK0379, was re-identified and four (4) new archaeological sites (44SK0633-44SK0636 *inclusive*) were identified. No evidence of the previously recorded sites 44SK0377 or 44SK0378 were identified during this study. AECOM recommends **44SK0379** and **44SK0633-44SK0636 (inclusive)** as *not eligible* for listing in the National Register of Historic Places. *DHR concurs with these recommendations.*

Thank you for addressing our previous comments in the revised report.

Report 2 documents an underwater cultural resources survey along three potential project routes (East, West, and Tanner Point), totaling 1,084 acres. The survey results produced 757 magnetic and 88 acoustic contacts that resulted in clusters of 94 targets. One of these targets is two shipwrecks adjacent to one another in the northern terminus of the West route (44NN0368). Site **44NN0368** was recommended as *potentially eligible* for inclusion in the National Register of Historic Places (NRHP). AECOM recommends avoidance of 44NN0368. If avoidance is not possible, additional investigations may be necessary. *DHR concurs with these recommendations.*

According to Report 2, the 93 remaining targets were all associated with isolated debris, channel markers, shoreline armoring, or hardware from submerged maritime infrastructure. No additional investigations were recommended for these targets and anomalies. *DHR concurs with these recommendations.*

Thank you for addressing our previous comments in the revised report.

Report 3 documents an additional underwater cultural resources survey along two proposed alternative routes, totally approximately 765.84 acres. The survey results produced 322 magnetic and 62 acoustic contacts that were aggregated into 58 targets. The targets and anomalies were determined to be modern shoreline structures, engineering features, fishing gear, and/or modern trash. No additional investigations were recommended for these targets and anomalies. *DHR concurs with these recommendations.*

Thank you for sending the digital report.

Architecture

According to our records, there are four (4) previously recorded architectural resources within the Area of Potential Effects (APE): Nansemond Ordnance Depot Historic District (DHR ID# 133-5038), previously determined not eligible; Battle of Hampton Roads (DHR ID #114-5471), previously determined potentially eligible for listing in the NRHP; Jefferson Avenue Commercial Historic District (DHR ID# 121-0038) previously determined not eligible, and Pier 15 (DHR ID# 121-0084), unevaluated.

Additionally, HRSD identified two previously unrecorded resources in the Project APE: Boat Harbor Treatment Plant (DHR ID# 121- 5464) and Semmaterials Energy Company Plant (DHR ID# 121-5465). AECOM recommend that **DHR ID #121-0084, 121-5464, and 121-5465** are *not eligible* for listing in the NRHP. DHR *concurs* Pier 15 (DHR ID# 121-0084), Boat Harbor Treatment Plant (DHR ID# 121-5464) and Semmaterials Energy Company, LLC (DHR ID# 121-5465) are *not eligible* for listing in the NRHP.

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If you have any questions regarding these comments, please contact me at 804-482-8091 or via email, jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,



Jenny Bellville-Marrion, Project Review Archaeologist
Review and Compliance Division

CC:
Alaina McCurdy; EPA

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