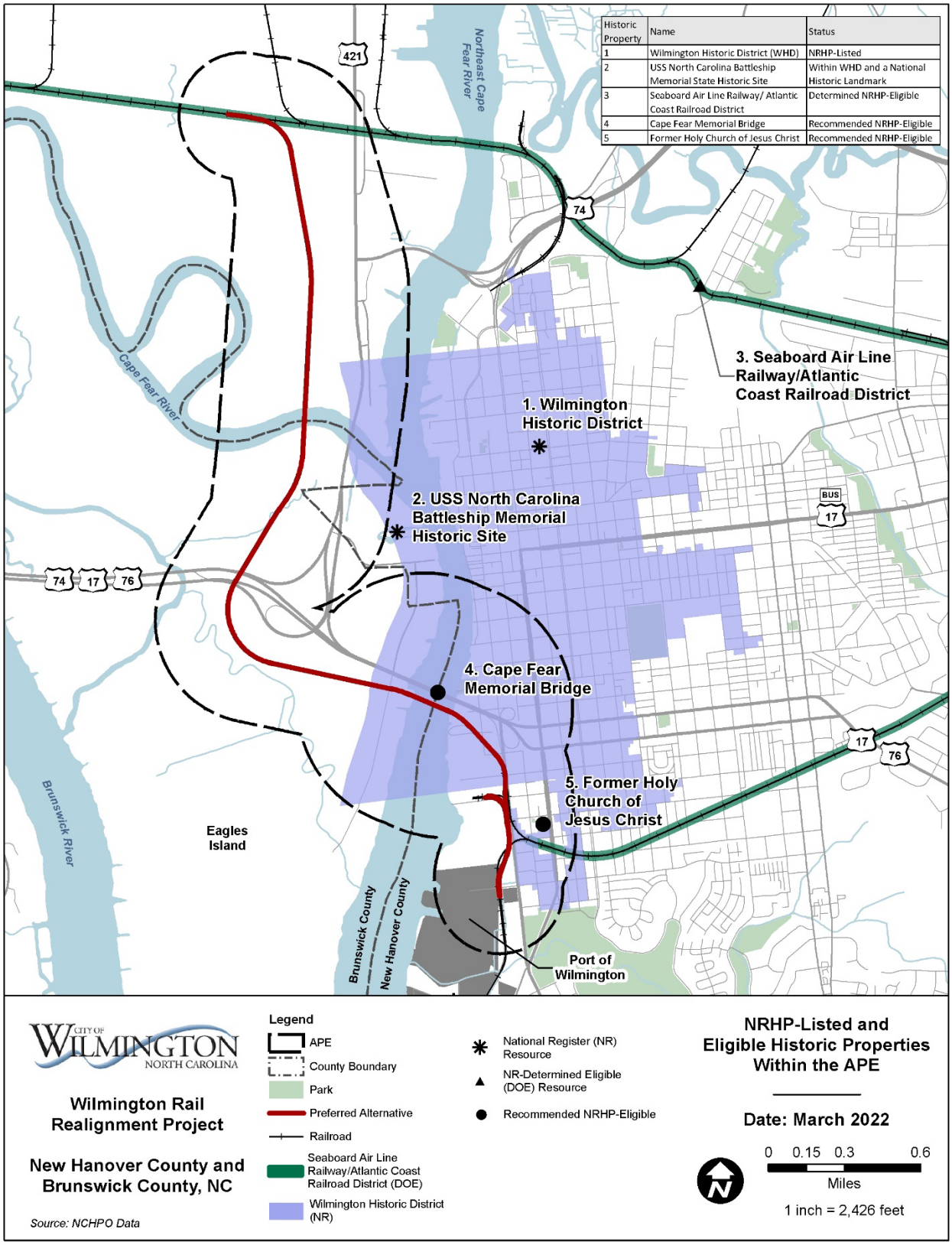


CITY OF WILMINGTON NORTH CAROLINA

Wilmington Rail Realignment Project

New Hanover County and Brunswick County, NC

Source: NCHPO Data

NRHP-Listed and Eligible Historic Properties Within the APE

Date: March 2022

Request for Concurrence

Enclosed please find the following enclosed items in digital format: a full pdf copy of the Report; the GIS Data; the Survey Site Database; an Excel spreadsheet of all inventoried resources; and JPGs of photographs labeled and sorted according to NCHPO policy. Please also find hard copies of the Site Files in the required envelopes and the full Report. FRA seeks concurrence with our identification of architectural historic properties within 30 calendar days from the date on this letter. Thank you for your continued cooperation on this important project.

Sincerely,

Amanda Murphy
Deputy Federal Preservation Officer
Federal Railroad Administration

CC: Kevin Wright, Acting Supervisory Environmental Protection Specialist, FRA
Aubrey Parsley, Director of Rail Realignment, City of Wilmington

Attachments:
Hard copies of: Site Files and Intensive-level Historic Architectural Survey Report for Wilmington Rail Realignment, City of Wilmington, Brunswick and New Hanover Counties, North Carolina

Digital copies of: Report in pdf format; GIS Data; Survey Site Database; Excel spreadsheet of all inventoried resources; and JPEGs of photographs

Commander
United States Coast Guard
Fifth Coast Guard District

431 Crawford Street
Portsmouth, VA 23704-5004
Staff Symbol: dpb
Phone: (757) 398-6422
Fax: (757) 398-6334
Email: Crystal.k.tucker@uscg.mil
CGDFiveBridges@uscg.mil

U.S. Department of Homeland Security
United States Coast Guard

16591
04 APR 2022

Mr. Aubrey Parsley, PE
Director of Rail Realignment
305 Chestnut Street
P.O. Box 1810
Wilmington, NC 28402

Dear Mr. Parsley:

The Coast Guard has reviewed the Navigation Impact Report dated September 24, 2021, for the Cape Fear River in Wilmington, NC. Based on a preliminary review of this study and the information available as of the date of this letter, the Coast Guard does not foresee anything that would prevent a bridge permit from being issued. The Preliminary Navigation Clearance Determination (PNCD) and information below are provided to assist the City of Wilmington in preparing and submitting a bridge permit application.

The Coast Guard has made a PNCD that two moveable type bridges that carries freight rail across the Cape Fear River, at mile 26.8, and one between mile 30.2 and mile 30.3, will provide for the current and prospective reasonable needs of navigation. The first proposed moveable type bridge at mile 26.8, should provide at least 135 feet of vertical clearance above mean high water in the open position and at least 250 feet of horizontal clearance through the main navigation span of the bridge. The second proposed moveable type bridge between mile 30.2 and mile 30.3, should provide unlimited clearance vertical clearance above mean high water or ordinary high water in the open position and at least 102 feet of horizontal clearance through the main navigation span of the bridge.

Please note that this PNCD is not binding, does not constitute an approval or final agency action, and **expires three (3) years from the date of this correspondence**. A final determination can only be made in accordance with regulation and after City of Wilmington submits a complete bridge permit application to the Coast Guard. If a complete bridge permit application is not submitted within three (3) years from the date of this correspondence, an updated Navigation Impact Report as described in appendix A of the Coast Guard's Bridge Permit Application Guide, COMDTPUB P16591.3D, should be prepared and submitted in order to obtain a new PNCD.

Ms. Crystal K. Tucker, at the above listed address or telephone number, has been assigned as the Coast Guard's Bridge Permit project officer. Please maintain frequent and regular contact with the project officer to ensure efficient and effective project administration.

Sincerely,

PITTS.HAL.R.1121267272 Digitally signed by PITTS.HAL.R.1121267272 Date: 2022.04.04 15:19:07 -04'00'

HAL R. PITTS
Bridge Program Manager
By direction

Encl: Bridge Permit Application Guide, COMDTPUB P16195.3D and BPAG Applicant Template located at (https://go.usa.gov/xRFk2)

Copy: Coast Guard Sector North Carolina, Waterways Management
Federal Railroad Administration, Washington D.C. Regional Office
U. S. Army Corps of Engineers, Wilmington District Office

North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office
Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

May 5, 2022

Amanda Murphy
Deputy Federal Preservation Officer
Federal Railroad Administration

Amanda.murphy2@dot.gov

RE: *Terrestrial and Underwater Archaeological Survey for Wilmington Rail Realignment, Wilmington, Brunswick and New Hanover Counties*, ER 19-2629

Dear Ms. Murphy:

Thank you for your April 1, 2022, letter concerning the above-referenced undertaking and the archaeological survey report detailing the archaeological investigations of a portion of the Wilmington Rail Realignment (WRR) project for which we received the hard copy on April 5, 2022.

The WRR project is sponsored by the Federal Railroad Administration and the City of Wilmington. Our initial review of the project involved the upgrade of the existing rail bed between the North Carolina State Port and the CSX railroad terminal in Navassa, Brunswick County through a disturbed urban environment ("the V"). Thus, that portion of the proposed undertaking was determined to have no effect on any historic archaeological resources.

The subject of the current report is a proposed section of new rail that will extend northward from the existing rail line at the State Port along South Front Street in Wilmington to south of the Cape Fear Memorial Bridge with a 300-foot-wide Area of Potential Effect (APE). The APE for the project widens to 1000 feet where a railroad bridge will be constructed across the Cape Fear River and land on Eagles Island in Brunswick County. The preferred alternative corridor extends from the west bank of the Cape Fear River where the APE returns to 300 feet wide and passes over existing waterfront infrastructure on Battleship Road, through former rice-land marsh for approximately ¾ mile where it turns northward, passes over US 74-76 and US 421. The APE extends northward, just west of US 421 through marsh and high ground to the southern bank of the Cape Fear River. The APE then widens to 1500 feet where a new railroad bridge will be constructed over the Cape Fear River, just upstream of the US 421 Thomas Rhodes Bridge. From the landing on the north side of the Cape Fear River the APE follows, for the most part, a former rail bed that leads to the existing track between the Hilton Railroad Bridge over the Northeast Cape Fear River and the Navassa Railroad Bridge over the Cape Fear River. The entirety of this 3.5-mile corridor is significant because it passes through areas containing significant remnants of the Wilmington's maritime, agricultural, and industrial past.

The following comments are offered in accord with the *North Carolina Office of State Archaeology Archaeological Investigation Standards and Guidelines* (*OSA Investigation Standards and Guidelines*). While intended to guide archaeologists during the investigation and reporting of terrestrial archaeological

projects, the reporting portion of the guidelines are applicable to underwater archaeological investigations as well.

The report's sections dealing with the Environmental Setting and Cultural Background are for the most part adequate. In particular, the background history on the early rice culture and Point Peter's history are exemplary and give a good indication of what would be expected for a terrestrial archaeological survey of the area north of the Cape Fear River. What is lacking is the history of that area south of the Northwest Cape Fear River and Point Peter as well as the importance of the maritime trade that influenced the development of Eagle Island's eastern shoreline. This is important information to an overall understanding of the project area. This information is especially relevant to the Underwater Archaeological investigations and should be included in the report.

What is most notably lacking is more than a passing reference to the previous archaeological work done along the eastern shoreline of Eagles Island, the Point Peter vicinity adjacent to the river, or within the harbor itself. *The North Carolina Office of State Archaeology Archaeological Investigation Standards and Guidelines* for reporting specifically state, "The archaeological and cultural background should include: 1. Previous archaeological investigations and results".

The Office of State Archaeology Underwater Branch's bibliography database includes 256 terrestrial and underwater archaeology reports associated with the Cape Fear River, some of which are very relevant to the current report. One underwater survey actually abuts the southern underwater survey area. We recommend that a description of previous archaeological work and results in the vicinity of the survey area be included in the report.

AECOM investigated two archaeological sites in the northwestern New Hanover County section of the project. Site 31NH686 is a previously recorded site that contains remnants of a railroad locomotive turntable, associated with the former rail bed that ran northward from Point Peter. Testing during this investigation revealed artifacts of both the historic and a previously unseen prehistoric component. Site 31NH686 was determined ineligible for listing on the National Register of Historic Places (NRHP) based on the relatively few artifacts uncovered and limited integrity of the site. We concur with this determination.

Site 31NH895 was documented during the investigation covered by the report. It consisted of remnants of a mid-19th century historic structure. The collection of artifacts recovered was impressive and included a prehistoric component. Testing indicated disturbance of the soil making the site unlikely to provide significant information concerning the past. On this basis, 31NH895 was determined ineligible for listing on the NRHP. We concur with this determination.

In the description of the area south of the northern Cape Fear River crossing, the report describes the landform as a "long expanse of tidal marsh". It is unclear whether this section was investigated at all. Throughout this long expanse are areas of higher ground where vegetation other than marsh grass is visible on satellite imagery. One such landform lies within the preferred corridor. Given the potential for permanent destruction, this section of the APE between the northern Cape Fear River crossing and the man-made pond adjacent the US 74-76 causeway should not be considered as having no archaeological sites. We recommend additional survey work be conducted to document human activity within this portion of the APE and that any sites identified be evaluated in terms of their NRHP eligibility.

While the description of magnetic-anomaly interpretation in the underwater methodology section was interesting, it is unclear why no diver inspections were conducted in the two river crossings. During the Army Corps of Engineers sponsored submerged cultural resources survey of the Cape Fear and Northeast

Cape Fear Rivers (Overton, 1996) numerous derelict small craft were discovered along the riverbank at Point Peter and Eagles Island.

These remains are useful for identifying past resource usage and early boat construction methods. These are some of the easiest types of underwater sites to identify and document due to the shallow water where they occur. They are not easily found by remote sensing. If the underwater survey relies on remote sensing alone, archaeological resources will ultimately be destroyed by the bridge construction. The shorelines within the APE should be extensively searched by a diving team to discover vessel remains that may be impacted by the WRR project and their NRHP eligibility determined.

The methodology and implementation of the underwater remote sensing surveys appear to be sound. The problem with the surveys is that their analysis falls short of providing any indication of what was discovered by them. It is understood that steel structures, power lines, wire rope, crab pots, dredge pipes, all disrupt the local magnetic field making analysis of a magnetometer survey difficult. Logs, pipes, swerving of the boat during the survey can all affect what is reflected by the sonar. GPR is notoriously apt to give false returns, or no returns.

Thus, remote sensing is only the first step in an underwater survey. If lucky, the perfect form of a ship hull will appear on the side-scan sonar screen. Far more often, in a muddy river environment such as the Cape Fear, older wooden shipwrecks are identified by an unusual curved line, barely distinguishable as a man-made object. When accompanied by a dipolar magnetic anomaly of sufficient duration, they warrant diver inspection. We recommend that diver assessment of targets within the north and south bridge crossing corridors be performed, and the results included in this report. If shipwreck remains are discovered, they should be evaluated in terms of their NHRP eligibility so that effects may be assessed.

Given the concerns outlined above, we look forward to reviewing a revised report once the recommended additions and changes have been made.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc: Aubrey Parsley, WRR aubrey.parsley@wilmingtonnc.gov
Kevin Wright, FRA kevin.wright@dot.gov
Matthew Jorgenson, AECOM matt.jorgenson@aecom.com

North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office
Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

May 5, 2022

Amanda Murphy
Deputy Federal Preservation Officer
Federal Railroad Administration

Amanda.murphy2@dot.gov

RE: *Historic Structures Survey Report: Wilmington Rail Realignment, Wilmington, Brunswick and New Hanover Counties*, ER 19-2629

Dear Ms. Murphy:

Thank you for your April 1, 2022, letter concerning the above-referenced undertaking and providing a digital copy of the Historic Structures Survey Report. We received the required hard copy deliverables on April 5, 2022 and began our thirty-day review. Having completed that review, we provide the following comments.

We concur with the recommendations concerning the National Register of Historic Places (NRHP) eligibility that the:

- (former) Holy Church of Jesus Christ (NH3680) is eligible for listing in the NRHP under Criterion C and Criterion Consideration A.

- The resources within the Wilmington Historic District – Potential Expansion Area (NH3681) are not eligible for listing as outlined in the report.

We would also note that there are several items within the report that warrant attention and/or correction to meet our reporting standards. They are:

- Lack of a management summary, including a single listing of all the evaluated properties and their eligibility determinations.

- Language within the Recommendations Section (Section 4.0; p. 4-73) for the (former) Holy Church of Jesus Christ that needs editing. Some key words appear to be missing in the last sentence of the paragraph. Please review and revise to be in line with the eligibility recommendation.

- No mention of the Cape Fear/Wilmington Memorial Bridge (NH2326) although the parties had been made aware of our and NCDOT's considering it eligible for the NRHP by our March 10, 2022, email.

That the FRA did not give more consideration to Historic Wilmington Foundation's request/recommendation to reconsider the eligibility of Greenfield Lake and Gardens (NH1381) is disappointing. The determination that the area is not eligible for listing is based on a 2015 Historic Structures Survey Report for the Cape Fear Crossing project, the same report that did not evaluate the Cape Fear/Wilmington Memorial Bridge. Given the passage of seven years and our standard request for federal agencies to update their project records and findings after five years, we request that FRA reconsider the Foundation's request for an eligibility re-evaluation and determination.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc:

Aubrey Parsley, WRR	aubrey.parsley@wilmingtonnc.gov
Kevin Wright, FRA	kevin.wright@dot.gov
Joanna Rocco, AECOM	Joanna.rocco@aecom.com

Meeting name
WRR Cooperating Agency Coordination Meeting #2

Meeting date
05/16/22

Location
Microsoft Teams

Project
Wilmington Rail Realignment

Attendees
Kevin Wright – FRA
Mickey Suggs – USACE
Brad Shaver – USACE
Amanetta Somerville – USEPA
Fritz Rhode – USFWS
Crystal Tucker – USCG
Joe Cavanaugh – NOAA
Krista McCraken – NOAA
Aubrey Parsley – City of Wilmington - Rail
Diana Wood – STB
Bethany Murphy – TranSystems
Celia Miars – AECOM
Rachel Nangle – AECOM
Joanna Rocco – AECOM
Tom Harris – WSP
Amanda Johnson – WSP
Rahlff Ingle – Dial Cordy

The Wilmington Rail Realignment Project team held a meeting with the Cooperating Agencies on May 16, 2022 via Microsoft Teams. The primary purpose of this meeting was to review the preliminary findings presented in the Draft Environmental Assessment (EA) and receive feedback from the agencies on methodologies and findings for resources.

Joanna Rocco began the meeting and discussed the current Project status. A copy of the presentation given is attached.

Discussion points from the meeting are below:

- The USACE asked if most of the focus of the EA is on the No-Build Alternative and the Preferred Alternative. It was noted a discussion of reasonable alternatives and the development of those alternatives is summarized in Chapter 2 of the EA and discussed in detail in the Alternatives Analysis.
- The EPA noted it has been previously mentioned the current rail may be repurposed for light rail and asked for any updates to this or potential impacts the environmental justice communities. The City of Wilmington clarified the repurposing of the existing rail route is not a federal action under review for this NEPA process; however, is a future vision of the City's. Light rail is not, at present, part of that vision, but making use of the right of way for public transportation/mobility is. The EPA noted that since one of the justifications of the Project is that it reduces at-grade intersections, if the future use of the rail line is transit, the benefit may be voided in the future. The Project team

will include a discussion of the potential to repurpose the existing Beltline in the indirect and cumulative effects section of the document.

- The USACE noted Section 408 is not a part of the Clean Water Act as indicated on Slide 19 "Water Quality", but instead part of the Rivers and Harbors Act.
- The USACE asked if most of the wetlands crossed by the Project would be impacted. WSP noted we are anticipating the most fill to be north of the sheriff's property and on structure where the majority of the higher quality wetlands on Eagles Island are located. It was noted most wetland impacts would be from footers and shading, to be determined during final design.
- The USACE asked when mitigation measures for impacts would be identified. It was noted the EA summarizes preliminary mitigation measures, but these will not be finalized until the final design stage through permitting.
- The USACE noted that CAMA Major permits are generally submitted to the NC Division of Coastal Management and they submit an application to the USACE; however, the process has not been determined for this project yet.
- The USACE noted the Migratory Bird Treaty Act has had more attention towards species that are nesting and could cause some project delays. An eagle's nest has been documented within range of the project.
- The project team has been coordinating with the USCG on a navigational impact report; USCG has made a preliminary determination of navigational clearance of 250 feet horizontally and 135 feet vertically. The "resting" vertical clearance was presumed to be 40 feet.
- The USACE asked when it would be determined that a Biological Assessment is needed. Joanna Rocco noted through initial coordination with the USFWS and NMFS that it was determined formal consultation would be deferred until the permitting stage and designs are further along. WSP noted formal consultation will be required with NMFS due to the presence of the Atlantic sturgeon, but they would like to defer until we have final designs after the EA process. FRA noted consultation with the USFWS would be completed prior to the FONSI.
- NOAA asked if the Project team is considering completing a stand-alone Essential Fish Habitat assessment. It was noted this has been completed and is currently under final reviews. The USACE requested to be copied on this correspondence.
- The USACE asked if the Project team has coordinated with NOAA to discuss the mitigation plan for potential impacts to the Alligator Creek Project mitigation site as described in the Restoration Plan and EA for the Kerr-McGee Chemical Corp. Site. Krista McCraken stated she would be the point of contact between the two projects and will continue coordination.
- STB asked if the EA includes air quality impacts. It was clarified this section, among others not mentioned in the presentation are included in the document. The

presentation today focused more on resources with notable impacts. The project team will review specific interests of the agencies if desired.

- The Project team will submit a draft EA for the agencies to review. It was noted this version is still under review by FRA. Comments are requested back by June 17th.

The meeting concluded at 4:00 pm.

Attachments:

- Meeting Presentation

WILMINGTON RAIL REALIGNMENT
CITY OF WILMINGTON
NEW HANOVER AND BRUNSWICK COUNTY

Cooperating Agency Meeting

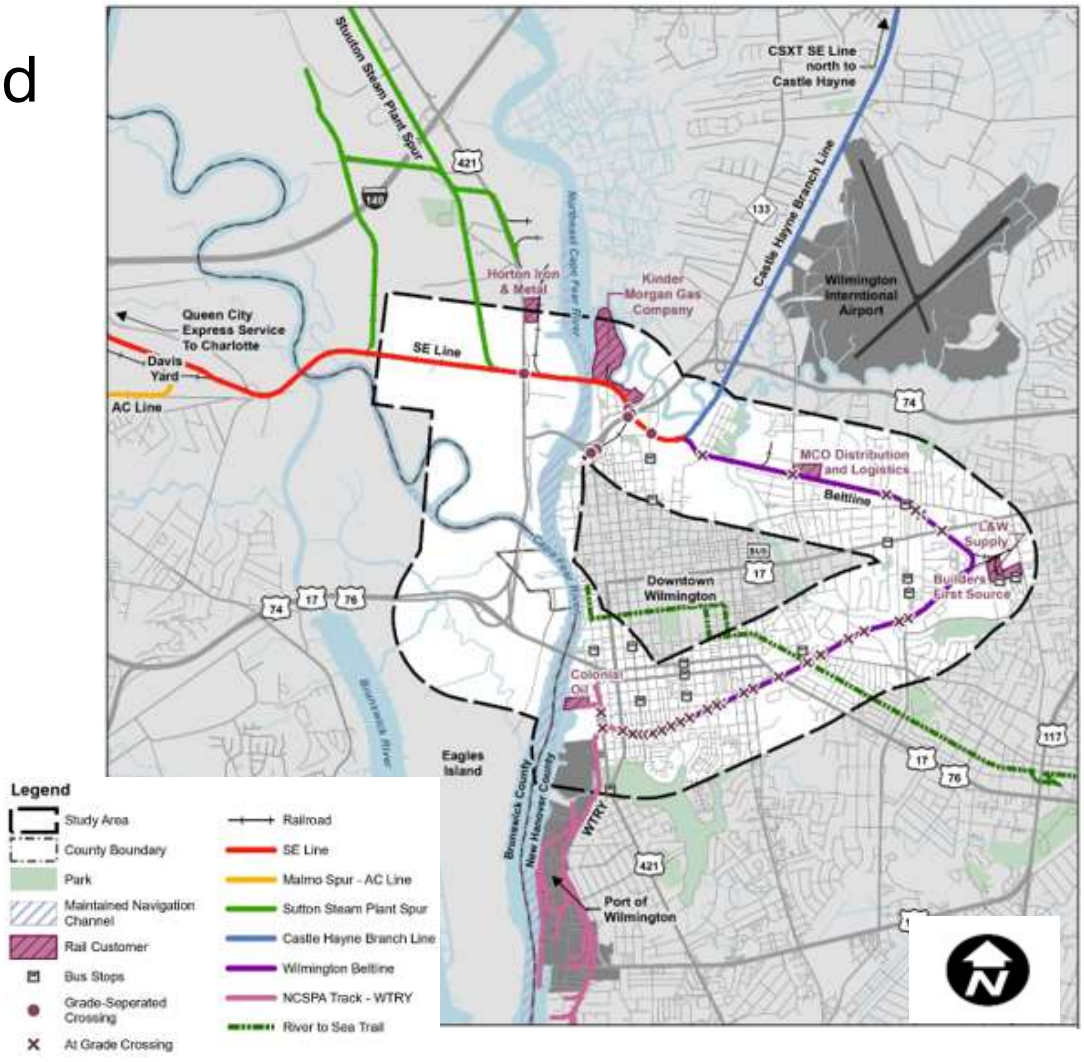
May 16, 2022

AGENDA

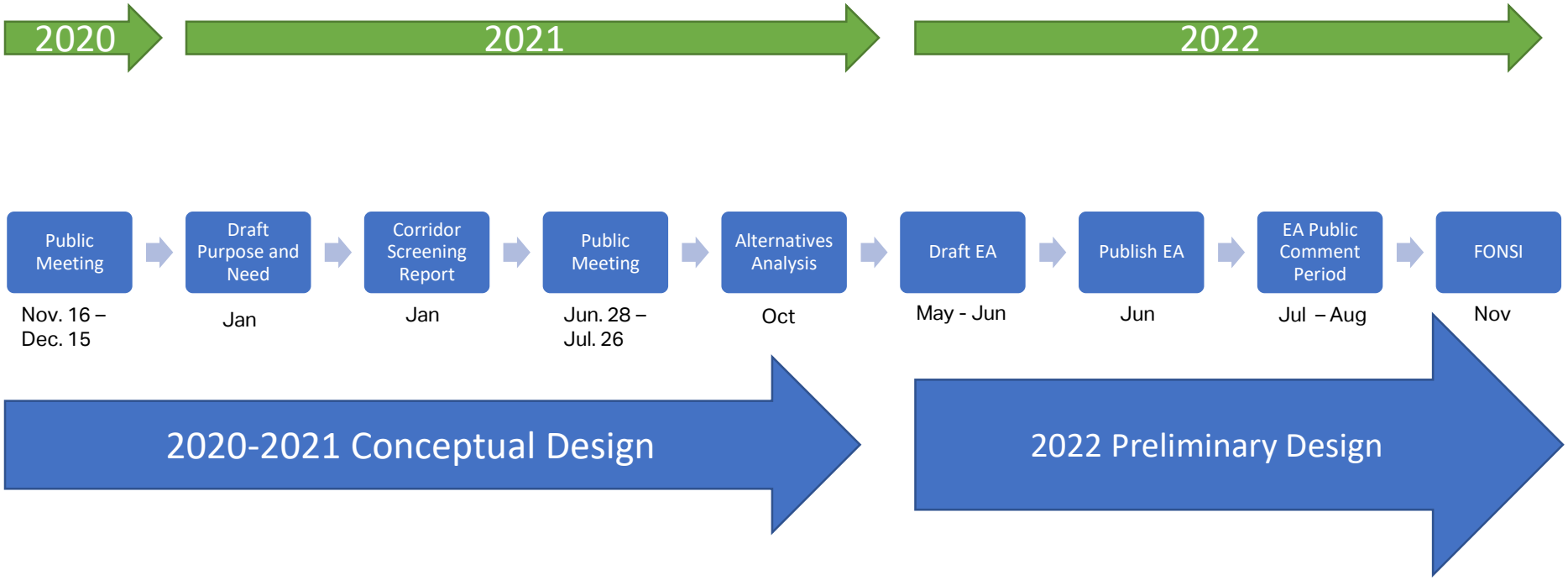
- Introductions and Purpose of the Meeting
- Project Status and Background
- Preferred Alternative
- Environmental Assessment Findings and Proposed Mitigation
- Project Schedule
- Next Steps

PURPOSE OF THE MEETING

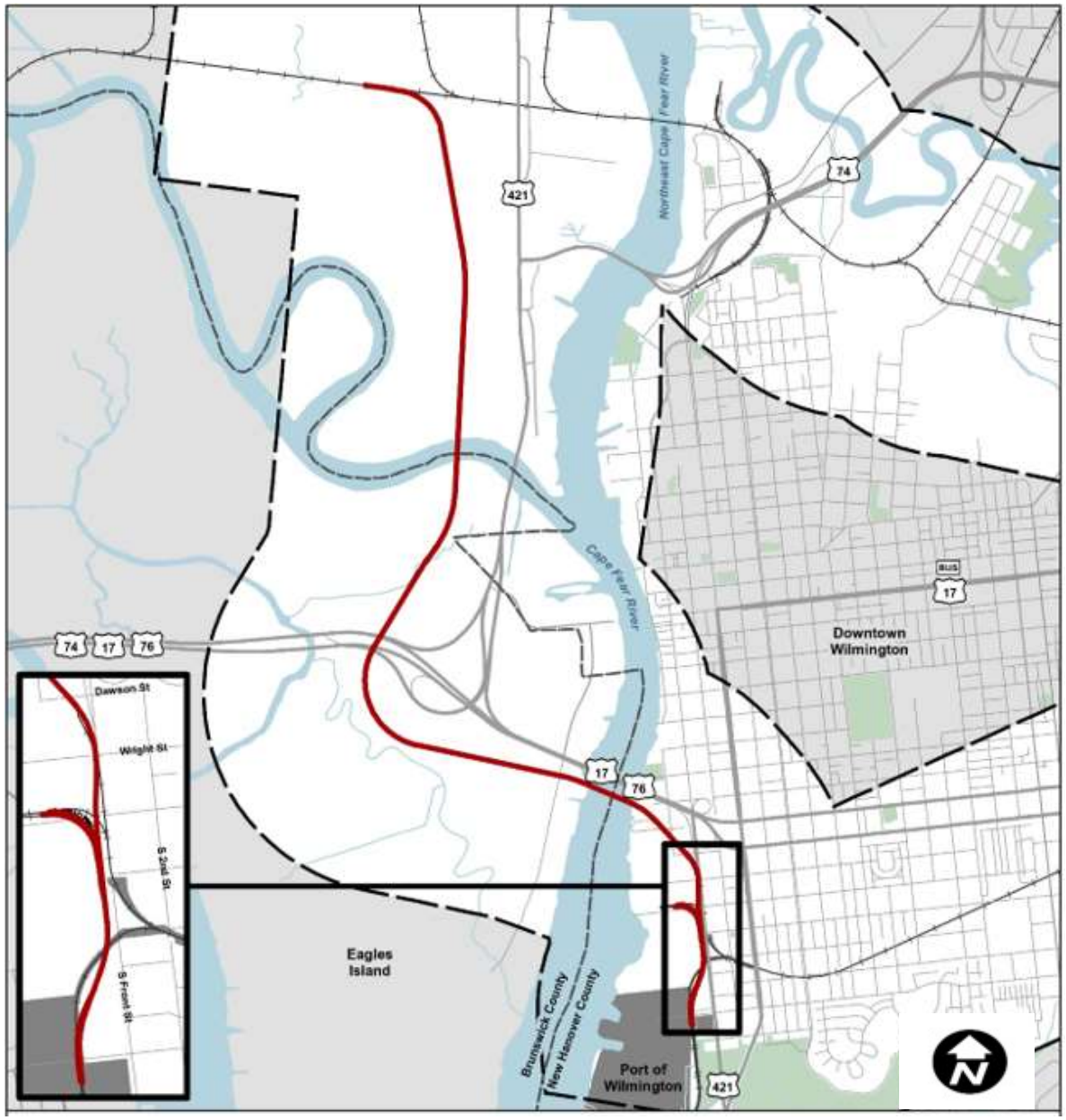
- Review the Preferred Alternative
- Review and receive feedback on EA Methodologies and Findings for Resources



PROJECT MILESTONES



PREFERRED ALTERNATIVE



Legend

- Study Area
- County Boundary
- Park
- Preferred Alternative
- Railroad

Environmental Assessment Findings and Proposed Mitigation

General Methodology

- Identified evaluation criteria
  - Engineering Considerations
  - Environmental Factors
- Affected Environment – varies by resource
- Impact Assessment
  - Evaluated No Build and Preferred Alternative
  - GIS overlays
  - Predictive models
  - Field surveys
  - Considers a maximum footprint for impact
  - Differentiates between Permanent and Temporary Impact areas within the Limits of Disturbance (LOD)

TRANSPORTATION

- Potential Impacts:
  - No-Build: Freight service and traffic expected to increase
  - Preferred Alternative:
    - Project would cross locations of bicycle and pedestrian paths and existing transit routes
    - Eliminates 32 at grade crossings
- Proposed Mitigation:
  - Traffic management plans for construction

DEMOGRAPHICS AND EJ

- Potential Impacts
  - No-Build: population growth and traffic increase impacting communities (EJ)
  - Preferred Alternative:
    - Noise impacts may occur to one EJ community
    - Overall benefit to community
- Proposed Mitigation:
  - Coordination with community leaders will continue
  - Noise mitigation measures will be implemented to reduce impacts to EJ communities

PUBLIC HEALTH AND SAFETY

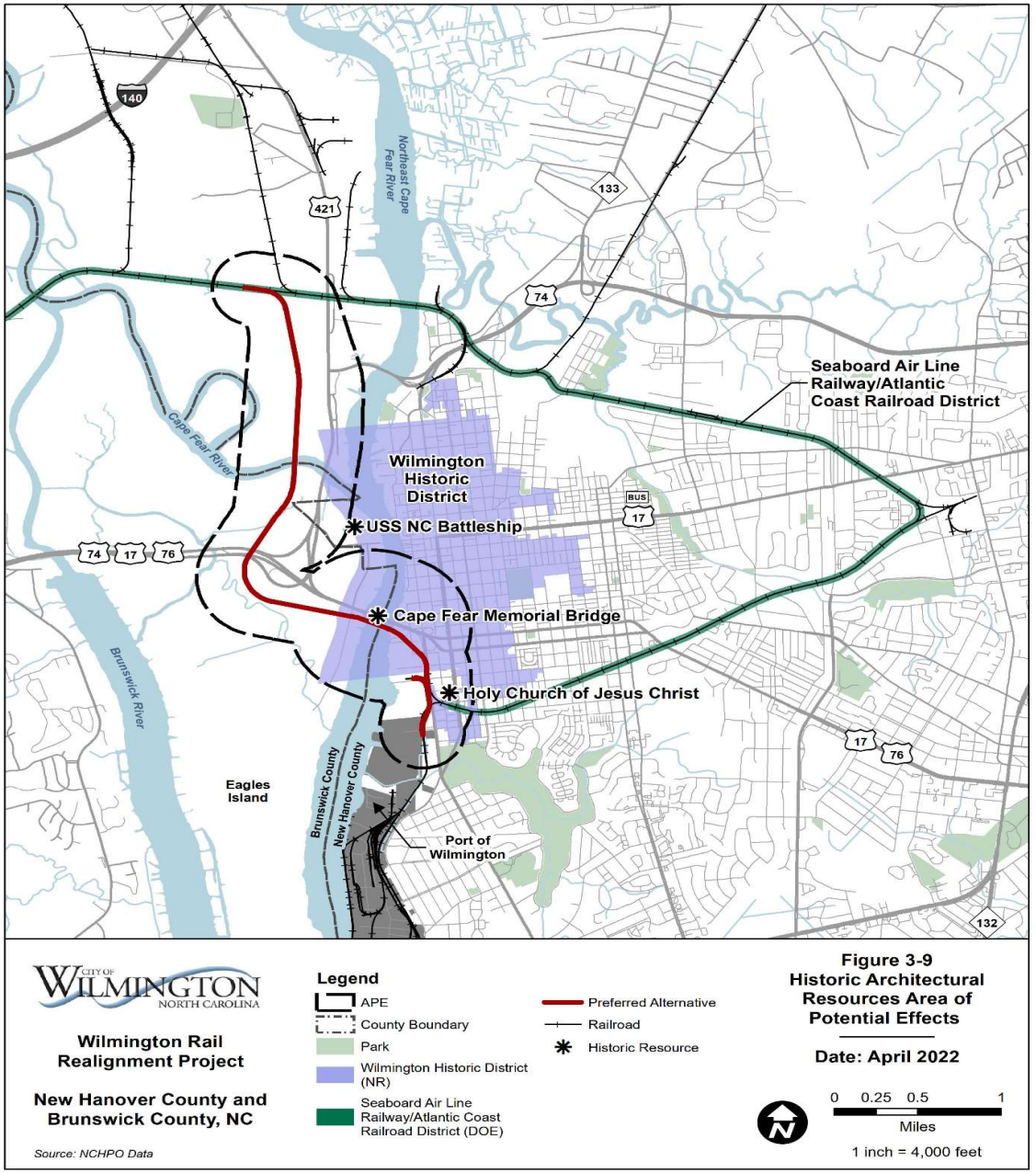
- Potential Impacts
  - No-Build: Freight service and traffic expected to increase.
  - Preferred Alternative:
    - Reduces the potential number of at-grade crossing conflicts between vehicles and freight trains.
    - Improved safety along school routes, EMS routes, and pedestrian crossings.
- Proposed Mitigation:
  - No specific mitigation proposed.
  - Construction activities and future operations of freight rail done in compliance with OSHA and FRA.

SECTION 106

- Federal undertaking
  - FRA – lead federal agency
  - Initiated Section 106
- Surveys
  - Completed Intensive-Level Historic Architectural Resources Survey and Terrestrial and Underwater Archaeological Survey
  - Comments received from NC State Historic Preservation Office on 5/5/22
- Consulting Parties (CP)
  - Two meetings with CPs to review resources and methodologies

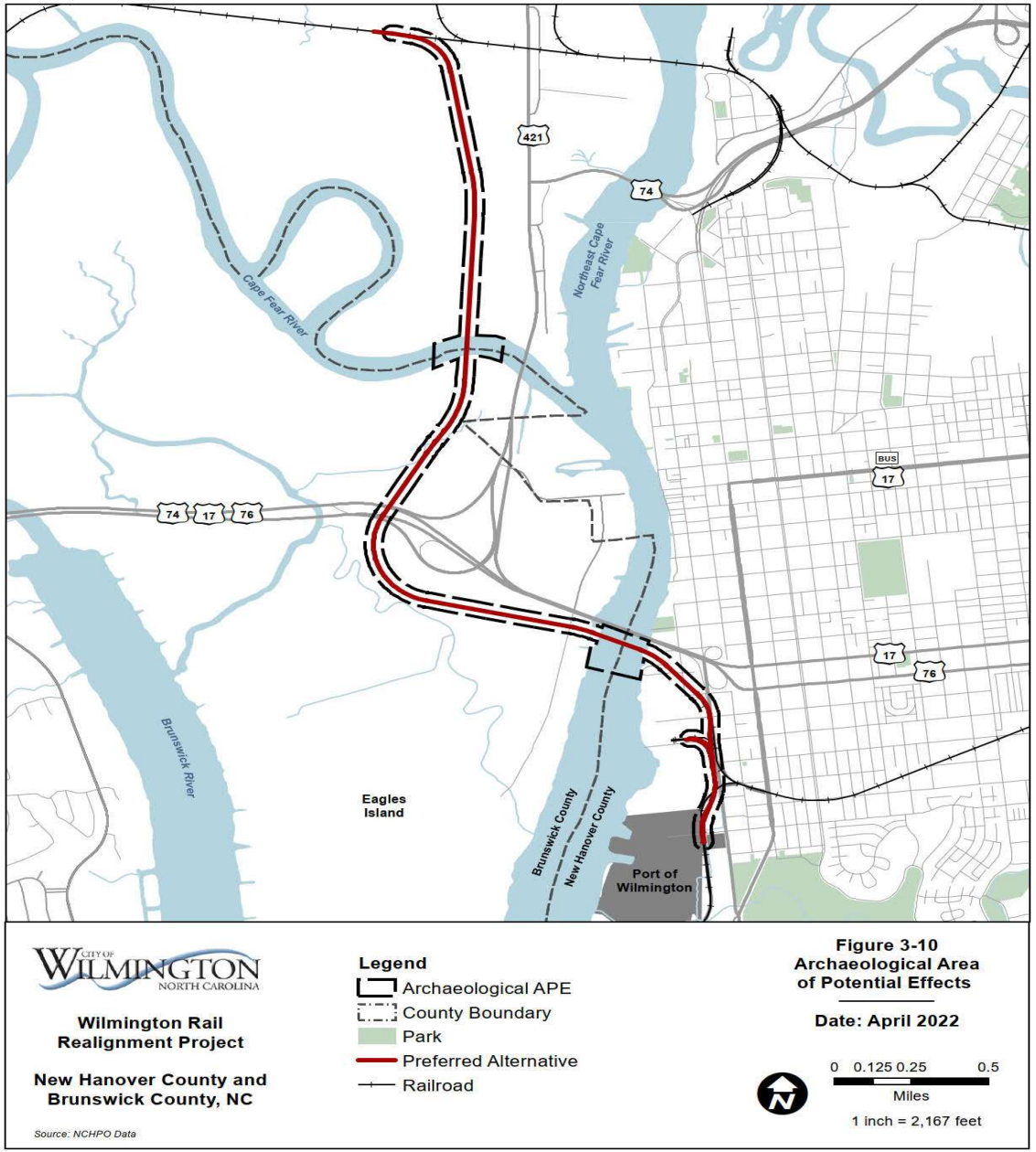
Historic Architecture

- Potential Impacts:
  - Effects Assessment currently underway
  - Effects may occur to:
    - Wilmington Historic District
    - Cape Fear Memorial Bridge
- Proposed Mitigation: To Be Determined



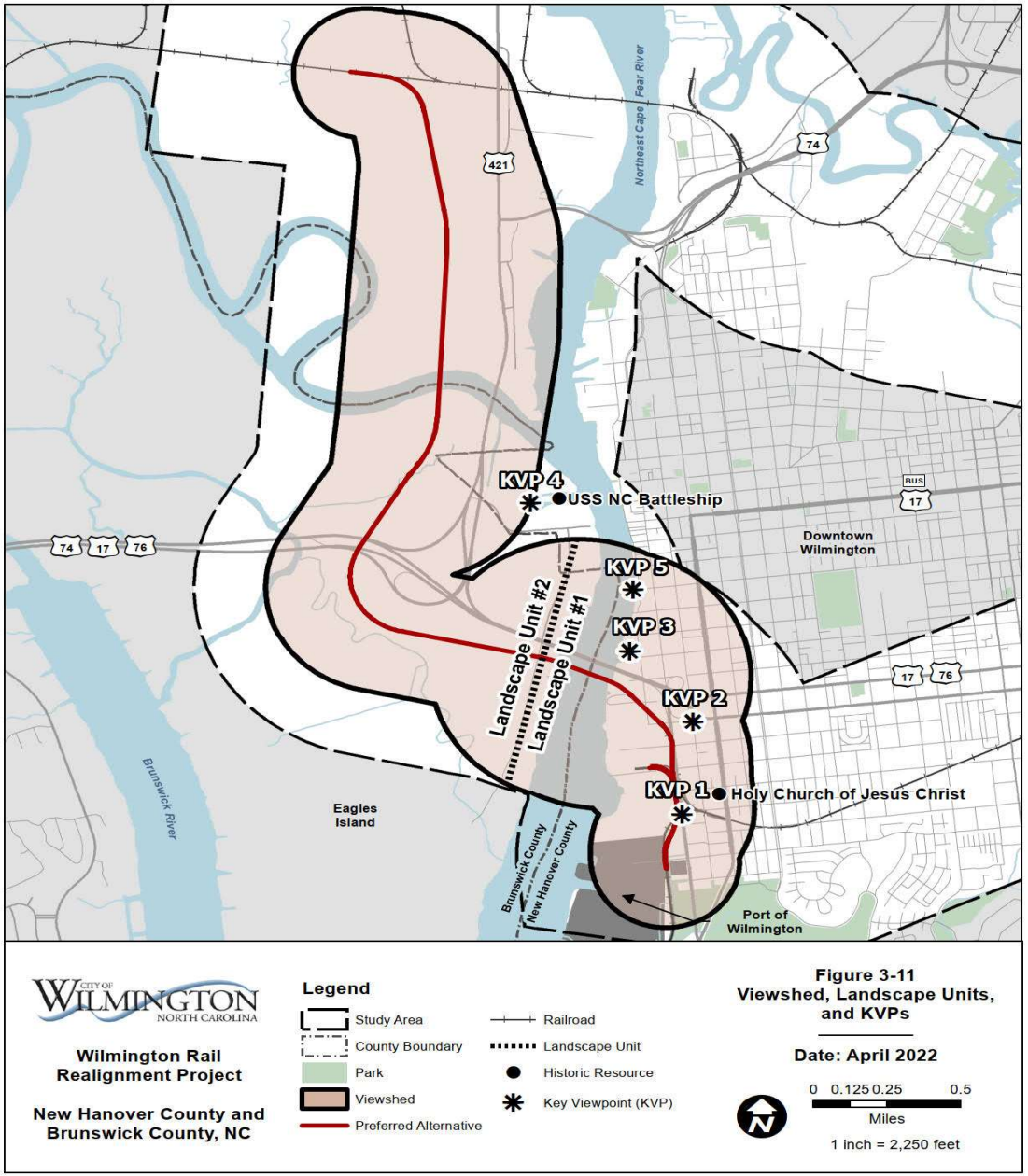
ARCHAEOLOGY

- Potential Impacts:
  - Effects Assessment currently underway
  - No Effects anticipated.
- Proposed Mitigation: To Be Determined



VISUAL RESOURCES

- Potential Impacts
  - No-Build: No changes in the aesthetics or visual setting would occur.
  - Preferred Alternative:
    - Visual impact anticipated to be moderately low and neutral
- Proposed Mitigation:
  - Hold public meetings to share and refine design themes
  - Minimize vegetation removal
  - Develop construction and operational lighting plans
  - Select staging areas that limit visual and aesthetic effects on neighboring uses



WATER QUALITY

- Potential Impacts
  - No-Build: No impacts to water quality would occur
  - Preferred Alternative: Unlikely to result in adverse impacts
- Proposed Mitigation
  - BMPs implemented during construction
  - Stormwater Pollution Prevention Plan
  - Clean Water Act Section 404 Individual Permit , a Clean Water Act Section 401 Water Quality Certification from the NCDEQ DWR, and a Clean Water Act Section 408 approval from the USACE would likely be required

WATER BODIES AND WATERWAYS

Metric Category	Impacts		
	Permanent	Temporary	LOD Total[4]
Wetlands			
Total acreage of wetlands[4]	26.5	20.6	47.1
Total acreage of high quality wetlands[2]	17.4	19.4	36.8
Total acreage of medium quality wetlands[2]	4.5	1.1	5.5
Total acreage of low quality wetlands[2]	4.6	0.2	4.8
Streams			
Total linear feet of streams[4]	560	863	1,423
Total linear feet of high quality streams[3]	510	763	1,273
Total linear feet of medium quality streams[3]	50	100	151
Total acreage of streams[4]	2.4	4.5	6.9
Total acreage of high quality streams[3]	1.4	2.6	4.0
Total acreage of medium quality streams[3]	1.0	2.0	3.0
Surface Waters (ditches)			
Total linear feet of surface waters	15	166	181
Total acreage of surface waters	0.0	0.0	0.0

EA Table 3-18: Summary of Potential Impacts for the Preferred Alternative [1]

Notes:

There is no overlap between permanent and temporary impacts within the LOD.

[1] Areas have been rounded to the nearest tenths place. Lengths have been rounded to the nearest whole number.

[2]Quality of wetlands was based on results from the NC WAM functional assessment ratings. Wetland functional ratings have not been verified by USACE.

[3] Quality of streams was based on results from the NC SAM functional assessment ratings. Stream functional ratings have not been verified by USACE.

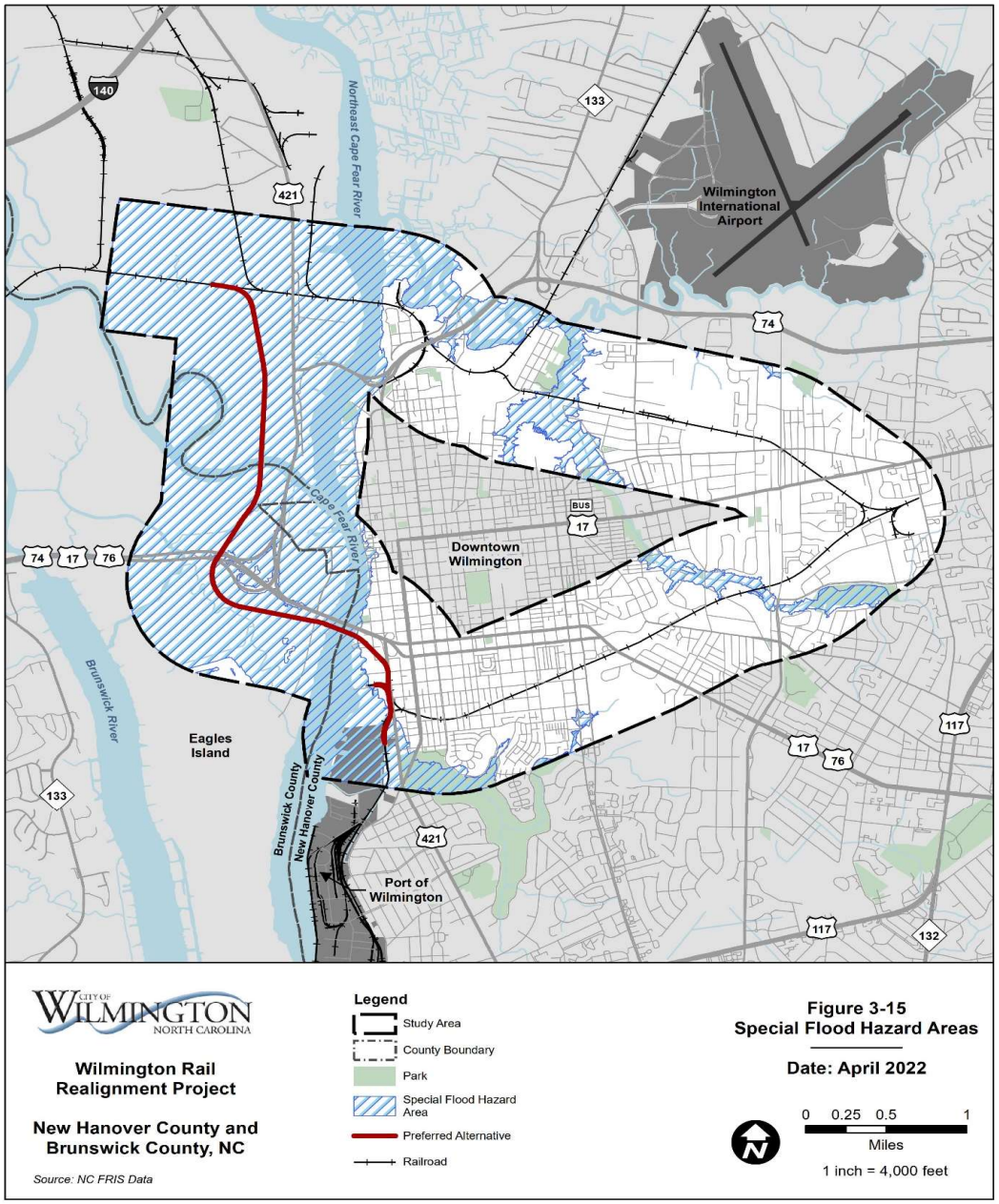
[4]The discrepancy in totals is due to rounding. Totals were calculated using GIS.

NAVIGATION

- Potential Impacts
  - No-Build: no impacts to navigation would occur
  - Preferred Alternative:
    - Two new moveable span, single-track bridges crossing the Cape Fear River are proposed
    - Not expected to affect the safe, efficient movement of any segment of present or prospective recreational or commercial fleet operations on the Cape Fear River
- Proposed Mitigation
  - No mitigation is proposed since no unavoidable impacts to navigation were identified

Floodplains and Flood Zones

- Potential Impacts
  - No-Build: no changes to special flood hazard areas of Base flood elevations would occur
  - Preferred Alternative: 86% of the LOD falls within the 100-year floodplain
- Proposed Mitigation:
  - A detailed SFHA evaluation will be prepared
  - Design Project to meet the relevant requirements of Executive Order 11988 and USDOT Order 5650.2
  - All conveyance structures in FEMA 100-year floodplains would be designed to obtain a no-rise certification and carry the 100-year storm event
  - Coordination with local units of government, the state, and FEMA would occur as the Project progresses



COASTAL ZONES AND AECS

- Potential Impacts
  - No-Build: no changes to the coastal zone or AECs would occur
  - Preferred Alternative: CAMA AECs would be impacted; acreage to be determined
- Proposed Mitigation:
  - NCDEQ DCM determination
  - CAMA Major Permit will be required
  - Coordination with regulatory and environmental resource agencies will continue
  - Compensatory mitigation may be required

Threatened and Endangered Species and Critical Habitats

Scientific Name	Common Name	Federal Status[1]	Suitable Habitat Present	Preliminary Effects Assessment[2]
Plants				
Amaranthus pumilus	Seabeach amaranth	T	No	NE
Lysimachia asperulaefolia	Rough-leaved loosestrife	E	No	NE
Thalictrum cooleyi	Cooley's meadowrue	E	No	NE
Mammals				
Myotis septentrionalis	Northern long-eared bat	T	Yes	MA – Subject to Final 4(d) Rule
Trichechus manatus	West Indian manate	T	Yes	MA-NLAA
Birds				
Calidris canutus rufa	Rufa red knot	T	No	NE
Charadrius melodus	Piping plover	T	No	NE
Laterallus jamaicensis ssp. jamaicensis	Eastern black rail	T	Yes	MA-NLAA
Mycteria americana	Wood stork	T	Yes	MA-NLAA
Picoides borealis	Red-cockaded woodpecker	E	No	NE

EA Table 3-21: ESA Federally Protected Species Listed for the Preferred Alternative

[1]T – Threatened; E – Endangered; T(S/A) — Threatened due to similarity of appearance

[2] NE — No Effect; MA — May Affect; MA-NLAA — May Affect – Not Likely to Adversely Affect. Coordination with USFWS is ongoing to confirm these determinations.

* — Species listed by NMFS only

Threatened and Endangered Species and Critical Habitats

Scientific Name	Common Name	Federal Status[1]	Suitable Habitat Present	Preliminary Effects Assessment[2]
Reptiles				
Alligator mississippiensis	American alligator	T(S/A)	Yes	Not required
Caretta caretta	Loggerhead sea turtle	T	No	NE
Chelonia mydas	Green sea turtle	T	No	NE
Dermochelys coriacea	Leatherback sea turtle	E	No	NE
Eretmochelys imbricate	Hawksbill sea turtle*	E	No	NE
Lepidochelys kempii	Kemp's ridley sea turtle	E	No	NE
Fish				
Acipenser brevirostrum	Shortnose sturgeon*	E	Yes	Unresolved
Acipenser oxyrhynchus oxyrhynchus	Atlantic sturgeon*	E	Yes	Unresolved

EA Table 3-21 (cont.): ESA Federally Protected Species Listed for the Preferred Alternative

[1]T – Threatened; E – Endangered; T(S/A) — Threatened due to similarity of appearance

[2] NE — No Effect; MA — May Affect; MA-NLAA — May Affect – Not Likely to Adversely Affect. Coordination with USFWS is ongoing to confirm these determinations.

* — Species listed by NMFS only

SECTION 7

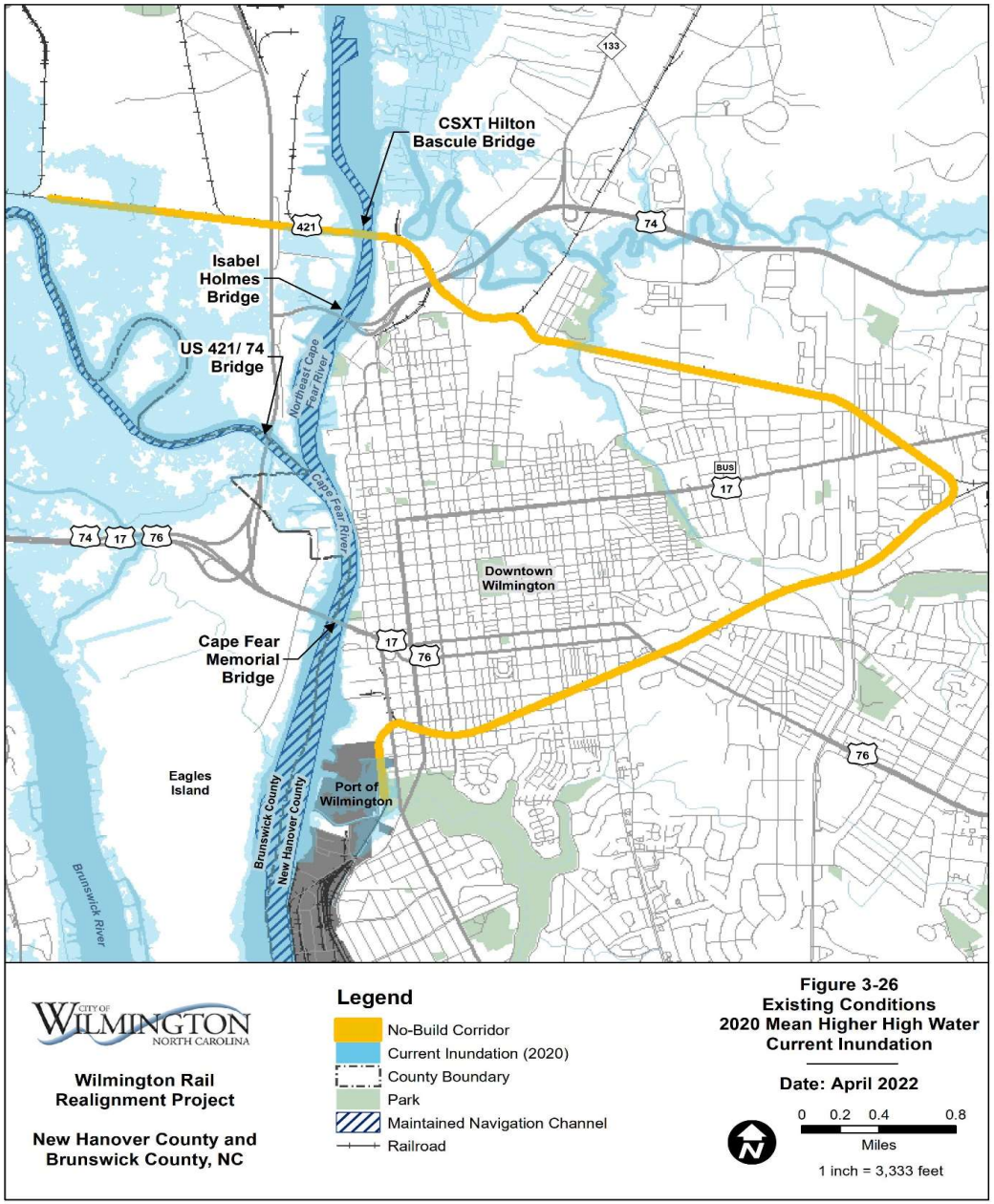
- Coordination with USFWS and NMFS
- Surveys
  - Conducted field surveys for Black Rail (not found)
  - Bald Eagle Surveys (nest near alignment)
- Deferred consultation with NMFS
  - Recommended to defer consultation until more detailed engineering is completed
  - Will continue coordination with NMFS as planning for project progresses
- Proposed Mitigation:
  - Section 7 consultation with the USFWS and NMFS would be conducted
  - A Biological Assessment may be required during the Section 7 consultation with NMFS regarding the sturgeon species
  - A BGEPA permit may be required
  - Coordination with NMFS, DMF, NCWRC, NCDEQ DCM, NCDEQ DWR, and USACE would continue

CONTAMINATED SITES

- Potential Impacts
  - No-Build: no contaminated sites would be impacted
  - Preferred Alternative: one FRB site, three UST incidents, nine AST incidents, two HW sites, four IH sites and one Superfund Non-NPL site exist within/adjacent to the LOD
- Proposed Mitigation:
  - Phase 2 environmental site assessments will be conducted
  - Consultation with regulatory agencies

RESILIENCY

- Potential Impacts
  - No-Build Alternative: risk of inundation and flooding would continue and may worsen.
  - Preferred Alternative: would likely minimize the risk of sea level rise induced inundation and promote resiliency
- Proposed Mitigation:
  - Incorporating resilient design measures during final design and contracting mechanisms to resist flood potential.



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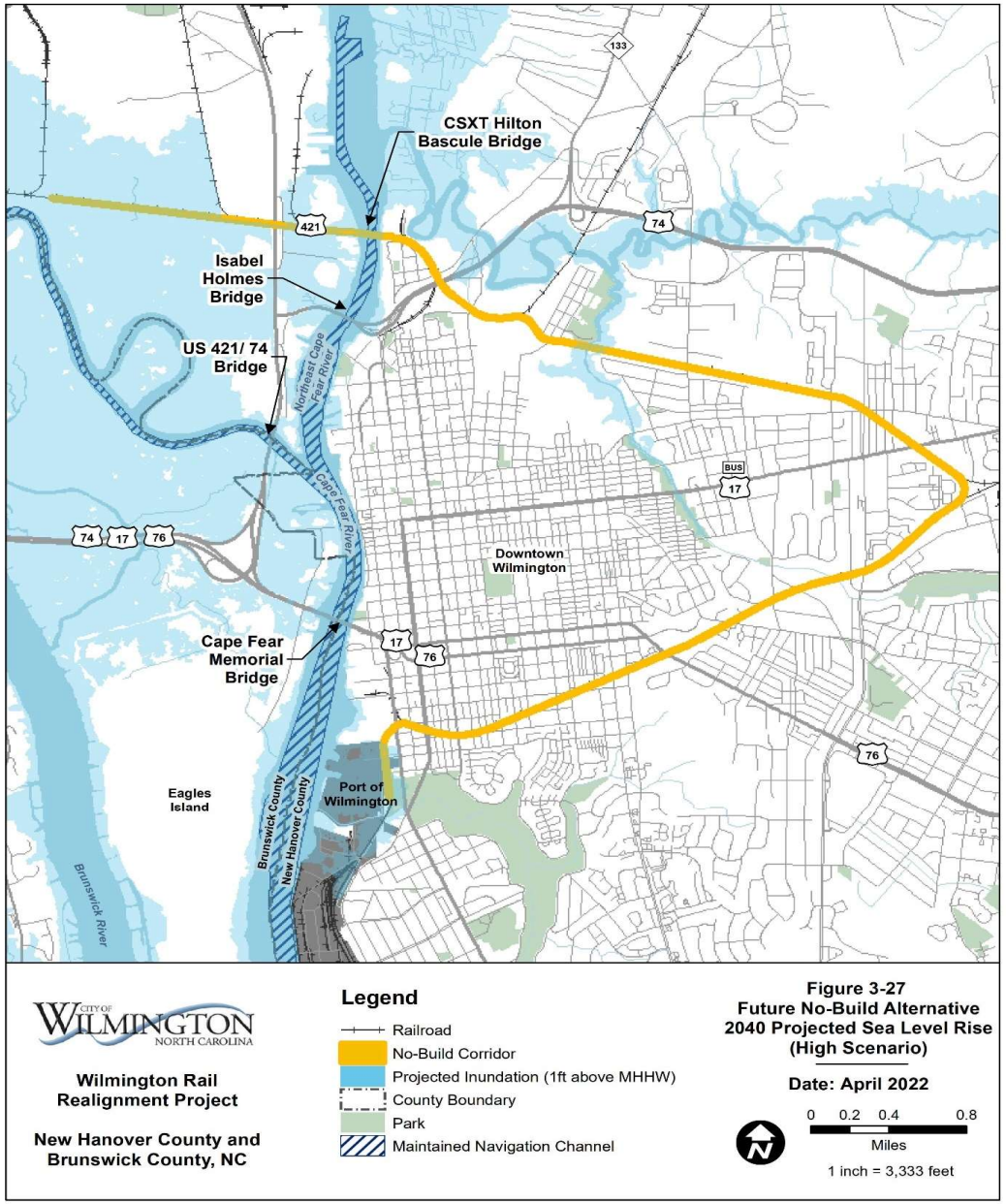

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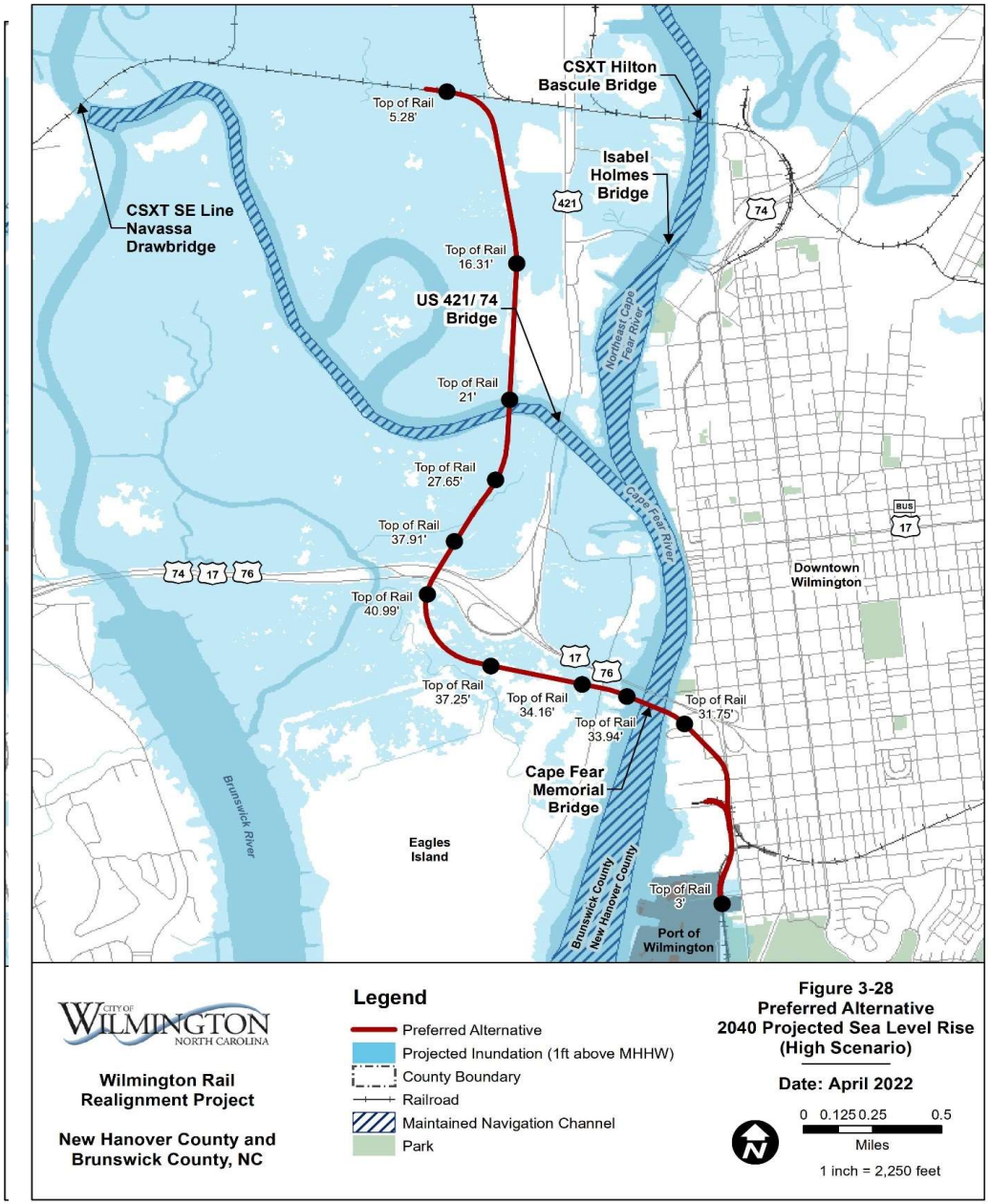

NEXT STEPS

Next Steps

- Agency Review
  - Comments due June 16th
- Address Agency Comments
- Finalize EA for public review – expected July 2022
- Public Hearing – expected July 2022
- Finding of No Significant Impact

AGENCY REVIEW OF EA

- Draft EA to be provided to cooperating agencies for review
  - Distribution via email; hard copies upon request
- 30 days to review document
  - Comments requested by June 16th
- Specifically looking for:
  - Feedback on methodologies
  - Findings
  - Potential mitigation
  - Permitting needs

QUESTIONS

U.S. Department
of Transportation

Federal Railroad

Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

June 2, 2022

Fritz Rohde
National Marine Fisheries Service
Southeast Regional Office
Beaufort Field Office
101 Pivers Island Road
Beaufort, NC 28516-9722

Re: Wilmington Rail Realignment

Greetings Mr. Rohde,

The Federal Railroad Administration (FAA) as the lead Federal Agency, in coordination with the City of Wilmington (City), has initiated an Environmental Assessment (EA) for a proposed new freight rail route to bypass the existing route between Navassa (Davis Yard) and the Port of Wilmington. The project, referred to as the Wilmington Rail Realignment, proposes to reroute the existing freight traffic from the CSXT Beltline in the City of Wilmington to a new westward freight line across the Cape Fear River (CFR) and Eagles Island in New Hanover and Brunswick Counties. The FRA is requesting consultation with the National Marine Fisheries Service (NMFS) under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). Per your request during the FRA-NMFS interagency coordination call on 21 January 2022, the FRA is submitting an Essential Fish Habitat (EFH) Assessment that addresses the effects of the proposed action on EFH and federally managed species.

A separate letter is being submitted to Mr. Andrew Herndon to request coordination under Section 7 of the Endangered Species Act (ESA).

If you have questions or requests for additional information, please contact Kevin Wright at 202-868-2628 or kevin.wright@dot.gov.

Sincerely,

Brandon Bratcher
Supervisory Environmental Protection Specialist

Attachments (1)
Wilmington Rail Realignment Essential Fish Habitat Assessment

Cc: Aubrey Parsley, City of Wilmington
Andrew Herndon, National Marine Fisheries Service
Mickey Sugg, US Army Corps of Engineers

ATTACHMENT A

WILMINGTON RAIL REALIGNMENT
ESSENTIAL FISH HABITAT ASSESSMENT

Wilmington Rail Realignment
New Hanover and Brunswick Counties, NC

Essential Fish Habitat Assessment

February 2022

Prepared for:

AECOM

Prepared by:

Dial Cordy and Associates Inc.
201 N. Front St., Suite 307
Wilmington, North Carolina 28401

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APPENDICES

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1.0 INTRODUCTION

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996, this Essential Fish Habitat (EFH) Assessment has been prepared to address the potential effects of the proposed Wilmington Rail Realignment Project on EFH and federally managed fisheries. The proposed action would reroute existing freight traffic from the CSXT Beltline in the City of Wilmington to a new westward freight line across the Cape Fear River (CFR) and Eagle Island. The purpose of the proposed action is to improve safety and regional transportation mobility by reducing the number of at-grade railroad crossings.

2.0 PROPOSED ACTION

The proposed action would construct a new four-mile single-track rail line between Greenfield Street in downtown Wilmington and the existing CSXT line on the west side of the Northeast Cape Fear River (NECFR) above Eagle Island (Figure 1). From Greenfield Street the proposed alignment extends north along South Front Street through downtown Wilmington before turning west and crossing the CFR to Eagle Island just below the existing Cape Fear Memorial Bridge. The alignment continues west on Eagle Island; eventually turning north and crossing US HWY 76/74. From US 76/74 the alignment continues north on Eagle Island and crosses the CFR a second time just above its confluence with the NECFR. After crossing the river, the alignment continues northward along the west side of US HWY 421 to the project terminus at the existing CSXT rail line. The proposed project is currently in the 30 percent preliminary engineering design phase, which is principally concerned with defining the project alignment and profile (Appendix A). The structural design of the project is evaluated at a conceptual level in this assessment. Detailed design plans for specific structural elements will be developed during a later phase of engineering design.

The preliminary project design encompasses above-grade and at-grade rail components; including an at-grade railway trackbed from Greenfield Street to the CFR, a lift span bridge for the lower CFR crossing, a pier-supported elevated rail across Eagle Island, a bascule bridge for the upper CFR crossing, and an at-grade railway trackbed from the upper CFR crossing to the existing CSXT line. The proposed lift span bridge for the lower CFR crossing would be similar to the existing Cape Fear Memorial Bridge, whereas the proposed bascule bridge for the upper CFR crossing would be similar to the existing CSXT Hilton Railroad Bridge across the NECFR. It is anticipated that the movable spans of both bridges would be supported at either end by cast in place concrete foundational structures, whereas the bridge approach spans would be supported by concrete piers on a foundational system of pre-cast or drilled shaft concrete piles with a water line concrete pile cap to resist vessel collisions. The ~1.5-mile elevated rail across Eagle Island would be supported by piers on a foundational system of driven or drilled shaft concrete piles and/or pile-supported concrete footings. Figure 2 depicts various pier configurations that could potentially be used to construct the bridge approach spans and elevated rail. Span lengths will be determined during a later phase of engineering design: however, 60-ft span lengths for curves and 90-ft lengths for straight rail spans are considered conservative estimates of span lengths and pier spacing along the alignment.

Figure 1. Proposed project alignment.

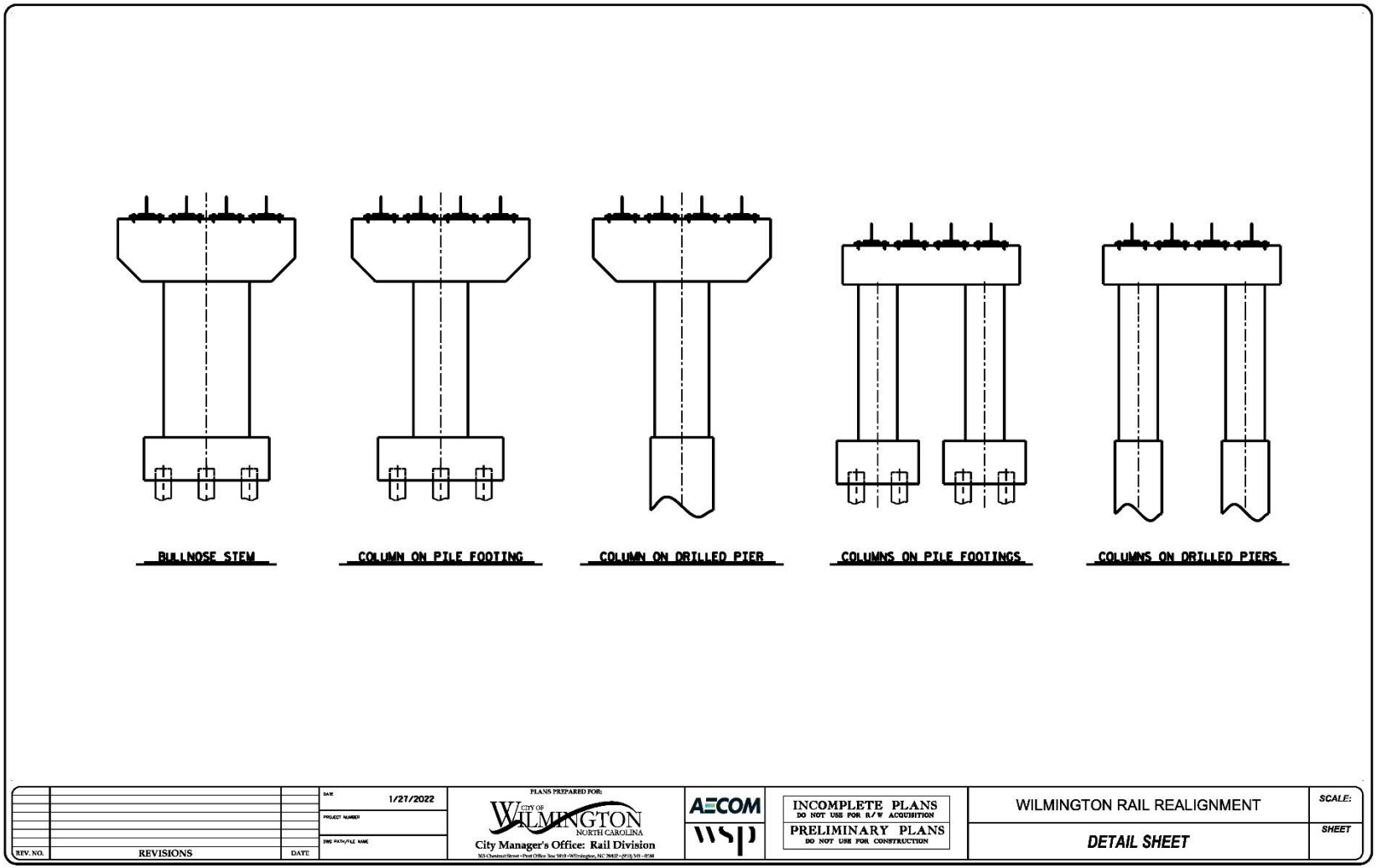

Figure 2. Potential pier and pile configurations for elevated rail segments.

Although specific construction methods would be identified during a later phase of engineering design, this assessment considers construction methods and equipment that are typically employed by similar in-water projects. Conventional construction methods utilizing barges, cranes, and timber mats are anticipated. As indicated above, elevated rail segments would be supported by piers on foundational systems of pre-cast and/or drilled shaft concrete piles. In the case of pre-cast concrete piles, it is assumed that installation in the river bed or wetland substrate would be accomplished by vibratory and/or impact pile drivers. - In the case of drilled shaft piles, construction typically involves pre-drilling a pile shaft, installing a temporary or permanent steel casing to keep the shaft open, inserting a rebar cage, and filling the shaft with liquid concrete. Steel casings are typically installed with a vibratory pile driver, which may also be required for the removal of temporary steel casings. Access to the construction site would likely occur via Battleship Road, US 17/74/76, and US 74/421. Access to the river sections will likely occur from the project right of way along both sides of the river. The USACE Engineer Repair Yard along the west side of the lower CFR crossing could potentially be used for materials storage, staging, and access.

3.0 DESCRIPTION OF THE ACTION AREA

The action area considered in this assessment is the tidally influenced CFR Estuary (CFRE) between downtown Wilmington and Navassa in New Hanover and Brunswick Counties, NC. The action area estuarine environment is comprised of the mainstem CFR and Brunswick River channels and their associated tidal floodplains. The CFRE is strongly affected by lunar semidiurnal ocean tides that propagate ~60 miles up the mainstem CFR to Lock and Dam #1 in Bladen County. Mean tidal range increases from ~4.3 ft at the river mouth to a maximum of ~5.1 ft at downtown Wilmington, and declines in the estuary above to a low of ~1.0 ft at Lock and Dam #1. Salinity levels and the position of the saltwater-freshwater boundary in the estuary are heavily influenced by variability in tidal conditions and freshwater inflow (Becker 2006, Leonard et al. 2011). Average surface salinity conditions, which determine the composition of tidal wetland communities in the estuary, are generally considered to be oligohaline (5.0 - 0.5 ppt) in the vicinity of the action area. However, during the summer and fall (July-Nov), maximum monthly surface salinities at the upper end of Eagle Island generally range from 15 to 25 ppt (Leonard et al. 2011). Tidal marshes in the action area are strongly dominated by dense, often monospecific stands of narrow-leaved cattail (*Typha angustifolia*) and common reed (*Phragmites australis*). Additional common marsh constituents include big cordgrass (*Spartina cynosuroides*), soft-stem bulrush (*Schoenoplectus tabernaemontani*), and salt-marsh bulrush (*Bolboschoenus robustus*).

4.0 MANAGED FISHERIES AND EFH/HAPC IN THE ACTION AREA

The action area encompasses estuarine habitats that are designated as EFH and/or Habitat Areas of Particular Concern (HAPCs) in Fishery Management Plans (FMPs) developed by the South Atlantic Fisheries Management Council (SAFMC) and Mid-Atlantic Fishery Management Council (MAFMC) (Table 1). The MSFCMA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." HAPCs comprise a more specific subset of EFH that are considered to be especially critical due to factors such as rarity, susceptibility to human-induced degradation, and/or high ecological importance. Federally managed species and associated EFH/HAPCs that occur in the vicinity of the action area are described in the sections below.

Table 1. Federally managed species and EFH/HAPC in the vicinity of the action area.

SPECIES/GROUP	EFH/HAPC
SAFMC EFH	
Penaeid Shrimp	Tidal Estuarine Emergent Wetlands Submerged Aquatic Vegetation Subtidal/Intertidal Non-vegetated Flats
Snapper-Grouper	Tidal Estuarine Emergent Wetlands Tidal Creeks Submerged Aquatic Vegetation Unconsolidated Bottom
Coastal Migratory Pelagics	Primary Nursery Areas
SAFMC HAPC	
Penaeid Shrimp	Primary Nursery Areas
Snapper-Grouper	Primary Nursery Areas Submerged Aquatic Vegetation
MAFMC EFH	
Summer Flounder	Estuaries with salinities >0.5 ppt
Bluefish	Estuaries
Atlantic Butterfish	Inshore pelagic habitats
MAFMC HAPC	
Summer Flounder	Submerged Aquatic Vegetation

4.1 EFH and HAPCs

4.1.1 Estuarine Emergent Wetlands

Tidal marshes throughout the action area are strongly dominated by narrow-leaved cattail and common reed, which often form dense monospecific stands across large expanses of the tidal floodplain. Cattail dominates the lower portions of the tidal floodplain; whereas common reed has a relatively low tolerance to salinity and is generally restricted to higher areas on dredged material deposits. The majority of the tidal floodplain between the Eagle Island Confined Disposal Facility and US 17/76/74 is covered by a continuous layer of historically placed dredged material that has filled in the former Alligator Creek channel and increased the elevation of the floodplain. The area remains tidally influenced, but the increase in elevation has resulted in the establishment of a nearly continuous monospecific common reed marsh between Battleship Road and the US 17/76/74 interchange. Additional plant species that are common constituents of tidal marshes in the action area include big cordgrass, soft-stem bulrush, and salt-marsh bulrush.

4.1.2 Unconsolidated Bottom

Intertidal and shallow subtidal unconsolidated bottom habitats provide abundant food resources for estuarine-dependent juveniles in an environment that is relatively inaccessible to large predators via shallow depths (SAFMC 1998). Shallow unconsolidated bottom habitats support highly productive benthic microalgal communities**.** Benthic microagal primary production, along with imported primary production in the form of phytoplankton and detritus, supports highly productive benthic infaunal invertebrate communities that comprise the prey base for most estuarine-dependent demersal fishes; including summer flounder and estuarine-dependent species of the snapper-grouper complex. Penaeid shrimp are most abundant in shallow unconsolidated bottom habitats at the highly productive shallow bottom-marsh interface.

4.1.3 Primary Nursery Areas

Primary Nursery Areas (PNAs) are defined as “those areas in the estuarine system where initial post-larval development takes place” [15 North Carolina Administrative Code (NCAC) 3l .0101(b)(20)(E)]. PNAs support uniform populations of very early juveniles and are typically located in the upper reaches of the estuarine system. Designated PNAs in the action area generally encompass the waters of the CFR along the margins of the authorized navigation channels and the contiguous fringing tidal marshes along the shorelines (Figure 2). The CFRE is an important nursery area for estuarine-dependent fish and invertebrate species that spawn offshore and use estuarine habitats for juvenile development. Ocean-spawned larvae are transported shoreward by the prevailing currents and eventually pass through tidal inlets and settle in estuarine nursery habitats. For most estuarine-dependent species, larval settlement occurs in the uppermost reaches of shallow tidal creek systems (Weinstein 1979, Ross and Epperly 1985). Juveniles remain in the estuarine nursery areas for one or more years before moving offshore and joining the adult spawning stock (NCDEQ 2016). Studies of nursery habitat utilization in the CFRE indicate that densities of estuarine-dependent juveniles in the upper oligohaline marshes and creeks equal or exceed densities in the mesohaline to polyhaline creeks and salt marshes of the mid to lower estuary (Rozas and Hackney 1984, Ross 2003). Rozas and Hackney (1984) reported three seasonal peaks in numerical abundance in oligohaline marsh rivulets during the spring, summer, and fall.

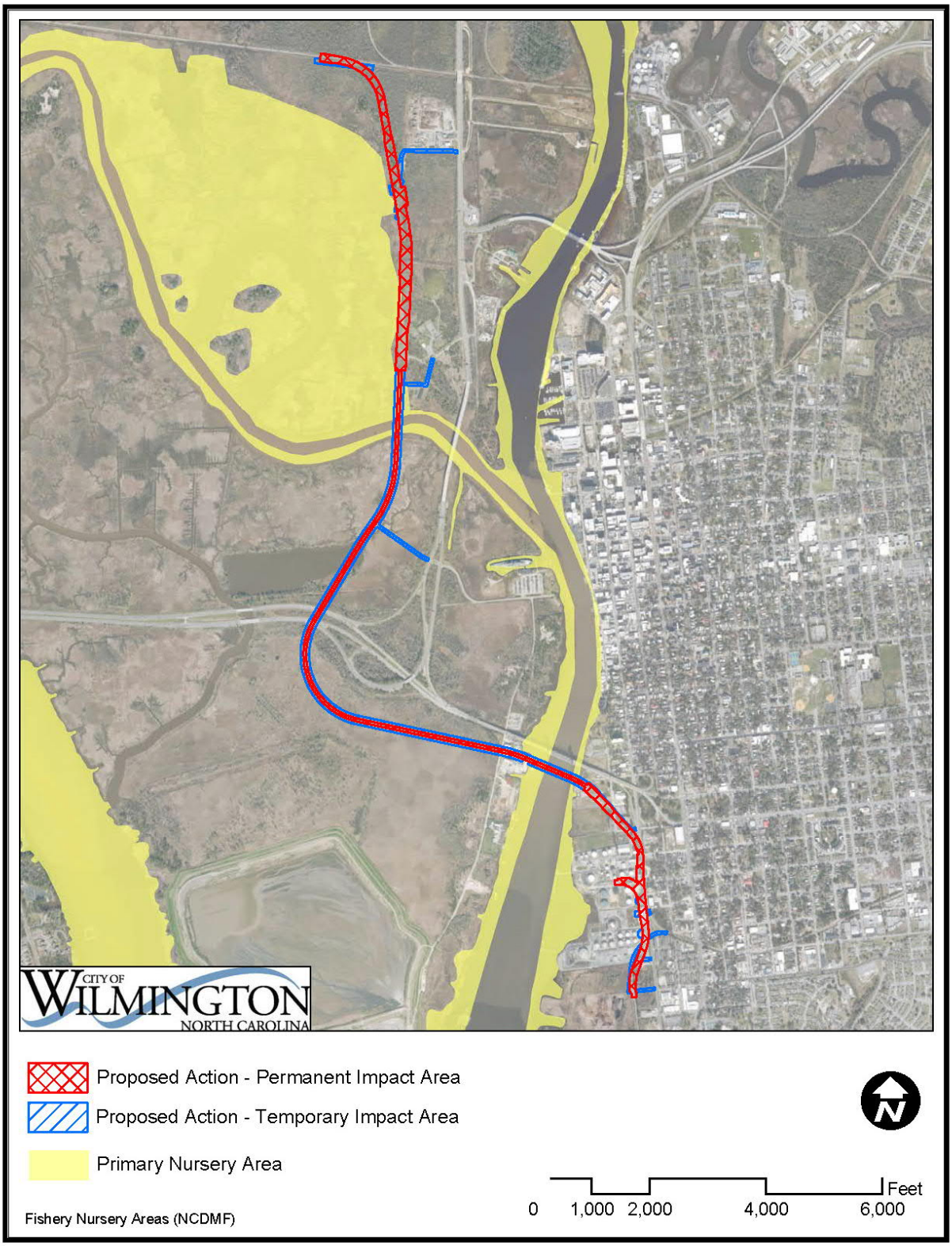

Figure 3. Designated PNAs in the vicinity of the action area

4.1.4 Submerged Aquatic Vegetation

Submerged Aquatic Vegetation (SAV) in NC estuaries encompasses 14 taxa of bed-forming rooted aquatic vascular plants (NCDEQ 2016). SAV beds occur on subtidal and occasionally intertidal sediments in sheltered estuarine waters. Environmental requirements include unconsolidated sediments for root and rhizome development, adequate light reaching the bottom, and moderate to negligible current velocities (Thayer et al. 1984, Ferguson and Wood 1994). SAV beds provide important structural fish habitat and perform important ecological functions such as primary production, sediment and shoreline stabilization, and nutrient cycling (NCDEQ 2016). SAV habitats are important nursery areas for the juveniles of estuarine-dependent species; including federally managed species such as black sea bass, bluefish, summer flounder, gag, and penaeid shrimp. NCDMF has generally concluded that SAV beds are absent from the CFRE, but has confirmed the presence of SAV beds that were recently discovered along Eagle Island in the Brunswick River (Personal communication, Ann Deaton, NCDMF Habitat Protection and Enhancement Section, 19 Feb 2019). SAV beds consisting of slender naiad (*Najas gracillima*), a species of tidal freshwater to oligohaline habitats (Brush and Hilgartner 2000), occur approximately one mile west of the proposed alignment on shallow subtidal flats in the Brunswick River just below the US HWY 17/74/76 Bridge. Protected shallow subtidal flats that would support SAV establishment do not occur in the CFR at the proposed rail crossings.

4.2 Federally Managed Species

4.2.1 Penaeid Shrimp

Federally managed penaeid shrimp in North Carolina include brown shrimp (*Farfantepenaeus aztecus*), pink shrimp (*F. duorarum*), and white shrimp (*Litopenaeus setiferus*). Adults spawn offshore in high salinity oceanic waters during the winter or spring, and the ocean-spawned larvae and post-larvae are transported by currents to inshore estuarine nursery habitats where they maintain a benthic existence (SAFMC 1981). Larval and post-larval estuarine recruitment periods vary among the three species (Table 2). Penaeid shrimp tolerate a wide range of salinities (Table 2), and are most abundant in shallow mud-silt habitats where they congregate at the highly productive marsh-water interface. As their size increases, shrimp move toward higher-salinity ocean waters, eventually migrating offshore in the fall. The action area encompasses habitats that are designated as EFH and HAPCs for all life stages of penaeid shrimp; including estuarine tidal marshes, subtidal and intertidal non-vegetated flats, submerged aquatic vegetation (SAV), and state designated Primary Nursery Areas (PNAs).

Table 2. Penaeid shrimp salinity requirements and recruitment periods (NCDMF 2016).

Species	Salinity (ppt)	Juvenile Recruitment
Brown Shrimp	2-35	February - March
Pink Shrimp	0-35	June - October
White Shrimp	2-35	April - May

4.2.2 Snapper-Grouper Complex

The snapper-grouper complex is an assemblage of 59 species that share a common association with hardbottom or reef habitats during part of their life cycle. Snappers (Lutjanidae), groupers (Serranidae), porgies (Sparidae), and grunts (Haemulidae) generally inhabit offshore reef and hardbottom habitats; whereas, nearshore ocean hardbottoms along the NC coast have cooler temperatures and a fish community dominated primarily by black sea bass (*Centropristis striata*), scup (*Stenotomus chrysops*), and associated temperate species (Sedberry and Van Dolah 1984). Most snapper-grouper species are associated with offshore reef and hardbottom habitats throughout their life cycle; however, a few species such as gag (*Mycteroperca microlepis*), gray snapper (*Lutjanus griseus*), and lane snapper (*L. synagris*) use estuarine nursery habitats for juvenile development (SAFMC 1998, NCDMF 2006). Juveniles of these estuarine-dependent species emigrate from the estuary to nearshore hardbottom habitats in the fall, and eventually move to offshore reef and hardbottom habitats. The action area encompasses habitats that are designated as EFH and HAPCs for the juvenile life stages of estuarine-dependent snapper-grouper species; including estuarine tidal marsh, tidal creeks, unconsolidated bottom, SAV, and PNAs. Studies of fish community structure in nursery habitats of the CFRE (Weinstein 1979, 1980) indicate that habitat utilization by snapper-grouper species such as gag and lane snapper is restricted to the lower high salinity estuary near the river mouth. The results of these studies suggest that the action area salinity regime would be unlikely to support sustained habitat utilization by estuarine dependent snapper-grouper species. The potential for habitat utilization in the action area is likely limited to short-term high salinity events during periods of extremely low river discharge.

4.2.3 Coastal Migratory Pelagics

The coastal migratory pelagics management unit includes Spanish mackerel (*Scomberomorus. maculates*), king mackerel (S. *cavalla*), and cobia (*Rachycentron canadum*). Adult Spanish mackerel spawn in groups over the inner continental shelf, beginning in April off the Carolinas. Larvae are most commonly found in nearshore ocean waters at shallow depths less than 30 ft. Most juveniles remain in nearshore ocean waters, but some use high salinity estuaries as nursery habitats. Adult Spanish mackerel spend most of their lives in the open ocean but are also found in tidal estuaries and coastal waters (ASMFC 2011a, 2011b, Mercer et al. 1990). King mackerel are primarily a coastal species, with smaller individuals of similar size forming schools over reefs and areas of bottom relief, and larger solitary individuals preferring anthropogenic structures and wrecks. Cobia are found over the continental shelf and in high salinity estuarine waters; preferring waters in the vicinity of reefs and artificial structures such as pilings and buoys. Spawning along NC occurs primarily in offshore ocean waters during May and June; however, spawning has also been observed in estuaries and shallow bays, with the young moving offshore soon after hatching (SAFMC 1983 and 2011). Designated EFH for coastal migratory pelagics in the action area includes PNAs. However, the preference of coastal migratory pelagics for high salinity estuarine waters suggests that sustained utilization of PNAs in the action area would be unlikely. The potential for habitat utilization in the action area is likely limited to high salinity events during periods of low river discharge.

4.2.4 Bluefish

The bluefish is a migratory, pelagic species found in temperate and semi-tropical continental shelf waters around the world with the exception of the north and central Pacific. In North America, bluefish range from Nova Scotia to Florida in the Atlantic Ocean and from Florida to Texas in the

Gulf of Mexico. Spawning in the South Atlantic Bight occurs near the shoreward edge of the Gulf Stream primarily during April and May. Larval development occurs in the upper water column over the outer continental shelf, with transitional pelagic juveniles eventually moving to nearshore ocean and estuarine waters that serve as the principal nursery habitats for juvenile development (Kendall and Walford 1979). Estuarine juveniles are most commonly associated with sandy unconsolidated bottom habitats; but also use mud/silt bottom, SAV, marine macroalgae, oyster reefs, and tidal marshes (Shepherd and Packer 2006). Juveniles are common in high salinity estuaries along the southern NC coast during summer and fall, where they are usually associated with salinities of 23 to 33 ppt; however, juveniles are found at salinities as low as 3 ppt (Fahay et al. 1999). Designated inshore EFH for juvenile and adult bluefish along the southern NC coast includes all estuaries below MHW.

4.2.5 Summer Flounder

The geographic range of the summer flounder includes shallow estuaries and outer continental shelf waters along the Atlantic Coast from Nova Scotia to Florida (Packer et al. 1999). Adult summer flounder exhibit strong seasonal inshore-offshore movements; concentrating in estuaries and sounds from late spring through early fall before migrating offshore to the outer continental shelf where spawning occurs during the fall and early winter. Larvae and post larvae recruit to estuarine nursery habitats from October to May and eventually settle to the bottom and bury into the sediment where development to the juvenile life stage is completed. Late larval and juvenile flounder actively prey on crustaceans, copepods, and polychaetes (NEFSC 1999). Juveniles prefer sandy shell substrates; but also inhabit marsh creeks, mud flats, and seagrass beds. Juveniles often remain in North Carolina estuaries for 18 to 20 months. Adults prefer sandy substrates, but also use seagrass beds, tidal marsh creeks, and sand flats (ASFMC 2011c and d, NEFSC 1999). The action area encompasses habitats that are designated as EFH and HAPCs for larval, juvenile, and adult summer flounder; including estuarine waters with salinities >0.5 ppt, tidal marsh, and SAV.

4.2.6 Atlantic Butterfish

Butterfish are pelagic fishes that form loose schools near the surface and feed mainly on planktonic prey. Butterfish winter on the outer continental shelf in the Middle Atlantic Bight and migrate inshore in the spring. During the summer, butterfish are widely distributed over the Mid-Atlantic shelf from estuaries out to depths of ~200 meters. Juvenile and adult butterfish are common to abundant in the high salinity and mixing zones of estuaries from Massachusetts Bay to the mid-Atlantic. In late fall, butterfish move southward and offshore in response to falling water temperatures (Cross et al. 1999). EFH for adult Atlantic butterfish includes pelagic inshore and offshore waters of the South Atlantic Bight, including the CFRE, where bottom depths are between 30 and 750 feet and salinities are >5 ppt.

5.0 EFFECTS ON EFH/HAPC AND MANAGED SPECIES

5.1 Assessment Approach

As previously described, the current phase of preliminary engineering design is principally concerned with defining the project alignment and profile. The current level of engineering design does not provide detailed designs or construction methods for specific structural elements. For purposes of this assessment, the project's physical disturbance footprint is defined by permanent and temporary impact corridors centered on the proposed rail alignment. For bridges and elevated rail segments, the total combined width of the permanent and temporary impact areas is 150 feet; including a 50-ft-wide permanent impact corridor centered on the proposed rail alignment and 50-ft-wide temporary impact corridors along both sides of the permanent impact corridor. The permanent impact area for filled rail bed segments is a 140- to 210-ft-wide corridor centered on the proposed rail alignment. No temporary impact corridors are associated with the filled rail bed segments, as work would occur from the rail bed as it is constructed. Additional temporary impact areas include small staging areas and access roads. The permanent impact corridor widths are sufficient to encompass potential structures (e.g., spans, piles, piers, track) and fill placement areas, whereas the temporary impact corridors encompass the construction limits, staging areas, and access roads. Although the established impact areas encompass the project structural footprint and construction limits, the analyses of potential effects in this assessment are not limited to these areas. The potential effects considered in this assessment include acoustic disturbance, sediment suspension, and other effects that can potentially impact EFH habitats and managed species beyond the established impact areas. The potential construction methods and equipment that are considered in this assessment include those that are likely to be employed based on similar in-water projects. However, specific construction methods will not be determined until a later stage of project development. The effects assessment is presented according to habitat type, with the exception of the estuarine water column that is considered a component of all designated EFH/HAPC habitats. Analyses of acoustic and water quality effects, which propagate through the water column to potentially affect all EFH habitats, are provided as separate stand-along sections.

5.2 Estuarine Emergent Wetlands

The proposed rail alignment crosses tidal marshes on Eagle Island and the mainland above the upper CFR crossing. Permanent direct impacts on tidal marsh would result from construction of the foundational support systems for elevated rail segments on Eagle Island, tidal marsh shading by the elevated rail decks, and fill placement for construction of the at-grade rail segment above the upper CFR crossing (Table 3, Figures 3 and 4). For purposes of this assessment, it is assumed that the combined effects of foundational structure placement and shading would result in the loss of all tidal marsh EFH habitat and/or habitat function within the 50-ft-wide elevated rail permanent impact area. Tidal marsh shading effects are heavily influenced by bridge height and width, with adverse effects on tidal marsh plant and benthic communities generally occurring at bridge height-to-width ratios of less than 0.7 (Broome et al. 2005). At the standard single track rail bridge width of 16.5 feet, rail deck heights of less than 11.5 feet would result in height-to-width ratios <0.7. Proposed rail deck heights of less than 11.5 feet that would potentially result in adverse shading effects on underlying tidal marshes are limited to short spans on either side of the upper CFR crossing. For the at-grade rail segment, it is assumed that fill placement and grading to construct the trackbed would result in the loss of all tidal marsh EFH habitat within the permanent impact area.

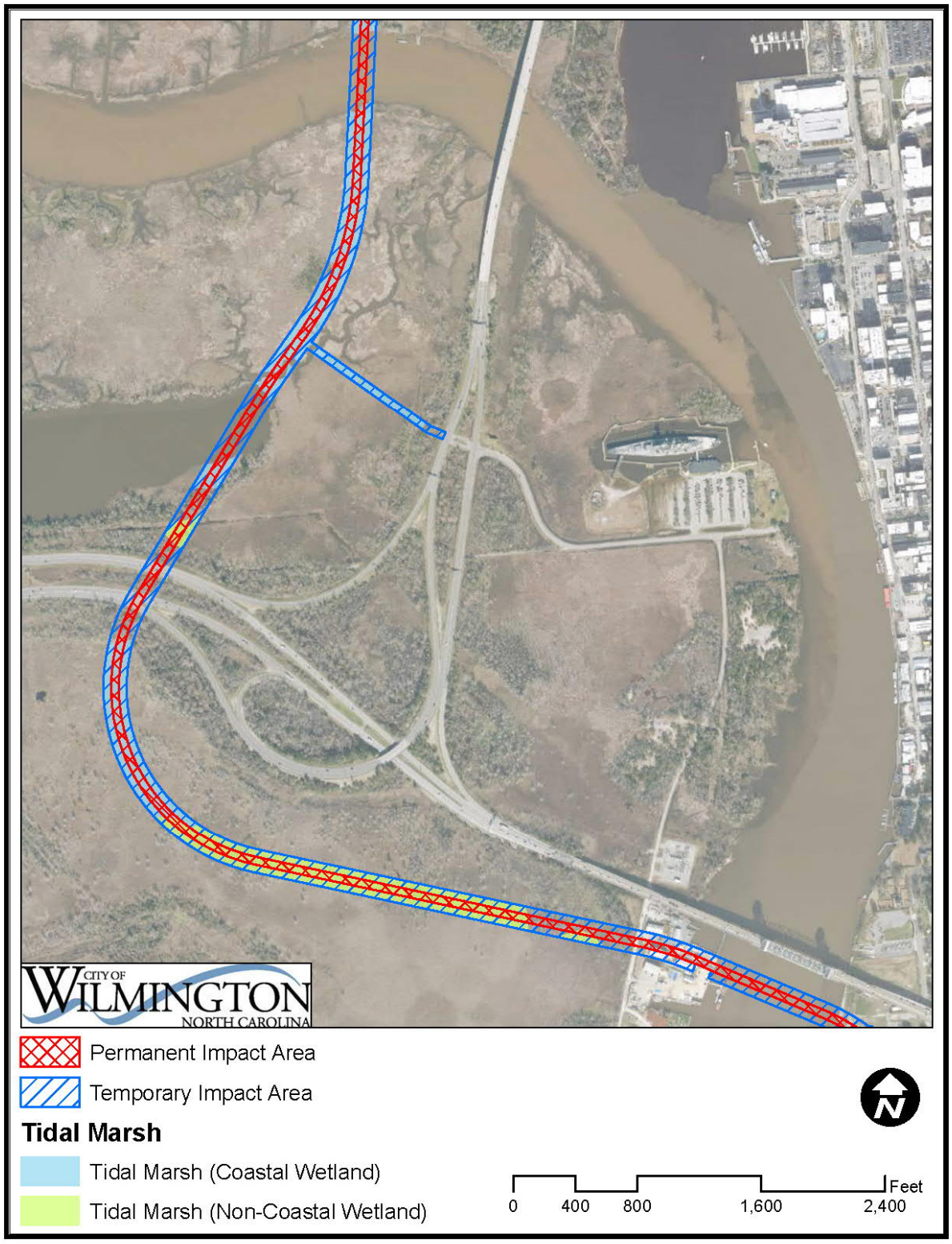

Figure 4. Permanent and temporary tidal marsh impacts on Eagle Island.

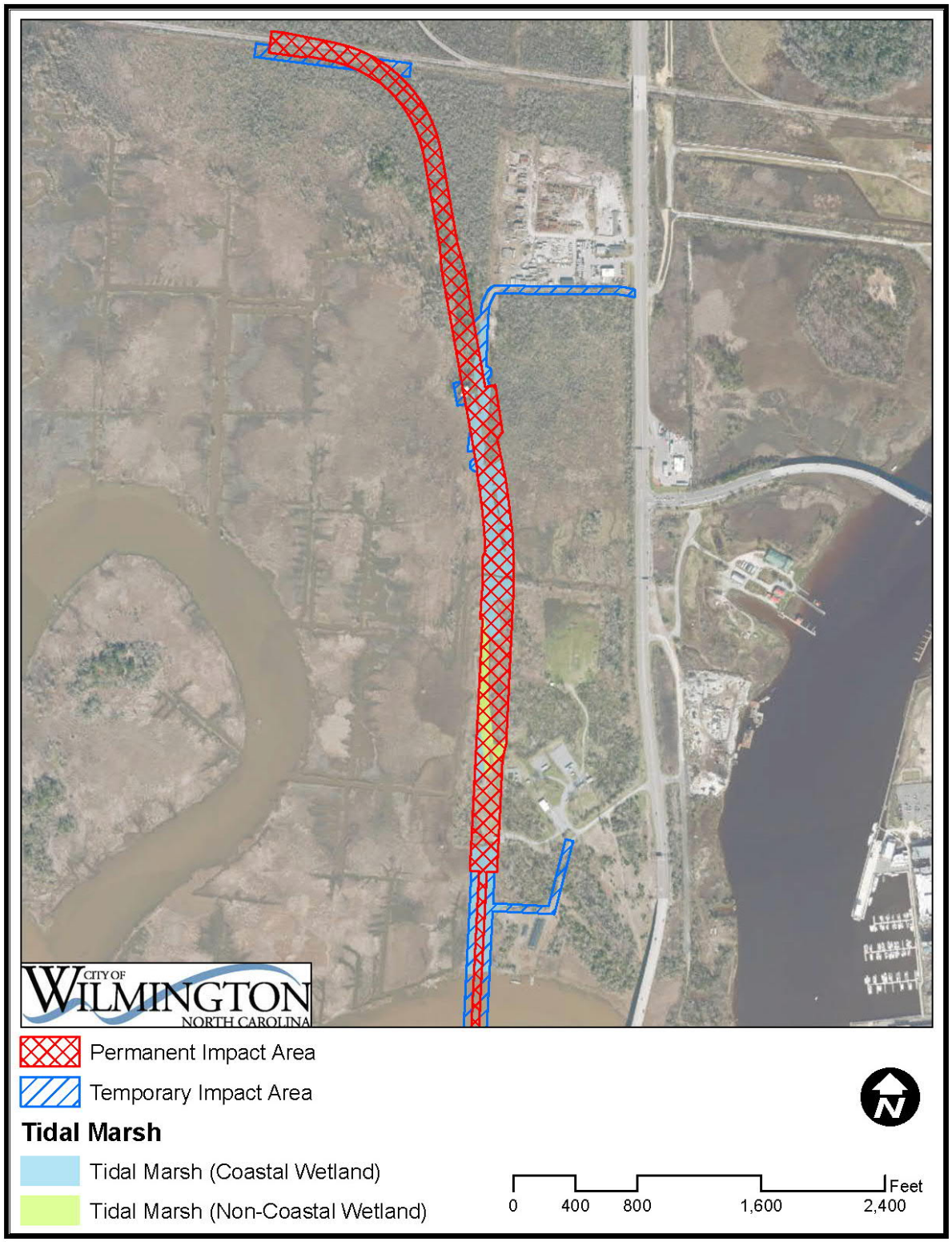

Figure 5. Permanent and temporary tidal marsh impacts between the upper CFR crossing and existing CSXT line.

Table 3. Permanent and temporary impacts on tidal marsh.

	Permanent Impact Area (ac)	Temporary Impact Area (ac)	Total
Tidal Marsh (Coastal Wetland)	10.80	10.88	21.68
Tidal Marsh (Non-Coastal Wetland)	4.44	6.11	10.55
Total	**15.24**	**16.99**	**32.23**

Construction of the linear project across the tidal floodplain would have the potential for additional permanent direct impacts on tidal marsh EFH habitats through tidal restriction; including the restriction of tidal sheet flow across the floodplain and/or the restriction of tidal flow in creek channels at the rail crossings. Although the current level of engineering design does not allow for a detailed assessment of potential effects on tidal hydrology, the remaining tidal floodplain areas between the elevated rail support systems would be returned to grade, thus avoiding potential effects on tidal sheet flow across the floodplain on Eagle Island. Furthermore, it is assumed that the tidal creek channel and associated thalweg through the borrow pond would be spanned in a manner that would maintain the existing hydrological regime. The proposed at-grade rail segment above Eagle Island runs north along the disturbed outer (eastern) margin of the active CFR tidal floodplain. The areas along the east side of alignment consist predominantly of diked and filled areas of development and non-tidal or supratidal swamp forest. An exception is the proposed at-grade tidal creek culvert crossing ~0.5 mile above the upper CFR crossing, where extensive tidal marsh areas are associated with the tidal creek on the east side of the alignment. Based on the preliminary design, the rail crossing would employ a double concrete box culvert of sufficient size and design to provide for unrestricted tidal flow between the CFR and the creek's tidal marsh system along the east side of the alignment.

Temporary direct impacts on tidal marsh would result from timber mat placement, heavy machinery operations, and the staging of equipment and materials. Direct impacts on tidal marsh EFH within the temporary impact areas would include the loss of tidal marsh plant and benthic invertebrate communities and soil disturbance and compaction. It is assumed that the temporary impact areas would be regraded and/or replanted as necessary to return the areas to pre-construction conditions.

Effects on Managed Species

Utilization of the affected tidal marshes is predominantly by the juvenile life stages of managed species. Estuarine-dependent juveniles would be adversely affected by permanent and temporary reductions in marsh primary production and the availability of tidal marsh foraging and refuge habitats. The magnitude of effects on managed species would depend on the capacity of equivalent habitats in the area to support additional estuarine-dependent juveniles.

5.3 Unconsolidated Bottom

Permanent and temporary direct impacts on unconsolidated bottom EFH habitats would result from the construction of bridges across the CFR, elevated rail construction across an unnamed tributary of Redmond Creek on Eagle Island, and filled rail bed construction across an unnamed tributary of the CFR on the mainland above Eagle Island. The total area of unconsolidated bottom in the established impact areas is 6.9 acres; including 2.4 acres in the permanent impact areas and 4.5 acres in the temporary impact areas. Table 4 provides a breakdown of the permanent and temporary impact acreages that are associated with the individual project components. Permanent direct impacts on unconsolidated bottom in the CFR and the tidal creek on Eagle Island would result from construction of the foundational support systems for bridge and elevated rail structures. Permanent direct impacts on the upper mainland tidal creek would result from the placement of concrete culverts in the creek bed for construction of the at-grade rail trackbed. For purposes of this assessment, it is assumed that the placement of foundational structures and culverts would result in the loss of all unconsolidated bottom EFH habitat and/or EFH habitat function within the permanent impact areas.

Table 4. Permanent and temporary impacts on unconsolidated bottom.

Channel Reach	Permanent Impact Area (ac)	Temporary Impact Area (ac)	Total
Lower CFR Crossing	1.0	2.0	**3.0**
Upper CFR Crossing	0.6	1.1	**1.7**
Eagle Island Tidal Creek Crossing	0.7	1.4	**2.1**
Mainland Tidal Creek Crossing	0.1	0.0	**0.1**
Total	**2.4**	**4.5**	**6.9**

Temporary direct impacts on unconsolidated bottom habitats in the CFR would result from the installation of piles for temporary work platforms and general disruption of the benthic substrate via mechanical disturbance and/or sediment deposition. It is assumed that secondary productivity by benthic infaunal invertebrate communities in the temporary impact areas would be impacted for the duration of the construction process. However, relatively rapid benthic community recovery would be expected upon completion of the project. The recovery of benthic communities from maintenance dredging in the Anchorage Basin and other silty channel reaches of the upper estuary occurs in less than 6 months (Ray 1997). Temporary direct impacts on unconsolidated bottom habitats in the tidal creeks would result from timber mat placement, heavy machinery operations, and general disruption of the benthic substrate via mechanical disturbance and/or sediment deposition. It is assumed that secondary productivity by benthic infaunal invertebrate communities in the temporary impact areas would be impacted for the duration of the construction process. However, relatively rapid benthic community recovery would be expected upon completion of the project. Benthic community recovery periods of <6 months have been reported in shallow silty estuarine navigation channels (Van Dolah et al. 1984, Van Dolah et al. 1979, Stickney and Perlmutter 1975, and Stickney 1972).

Effects on EFH Function and Managed Species

All of the affected unconsolidated bottom habitats currently perform important secondary productivity and benthic foraging habitat functions that would be impacted by the proposed action. Other existing nursery habitat functions such as shallow water refuge and benthic primary productivity are limited to relatively shallow bottom habitats. The functions of unconsolidated bottom habitats as nursery areas for early life stage juveniles are also critically linked to the presence and function of contiguous fringing tidal marshes. Shallow water refuge function in estuarine nursey habitats is generally associated with depths of <6 feet Mean Low Water (MLW) that are inaccessible to large predators. Benthic primary productivity is dependent on water column properties that control the depth of light penetration. Light is strongly attenuated in the CFR estuarine water column by both turbidity and dark organic stained waters that are received from the major blackwater tributaries (Mallin 2013). The magnitude of light attenuation is sufficient to limit phytoplankton productivity, thus indicating that significant benthic primary production is likely limited to relatively shallow depths.

Lower CFR Crossing

The impact areas associated with the lower CFR crossing are largely contained within the Anchorage Basin navigation channel reach. The side slopes of the maintained navigation channel prism extend nearly to the opposing shorelines. Both shorelines are covered by concrete wharfs and/or bulkheads, and fringing tidal marshes are absent. Based on a USACE cross-sectional survey of the uppermost Anchorage Basin (USACE 2018), depths are ≥30 ft across the channel with the possible exception of a narrow zone along the eastern shoreline bulkhead. Thus, the principal impacts of the proposed action on EFH habitat function and managed species would involve permanent and temporary reductions in the availability of foraging habitat and benthic prey resources for later stage juveniles and adults that are not dependent on shallow depths for protection from predation.

Upper CFR Crossing

The river channel at the upper CFR crossing encompasses the Cape Fear River Above Wilmington federal navigation project. Although the navigation channel has not been maintained in many years, strong tidal currents maintain a deep, steep-sided river channel in the vicinity of the proposed rail crossing. The most recent USACE hydrographic survey conducted in 2016 recorded maximum channel depths of approximately -30 to -37 ft MLW in the vicinity of proposed crossing; well in excess of the authorized -25-ft MLW depth. The existing river channel encompasses narrow zones of shallow bottom habitat along the shorelines that are flanked by fringing tidal marshes. Impacts on the shallow bottom habitats would adversely affect managed species through permanent and temporary losses of shallow depth dependent nursery habitat functions; including benthic primary productivity, high secondary benthic productivity, and shallow water refuge. Impacts on unconsolidated bottom in the deeper portions of the channel would affect managed species primarily through permanent and temporary reductions in the availability of foraging habitat and benthic prey resources for later stage juveniles and adults that are not dependent on shallow depths for protection from predation.

Tidal Creeks

The affected unconsolidated bottom habitats in the tidal creek crossings are shallow bottom habitats that are fringed by tidal marshes. Impacts on these habitats would adversely affect managed species through permanent and temporary losses of shallow depth dependent nursery habitat functions; including benthic primary productivity, high secondary benthic productivity, and shallow water refuge.

5.4 Primary Nursery Areas

The proposed rail alignment crosses PNAs at the lower and upper CFR crossings that are designated as EFH and HAPC for managed species (Figures 4 and 5). PNAs at the lower CFR crossing encompass marginal portions of the subtidal river channel along either side of the Anchorage Basin navigation channel reach. PNAs at the upper CFR crossing encompass portions of the river channel along either side of the Cape Fear River Above Wilmington federal navigation channel, as well as contiguous tidal marshes along the north side of the river. Table 5 provides a breakdown of PNA acreages within the permanent and temporary impact areas. Note that the impact quantities in Table 5 were previously included in the impact acreage totals for tidal marsh and unconsolidated bottom. The PNA impacts encompass a subset of the overall tidal marsh and unconsolidated bottom impacts at the CFR crossings. The effects of the proposed action on specific nursery habitat functions were addressed in the preceding stand-alone analyses of tidal marsh and unconsolidated bottom effects.

Table 5. Permanent and Temporary Direct Impacts on PNAs

Location	Permanent Impact (ac)		Temporary Impact (ac)		Total
	CFR	Marsh	CFR	Marsh	
Lower CFR Crossing	0.5	-	1.0	-	**1.5**
Upper CFR Crossing	0.2	1.1	0.4	1.5	**3.2**
Total	**0.7**	**1.1**	**1.4**	**1.5**	**4.7**

Figure 6. Permanent and temporary direct impacts on PNAs at lower CFR crossing.

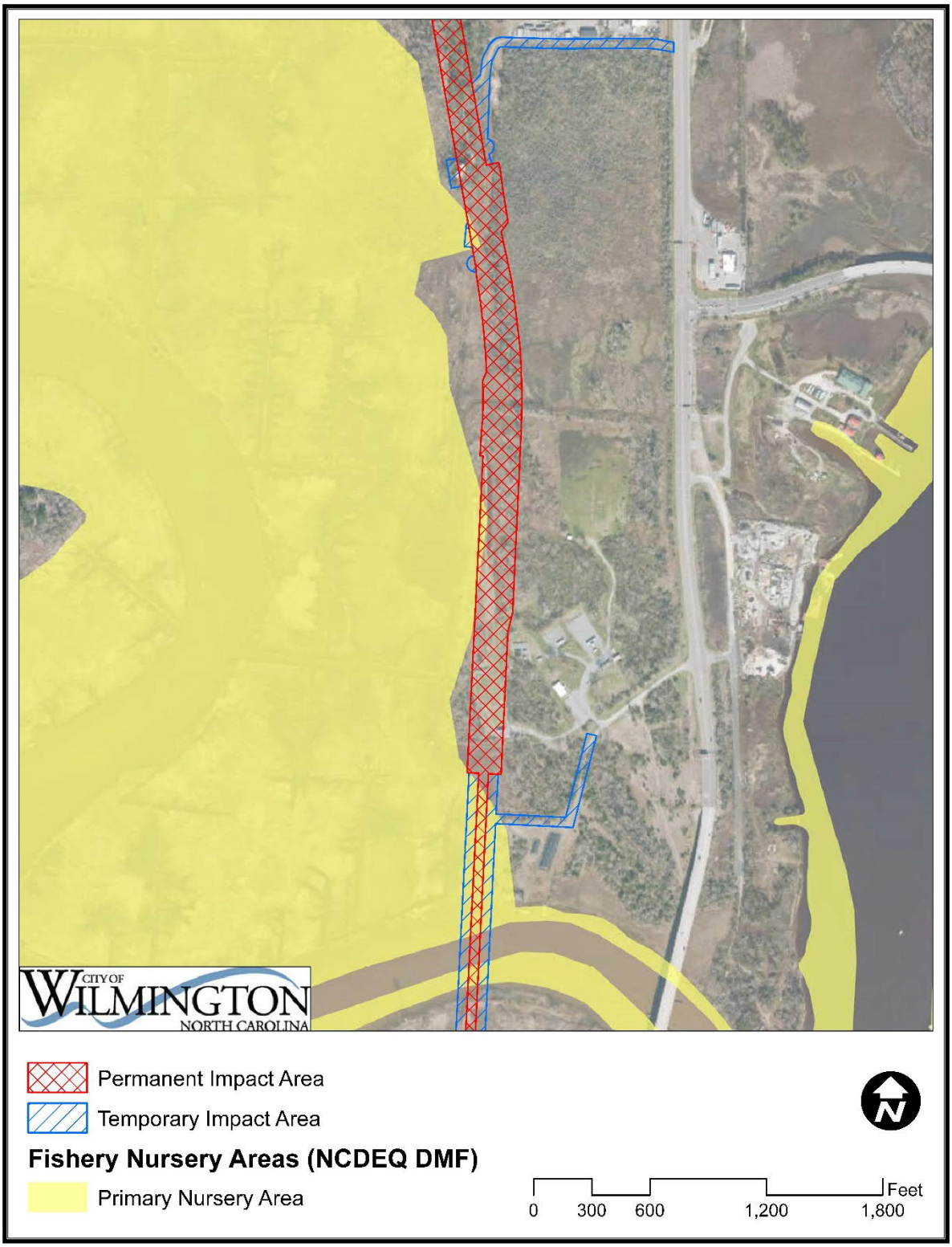

Figure 7. Permanent and temporary direct impacts on PNAs at upper CFR crossing.

5.5 Submerged Aquatic Vegetation

The proposed rail alignment crosses US HWY 17/74/76 approximately one mile east of the Brunswick River channel, and thus is not expected to have any effect on the known SAV beds. Protected shallow subtidal flats that would support SAV establishment do not occur in the CFR at the proposed rail crossings (see Section 5.3), thus the proposed action would not be expected to have any effect on SAV.

5.6 Acoustic Effects

The current preliminary level of design information does not allow for a detailed analysis of potential acoustic effects on fish from in-water construction activities. However, it is expected that the potential for adverse acoustic effects on managed species would principally be associated with pile driving to construct the foundational support systems of bridges and elevated rail structures at the CFR crossings. Anticipated pile types and installation/construction methods include the installation of pre-cast concrete piles by impact and/or vibratory pile drivers and/or the construction of drilled shaft cast-in-place concrete piles. Drilled shaft pile construction typically involves pre-drilling a pile shaft, installing a temporary or permanent steel casing to keep the shaft open, inserting a rebar cage, and filling the shaft with liquid concrete. Steel casings are typically installed with a vibratory pile driver, which may also be required for the removal of temporary steel casings. Generally, the underwater sounds produced by impact pile drivers have the highest potential to cause direct injury to marine organisms, whereas the sounds produced by vibratory pile driving are more likely to have behavioral effects (Wickliffe et al. 2019). The use of drilled shaft concrete piles would generally be expected to have the least potential for adverse acoustic effects, as the use of a vibratory hammer would be limited to the installation of steel casings in pre-drilled shafts. The FRA will coordinate with NMFS to conduct a quantitative assessment of underwater acoustic effects once detailed designed plans and construction methods have been developed. If determined to be necessary, the FRA will coordinate with NMFS to develop and implement effective noise attenuation and mitigation measures.

5.7 Water Quality Effects

Sediment suspension by in-water construction activities and associated increases in turbidity would temporarily degrade water quality in the vicinity of the active construction area. Construction-induced increases in suspended sediment concentrations and turbidity would potentially affect the behaviors (e.g., feeding, predator avoidance, habitat selection) and physiology (e.g., gill-breathing) of marine and estuarine fishes (Michel et al. 2013). Additionally, the redeposition of suspended sediments can impact benthic invertebrate prey through direct burial and/or adverse effects on gill-breathing and filter-feeding functions. In regard to dredging-induced sediment suspension in the federal navigation channel, a study was undertaken to determine the spatial extent of sediment plumes and their potential to affect fish utilization of nursery habitats that are adjacent to the channel (Reine et al. 2002). The study found that barge overflow plumes and elevated suspended sediment concentrations were narrowly confined to the navigation channel under both ebb and flood tidal conditions, with significant settling of the plumes to the lower portion of the water column occurring within ~300 meters of the barges. A maximum Total Suspended Solids (TSS) concentration of 191 mg/L was recorded within the plume at the sampling point nearest the barge, whereas maximum TSS concentrations of 60 to 80 mg/L were recorded in the plume at a distance of 300 m. During active dredging, TSS concentrations over the adjacent nursery habitats remained similar to ambient conditions, with measured concentrations ranging from 19 to 33 mg/L. No evidence of plume migration or elevated TSS

concentrations was detected over the adjacent habitats. In regard to the proposed action, the results of this study indicate that sediment suspension by in-water construction activities would be localized and primarily confined to the deep-water portion of the channel.

6.0 AVOIDANCE AND MINIMIZATION

The preliminary project design incorporates several structural and routing measures to avoid and minimize impacts on EFH/HAPC habitats. The use of an elevated rail structure across Eagle Island will greatly reduce direct impacts on tidal marsh in relation to the use of an at-grade rail trackbed. In regard to the upper at-grade rail segment, routing the alignment along the disturbed outer margin of the tidal floodplain will substantially reduce direct impacts on high quality tidal marsh as well as the overall extent of direct impacts on tidal marsh. Further reduction of direct wetland impacts will be achieved through the use of abandoned rail beds for portions of the upper at-grade rail segment. Routing the upper at-grade rail segment along the outer margin of the tidal floodplain will also greatly reduce the potential for impacts on tidal marshes via tidal restriction. Other potential avoidance and minimization measures will be incorporated as necessary during the final phase of engineering design. The FRA will coordinate with NMFS throughout the engineering design and permitting processes to ensure that adverse effects on EFH/HAPC and federally managed species are effectively avoided, minimized, or otherwise mitigated.

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Appendix A

Wilmington Rail Realignment
Plan and Profile

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

June 2, 2022

National Marine Fisheries Service
Southeast Regional Office
Andrew Herndon
Atlantic and Shortnose Sturgeon Recovery Coordinator
263 13th Avenue South
St. Petersburg, FL 33701

Greetings Mr. Herndon,

The Federal Railroad Administration (FRA) as the lead Federal Agency, in coordination with the City of Wilmington (City), has initiated an Environmental Assessment (EA) for a proposed new freight rail route to bypass the existing route between Navassa (Davis Yard) and the Port of Wilmington. The project, referred to as the Wilmington Rail Realignment, involves realigning an existing CSX Transportation (CSXT) freight rail line that traverses through City limits as well as unincorporated areas of Brunswick and New Hanover counties. The attached Figure 1 identifies the No-Build corridor and the Preferred Alternative for the project. The primary purpose of the project is to improve safety, regional transportation mobility, and freight rail operations, while also improving the resiliency, reliability, and operational fluidity of the sole freight rail route connecting southeastern North Carolina with the Port of Wilmington.

The Project proposes to reroute the existing freight traffic from the CSXT Beltline in the City of Wilmington to a new westward freight line across the Cape Fear River (CFR) and Eagles Island in New Hanover and Brunswick Counties. The Project scope calls for preliminary engineering, up to 30 percent design, which provides limited design details for in-water structures and construction methods. Therefore, based on your recommendation during the FRA and National Marine Fisheries Service (NMFS) interagency coordination call on January 21, 2022, the FRA is deferring formal consultation under Section 7 of Endangered Species Act (ESA) to the final phase of engineering design. At this time, the FRA is requesting early coordination with NMFS for purposes of early interagency coordination on ESA-related issues during the National Environmental Policy Act (NEPA) review process and preliminary design phase of project development. Attachment A provides information to support early coordination; including summary descriptions of the proposed action, affected estuarine environment, and general estuarine habitat effects. Additionally, the preliminary plan and profile drawings for the conceptual design are also provided as Attachment B. Although specific feedback on the proposed action is not being requested at this time, FRA requests that NMFS provide a letter confirming the deferral of Section 7 consultation to the final engineering design phase.

A separate letter is being sent to Mr. Fritz Rohde to request consultation under the Magnuson-Stevens Fisher Conservation and Management Act (MSFCMA), and to request review of an Essential Fish Habitat (EFH) Assessment addressing potential effects of the project on EFH and federally managed fisheries.
If you have questions or requests for additional information, please contact Kevin Wright at 202-868-2628 or kevin.wright@dot.gov.

Sincerely,

Brandon Bratcher
Supervisory Environmental Protection Specialist

Attachments (2)
Attachment A: Supporting Information – Proposed Action, Affected Estuarine Environment, and General Estuarine Habitat Effects
Attachment B: Plan and Profile

Cc: Aubrey Parsley, City of Wilmington
Fritz Rohde, National Marine Fisheries Service
Mickey Sugg, US Army Corps of Engineers

ATTACHMENT A

Wilmington Rail Realignment
Supporting Information – Proposed Action, Affected Estuarine Environment, and General Estuarine Habitat Effects

May 2022

Prepared for:
AECOM

Prepared by:
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1.0 INTRODUCTION

This attachment describes the proposed action and provides summary information regarding the estuarine environment within the action area, ESA-listed species that may occur within the action area, and the general effects of the proposed action on estuarine habitats based on the current preliminary level of engineering design. This information is provided to support early coordination between FRA and NMFS during the NEPA review process and prior to the initiation of formal Section 7 consultation.

2.0 PROPOSED ACTION

The proposed action would construct a new four-mile single-track rail line between Greenfield Street in downtown Wilmington and the existing CSXT line on the west side of the Northeast Cape Fear River (NECFR) above Eagles Island (Figures 1 and 2). From Greenfield Street the proposed alignment extends north along South Front Street through downtown Wilmington before turning west and crossing the CFR to Eagles Island just below the existing Cape Fear Memorial Bridge. The alignment continues west on Eagle Island; eventually turning north and crossing US HWY 76/74. From US 76/74 the alignment continues north on Eagles Island and crosses the CFR a second time just above its confluence with the NECFR. After crossing the river, the alignment continues northward along the west side of US HWY 421 to the project terminus at the existing CSXT rail line. The proposed project is currently in the 30 percent preliminary engineering design phase, which is principally concerned with defining the project alignment and profile. Detailed design plans for specific structural elements will be developed during a later phase of engineering design.

The preliminary project design encompasses above-grade and at-grade rail components; including an at-grade railway trackbed from Greenfield Street to the CFR, a lift span bridge for the lower CFR crossing, a pier-supported elevated rail across Eagles Island, a bascule bridge for the upper CFR crossing, and an at-grade railway trackbed from the upper CFR crossing to the existing CSXT line. The proposed lift span bridge for the lower CFR crossing would be similar to the existing Cape Fear Memorial Bridge, whereas the proposed bascule bridge for the upper CFR crossing would be similar to the existing CSXT Hilton Railroad Bridge across the NECFR. It is anticipated that the movable spans of both bridges would be supported at either end by cast in place concrete foundational structures, whereas the bridge approach spans would be supported by concrete piers on a foundational system of pre-cast or drilled shaft concrete piles with a water line concrete pile cap to resist vessel collisions. The ~1.5-mile elevated rail across Eagles Island would be supported by piers on a foundational system of driven or drilled shaft concrete piles and/or pile-supported concrete footings. Span lengths will be determined during a later phase of engineering design: however, 60-ft span lengths for curves and 90-ft lengths for straight rail spans are considered conservative estimates of span lengths and pier spacing along the alignment.

Conventional construction methods utilizing barges, cranes, and timber mats are anticipated. As indicated above, elevated rail segments would be supported by piers on foundational systems of pre-cast and/or drilled shaft concrete piles. In the case of pre-cast concrete piles, it is assumed that installation in the river bed or wetland substrate would be accomplished by vibratory and/or impact pile drivers. In the case of drilled shaft piles, construction typically involves pre-drilling a pile shaft, installing a temporary or permanent steel casing to keep the shaft open, inserting a rebar cage, and filling the shaft with liquid concrete. Steel casings are typically installed with a vibratory pile driver, which may also be required for the removal of temporary steel casings.

Access to the construction site would likely occur via Battleship Road, US 17/74/76, and US 74/421. Access to the river sections will likely occur from the project right of way along both sides of the river. The USACE Engineer Repair Yard along the west side of the lower CFR crossing could potentially be used for materials storage, staging, and access.

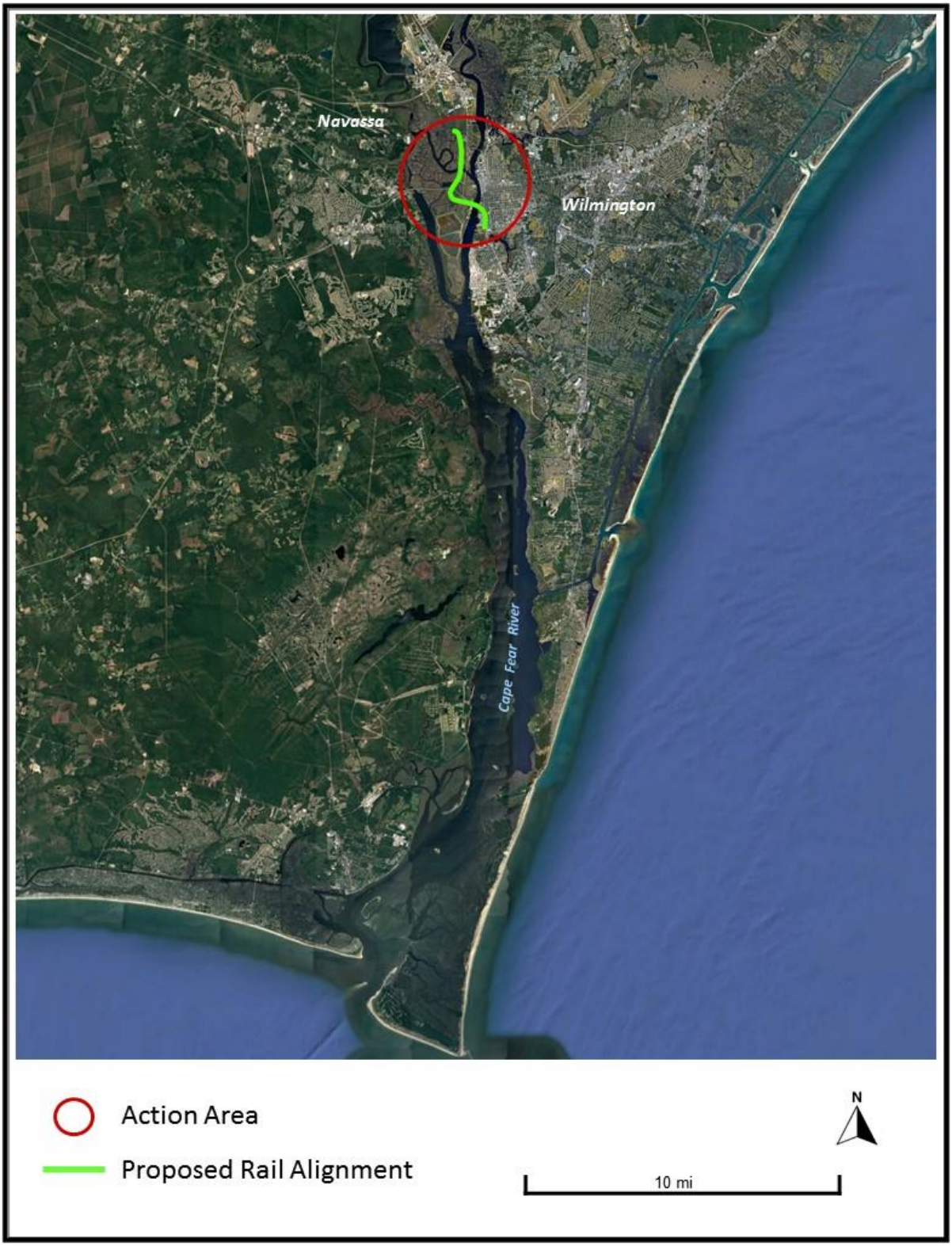


Figure 1. Location of the action area.

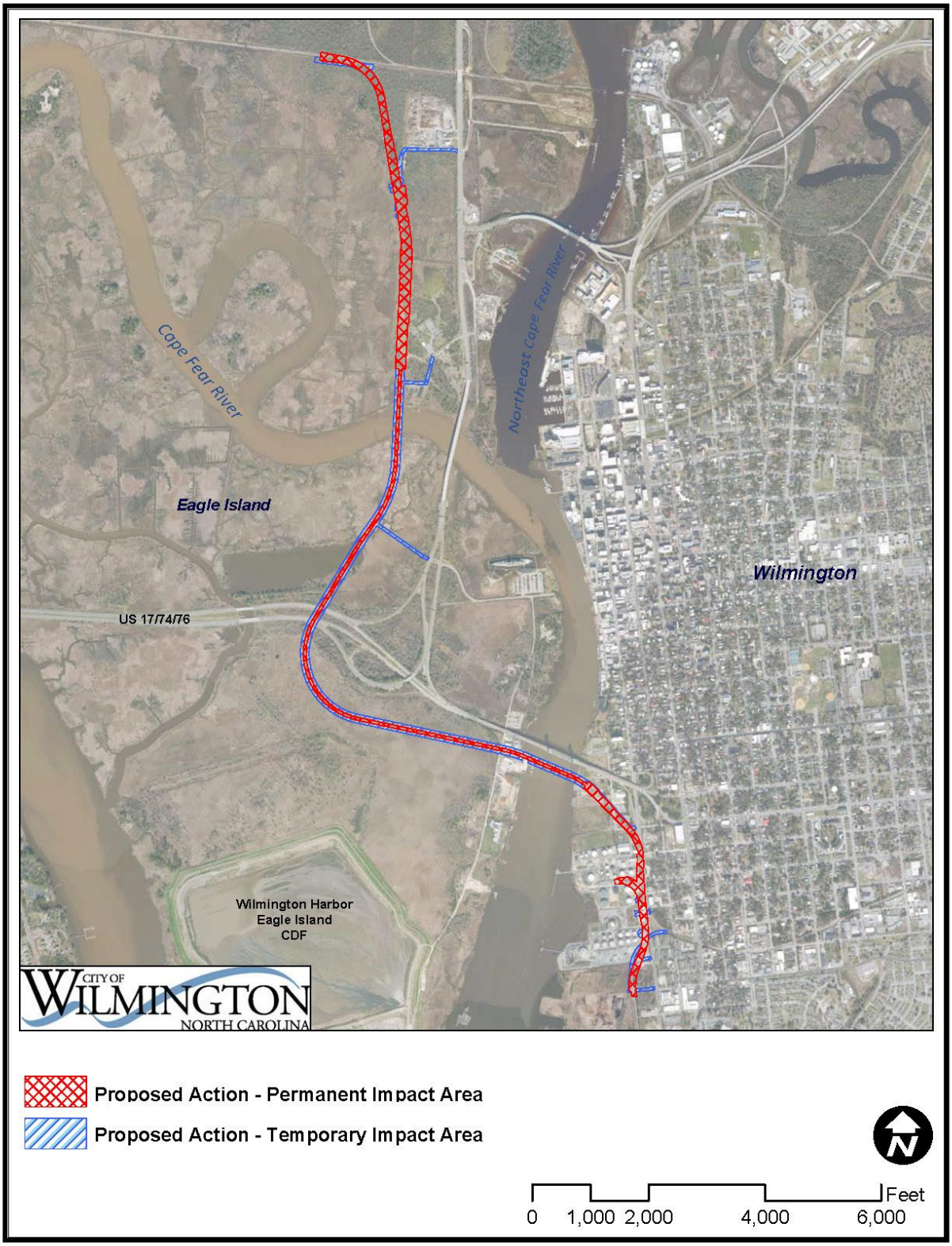


Figure 2. Proposed project alignment.

3.0 ACTION AREA

The action area encompasses the tidally influenced CFR Estuary (CFRE) between downtown Wilmington and Navassa in New Hanover and Brunswick Counties, NC. The action area estuarine environment is comprised of the mainstem CFR and Brunswick River channels and their associated tidal floodplains. The CFRE is strongly affected by lunar semidiurnal ocean tides that propagate ~60 miles up the mainstem CFR to Lock and Dam #1 in Bladen County. Mean tidal range increases from ~4.3 ft at the river mouth to a maximum of ~5.1 ft at downtown Wilmington, and declines in the estuary above to a low of ~1.0 ft at Lock and Dam #1. Salinity levels and the position of the saltwater-freshwater boundary in the estuary are heavily influenced by variability in tidal conditions and freshwater inflow (Becker 2006, Leonard et al. 2011). Average surface salinity conditions, which determine the composition of tidal wetland communities in the estuary, are generally considered to be oligohaline (5.0 - 0.5 ppt) in the vicinity of the action area. However, during the summer and fall (July-Nov), maximum monthly surface salinities at the upper end of Eagles Island generally range from 15 to 25 ppt (Leonard et al. 2011). The upper extent of near bottom salinity intrusion varies from the middle estuary below Eagles Island under low flow conditions to the upper estuary above Navassa under high flow conditions; a distance of ~15 river miles (Becker 2006). The CFR and Brunswick River in the action area are listed as impaired waters on the NC 303d list due to exceedances of the state standard (>5.0 mg/L) for dissolved oxygen (DO) (NCDEQ 2021). According to Mallin et al. (2014), factors that contribute to exceedances of the DO standard include the discharge of organic industrial effluent at Riegelwood, organic-rich blackwater inputs from the Black River and Northeast Cape Fear River, and algal blooms that form in the summer behind Lock and Dam #1.

The prosed alignment crosses the CFR at distances of approximately 25 and 26.5 miles from the Atlantic Ocean. The potential in-water impact area associated with the lower CFR crossing is largely contained within the Anchorage Basin navigation channel reach. The side slopes of the maintained navigation channel prism extend nearly to the opposing shorelines. Both shorelines are covered by concrete wharfs and/or bulkheads, and fringing tidal marshes are absent. Based on a USACE cross-sectional survey of the uppermost Anchorage Basin (USACE 2018), depths are ≥30 ft across the channel with the possible exception of a narrow zone along the eastern shoreline bulkhead. The river channel at the upper CFR crossing encompasses the Cape Fear River Above Wilmington federal navigation project. Although the navigation channel has not been maintained in many years, strong tidal currents maintain a deep, steep-sided river channel in the vicinity of the proposed rail crossing. The most recent USACE hydrographic survey conducted in 2016 (Figure 3) recorded maximum channel depths of approximately -30 to -37 ft Mean Low Water (MLW) in the vicinity of proposed crossing; well in excess of the authorized -25-ft MLW depth. The existing upper crossing channel encompasses narrow zones of shallow bottom habitat along the shorelines that are flanked by fringing tidal marshes. Tidal marshes in the action area are dominated by dense, often monospecific stands of narrow-leaved cattail (*Typha angustifolia*) and common reed (*Phragmites australis*). Additional common marsh constituents include big cordgrass (*Spartina cynosuroides*), soft-stem bulrush (*Schoenoplectus tabernaemontani*), and salt-marsh bulrush (*Bolboschoenus robustus*).

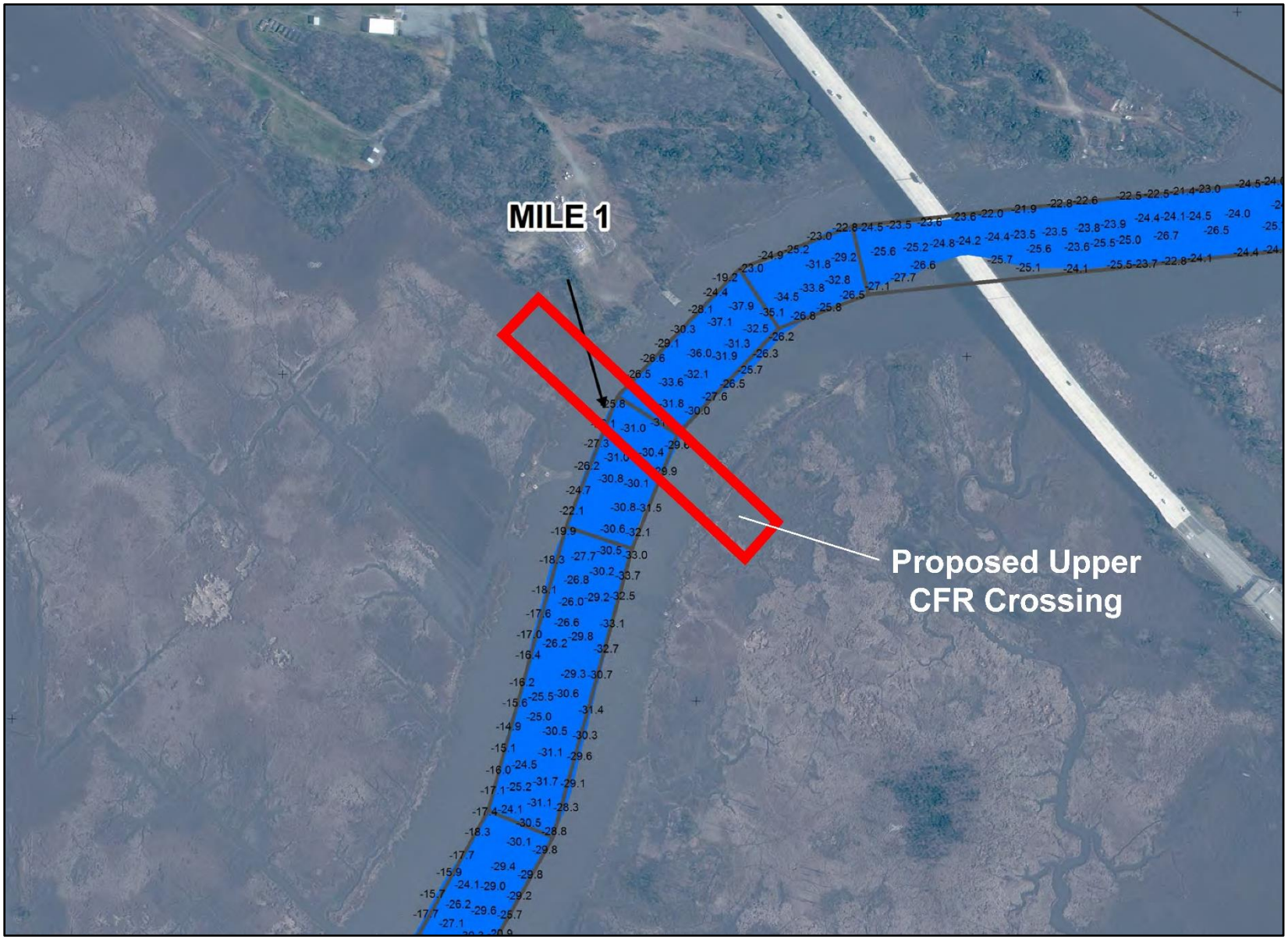


Figure 3. 2016 USACE hydrographic survey - Cape Fear River Above Wilmington federal project.

4.0 FEDERALLY LISTED SPECIES AND CRITICAL HABITATS

Federally listed species under National Marine Fisheries Service (NMFS) jurisdiction that potentially occur in the action area include three sea turtle species, the Atlantic sturgeon, and the shortnose sturgeon (Table 1). Additionally, the CFR from the mouth up to Lock and Dam #2 and the NECFR from its confluence with the CFR up to the Roans Chapel Road Bridge at Mount Olive comprise designated critical habitat (Unit 4) for the Atlantic sturgeon Carolina Distinct Population Segment (DPS).

Table 1. Federally listed species (NMFS jurisdiction) that may occur in the vicinity of the action area

Common Name	Scientific Name	Federal Status
Loggerhead sea turtle	*Caretta caretta*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Kemps ridley sea turtle	*Lepidochelys kempii*	Endangered
Atlantic sturgeon	*Acipenser oxyrinchus oxyrinchus*	Endangered
Shortnose sturgeon	*Acipenser brevirsotrum*	Endangered

5.0 GENERAL EFFECTS ON ESTUARINE RESOURCES

The current NEPA review process is evaluating the proposed action at a 30 percent level of preliminary engineering design. For purposes of the current review, the project's physical disturbance footprint has been defined by permanent and temporary impact corridors centered on the proposed rail alignment. For bridges and elevated rail segments, the total combined width of the permanent and temporary impact areas is 150 feet; including a 50-ft-wide permanent impact corridor centered on the proposed rail alignment and 50-ft-wide temporary impact corridors along both sides of the permanent impact corridor. The permanent impact area for filled rail bed segments is a 140- to 210-ft-wide corridor centered on the proposed rail alignment. No temporary impact corridors are associated with the filled rail bed segments, as work would occur from the rail bed as it is constructed. The projected impacts will be refined as more specific structural footprints and construction methods are developed during later phases of engineering design.

5.1 Effects on Soft Bottom Habitat

Permanent and temporary direct impacts on soft bottom habitats would result from the construction of bridges across the CFR, elevated rail construction across an unnamed tributary of Redmond Creek on Eagles Island and filled rail bed construction across an unnamed tributary of the CFR on the mainland above Eagles Island. The total area of soft bottom within the established impact corridors is 6.9 acres; including 2.4 acres in the permanent impact areas and 4.5 acres in the temporary impact areas (Table 2).

Table 2. Permanent and temporary soft bottom impacts (preliminary 30% design).

Channel Reach	Permanent Impact Area (ac)	Temporary Impact Area (ac)	Total
Lower CFR Crossing	1.0	2.0	**3.0**
Upper CFR Crossing	0.6	1.1	**1.7**
Eagle Island Tidal Creek Crossing	0.7	1.4	**2.1**
Mainland Tidal Creek Crossing	0.1	0.0	**0.1**
Total	**2.4**	**4.5**	**6.9**

5.2 Effects on Tidal Marsh

The proposed rail alignment crosses tidal marshes on Eagles Island and the mainland above the upper CFR crossing. Permanent and/or temporary direct impacts on tidal marsh would result from construction of the elevated rail foundational support systems, shading by elevated rail decks, and fill placement for at-grade rail bed construction (Table 3).

Table 3. Permanent and temporary tidal marsh impacts (preliminary 30% design).

	Permanent Impact Area (ac)	Temporary Impact Area (ac)	Total
Total	**15.2**	**17.0**	**32.3**

5.3 Acoustic Effects

The proposed action would not include blasting or the demolition of any existing in-water structures. It is expected that the potential for adverse acoustic effects on aquatic organisms would principally be associated with pile driving to construct the foundational support systems of bridges and elevated rail structures at the CFR crossings. Anticipated pile types and installation/construction methods include the installation of pre-cast concrete piles by impact and/or vibratory pile drivers and/or the construction of drilled shaft cast-in-place concrete piles. Drilled shaft pile construction typically involves pre-drilling a pile shaft, installing a temporary or permanent steel casing to keep the shaft open, inserting a rebar cage, and filling the shaft with liquid concrete. Steel casings are typically installed with a vibratory pile driver, which may also be required for the removal of temporary steel casings. Generally, the underwater sounds produced by impact pile drivers have a highest potential to cause direct injury to marine organisms, whereas the sounds produced by vibratory pile driving are more likely to have behavioral effects (Wickliffe et al. 2019). The use of drilled shaft concrete piles would generally be expected to have the least potential for adverse acoustic effects, as the use of a vibratory hammer would be limited to the installation of steel casings in pre-drilled shafts.

6.0 REFERENCES

Becker, M.L. 2006. Hydrodynamic Behavior of the Cape Fear River Estuarine System. PhD Dissertation, University of North Carolina at Chapel Hill.

Leonard, L., M. Posey, T. Alphin, and others. 2011. Monitoring Effects of a Potential Increased Tidal Range in the Cape Fear River Ecosystem Due to Deepening Wilmington Harbor, North Carolina, Final Report: October 1, 2000 – May 31, 2010. Unpublished report prepared for the U. S. Army Corps of Engineers, Wilmington District. University of North Carolina - Wilmington Department of Biological Sciences, Wilmington, NC.

Mallin, M.A., M.R. McIver, and J.F. Merritt. 2014. Environmental Assessment of the Lower Cape Fear River System, 2013. CMS Report No. 14-02, Center for Marine Science, University of North Carolina Wilmington.

NCDEQ (North Carolina Department of Environmental Quality). 2021. North Carolina 2020 303d List - Approved by EPA June 23, 2021.

USACE (US Army Corps of Engineers). 2018. Final Integrated Feasibility Report and Environmental Assessment, Wilmington Harbor Navigation Improvements. USACE, Wilmington District, October 2018.

Wickliffe, L.C., F.C. Rohde, K.L. Riley, and J.A. Morris, Jr. (eds.). 2019. An Assessment of Fisheries Species to Inform Time-of-Year Restrictions for North Carolina and South Carolina. NOAA Technical Memorandum NOS NCCOS 263. 268 p.

Attachment B

Wilmington Rail Realignment
Plan and Profile

Attachment B

Wilmington Rail Realignment
Plan and Profile

U.S. Department
of Transportation

1200 New Jersey Avenue, SE
Washington, DC 20590

**Federal Railroad
Administration**

June 2, 2022

United States Fish and Wildlife Service
Raleigh Field Office
John Ellis
Federal Project Review Under ESA
551-F Pylon Drive
Raleigh, NC 27606

RE: City of Wilmington Rail Realignment Project – ESA Section 7 Coordination

Dear Mr. Ellis,

The Federal Railroad Administration as the lead Federal Agency, in coordination with the City of Wilmington (City), has initiated an Environmental Assessment (EA) for a proposed new freight rail route to bypass the existing route between Navassa (Davis Yard) and the Port of Wilmington. The project, referred to as the Wilmington Rail Realignment, involves realigning an existing CSX Transportation (CSXT) freight rail line that traverses through City limits as well as unincorporated areas of Brunswick and New Hanover counties. The attached Figure 1 identifies the No-Build corridor and the Preferred Alternative for the project. The primary purpose of the project is to improve safety, regional transportation mobility, and freight rail operations, while also improving the resiliency, reliability, and operational fluidity of the sole freight rail route connecting southeastern North Carolina with the Port of Wilmington.

The information presented in this letter and attached is being provided as a follow-up to our January 26, 2022 coordination call. We are requesting comment regarding the potential effects of the project on federally listed species in accordance with Section 7 of the Endangered Species Act. Please note letters are also being sent to the NOAA – National Marine Fisheries Service: one to Mr. Andrew Herndon, regarding coordination on Endangered Species Act (ESA)-related issues and one to Mr. Fritz Rohde, regarding an Essential Fish Habitat (EFH) Assessment that addresses the effects of the proposed action on federally managed species and EFH.

Endangered Species Act Section 7 Coordination

Eleven species listed by the U.S. Fish and Wildlife Service in Brunswick County and New Hanover County have been identified for assessing effects of project actions. Table 1 identifies these listed species and includes a biological conclusion for each based on habitat evaluations and surveys conducted.

During the spring of 2021, surveys were conducted for some of the listed species with limited/no available existing data on presence/absence in a study area that included the Preferred Alternative including eastern black rail (*Laterallus jamaicensis)*, Cooley's meadowrue (*Thalictrum cooleyi*), golden sedge (*Carex lutea*), and rough-leaved loosestrife (*Lysimachia asperulaefolia*). Eastern black rail surveys were conducted using broadcast-response methodology between April and June at six land-based sites and five water-based sites. No eastern black rail were observed during these surveys. On April 8, 2021 a survey for the listed plant species occurred. It was determined that no suitable habitat existed for those listed plants within the area reviewed, including the Preferred Alternative impact area, therefore no additional information is provided in this letter. The results of the plant survey are included as an attachment.

Table 1. Federally listed species requiring Section 7 coordination

Common Name	Scientific Name	Federal Status[1]	County[2]	Habitat Present	Biological Conclusion[3]
American alligator	*Alligator mississippiensis*	T(S/A)	B, NH	Yes	Not Required
Eastern black rail	*Laterallus jamaicensis*	T	NH	Yes	MANLAA
Piping plover	*Charadrius melodus*	T	B, NH	No	NE
Red knot	*Calidris canutus rufa*	T	B, NH	No	NE
Red-cockaded woodpecker	*Picoides borealis*	E	B, NH	No	NE
Wood stork	*Mycteria americana*	T	B	Yes	MANLAA
West Indian manatee	*Trichechus manatus*	E	B, NH	Yes	MANLAA
Northern long-eared bat	*Myotis septentrionalis*	T	NH	Yes	MALAA – 4(d) Rule
Cooley's meadowrue	*Thalictrum cooleyi*	E	B, NH	No	NE
Golden sedge	*Carex lutea*	E	NH	No	NE
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	E	B, NH	No	NE

1 E=endangered; T=threatened; T(S/A) =threatened due to similarity of appearance.

2 B=Brunswick County; NH=New Hanover County

3 Biological Conclusions: MALAA = May Affect Likely to Adversely Affect; MANLAA = May Affect Not Likely to Adversely Affect; NE= No Effect

Information pertaining to eastern black rail, wood stork, West Indian manatee, and northern long-eared bat, is provided below. Habitat requirements for each species are based on the best currently available information from referenced literature, NCDOT, USFWS, and NMFS.

Eastern black rail

USFWS Recommended Survey Window: April 1 – June 30

Habitat Description: Eastern black rail habitat can be tidally or non-tidally influenced, and range in salinity from salt to brackish to fresh. Tidal height and volume vary greatly between the Atlantic and Gulf coasts and therefore contribute to differences in salt marsh cover plants in the bird's habitat. Further south along the Atlantic coast, eastern black rail habitat includes impounded and unimpounded salt and brackish marshes.

Biological Conclusion: May Affect – Not Likely to Adversely Affect

During habitat assessments conducted on February 22-26 and March 1-5, 2021, it was determined potential suitable habitat is present for the eastern black rail in the tidal marsh areas where common reed was not dominant within the area reviewed, including the Preferred Alternative. A review of North Carolina Natural Heritage Program (NHP) records on December 28, 2021 indicates no known occurrences within 1.0 mile of the Preferred Alternative. Surveys were performed by Dial Cordy and Associates, Inc., in 2021 during and shortly after the peak breeding season when the bird vocalizations are highest (April 15-May 31) on

the following dates: April 22 and 23; May 3, 5, 13, 14, 21; and June 2, 7, 8, and 14. The protocol used for this survey focused on passive listening and broadcasting intermittent eastern black rail vocalizations to assess eastern black rail populations. The methods followed during this survey were adapted from the USFWS Southeast Region, 2017 *Secretive Marsh Bird Survey Protocol* which is adapted from the *Standardized North American Marsh Bird Monitoring Protocol*[1] [2]. No eastern black rail were heard in response to the calls during the five replicate surveys at the six land- and five water-based stations. Most of the Preferred Alternative impact area has very minimal high marsh due to anthropogenic modification of the system. Based on the lack of high marsh habitat common to this area of the river, the habitat located within the Preferred Alternative impact area would not be expected to be used commonly by eastern black rail for nesting, as occurs in the lower more saline and less disturbed portions of the Cape Fear River. Therefore, the project may affect but is not likely to adversely affect eastern black rail. The results of the eastern black rail survey are attached.

Wood stork

USFWS Recommended Survey Window: April 15 – July 15

Habitat Description: Wood storks are known to occur in several coastal North Carolina counties, and records indicate that they have been breeding in North Carolina since 2005. Wood storks typically construct their nests in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water. In many areas, bald cypress and red mangrove trees are preferred. During the nonbreeding season or while foraging, wood storks occur in a wide variety of wetland habitats, including freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. Because of their specialized feeding behavior, the most attractive feeding areas are swamp or marsh depressions where fish become concentrated during dry periods.

Biological Conclusion: May Affect – Not Likely to Adversely Affect

During habitat assessments conducted on February 22-26 and March 1-5, 2021, it was determined suitable foraging habitat is present for wood stork in the marshes, swamps, woody wetlands, ditches, and creeks identified in the Preferred Alternative. A review of NHP records on December 28, 2021 indicates no known occurrences within 1.0 mile of the Preferred Alternative. Due to low populations of wood stork in the vicinity of the Preferred Alternative and the nearest rookery documented nearly 40 miles away in Brunswick County, the project is not likely to adversely affect wood stork.

West Indian manatee

USFWS Recommended Survey Window: year round

Habitat Description: Manatees have been observed in all the North Carolina coastal counties. Manatees are found in canals, sluggish rivers, estuarine habitats, saltwater bays, and as far off shore as 3.7 miles. They utilize freshwater and marine habitats at shallow depths of 5 to 20 feet. In the winter, between October and April, manatees concentrate in areas with warm water. During other times of the year habitats appropriate for the manatee are those with sufficient water depth, an adequate food supply, and in proximity to freshwater. Manatees require a source of freshwater to drink. Manatees are primarily herbivorous, feeding on any aquatic vegetation present, but they may occasionally feed on fish.

[1] Smith, Adam. Wiest, Whitney. 2017. 2017 Secretive Marsh Bird Survey - USFWS Southeast Region. United States Fish and Wildlife Service, Unpublished Report.

[2] Conway, C. J. 2009. Standardized North American Marsh Bird Monitoring Protocols.

Biological Conclusion: May Affect – Not Likely to Adversely Affect

Suitable habitat for the West Indian manatee is present in the Cape Fear River and streams with water depths greater than or equal to 5 feet. A review of NHP records on December 28, 2021 indicates a known occurrence within 1.0 mile of the Preferred Alternative. Construction activities in suitable habitat will adhere to *Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters*. Therefore, the project may affect but is not likely to adversely affect West Indian manatee.

Northern long-eared bat

USFWS Recommended Survey Window: June 1 – August 15

Habitat Description: In North Carolina, the Northern long-eared bat (NLEB) occurs in the mountains, with scattered records in the Piedmont and coastal plain. In western North Carolina, NLEB spend winter hibernating in caves and mines. Since this species is not known to be a long-distance migrant, and caves and subterranean mines are extremely rare in eastern North Carolina, it is uncertain whether or where NLEB hibernate in eastern North Carolina. During the summer, NLEB roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees (typically ≥3 inches dbh). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat has also been found, rarely, roosting in structures like barns and sheds, under eaves of buildings, behind window shutters, in bridges, and in bat houses. Foraging occurs on forested hillsides and ridges, and occasionally over forest clearings, over water, and along tree-lined corridors. Mature forests may be an important habitat type for foraging.

Biological Conclusion: May Affect – Subject to the Final 4(d) Rule

During habitat assessments conducted on February 22-26 and March 1-5, 2021, it was determined suitable habitat was present for NLEB in areas with snags and non-isolated trees with a dbh greater than 3 inches. According to records last updated on March 24, 2020 presented by the USFWS Raleigh Ecological Services Field Office, there are no known NLEB winter roost trees in Brunswick and New Hanover Counties. A review of NHP records on December 28, 2021 indicates a known occurrence within 1.0 mile of the project area. The Programmatic Biological Opinion on Final 4(d) Rule will be followed to satisfy Section 7 consultation with USFWS.

Bald Eagle

A general corridor nest survey for Bald Eagle was performed on April 1 and 8, 2021. Additional surveys of known nests occurred April 1, 9, and 12 2021. One active nest (Element Occurrence #27956) was noted. A fledgling was observed on April 12, 2021. Based on this, consultation with the USFWS pursuant to the Eagle Act will be required for the Project. As discussed in our January 26, 2022 coordination call, separate coordination for a potential Bald Eagle permit will be required through a different office of the USFWS (Resee Collins).

Closing

FRA requests your comments regarding the information provided in this letter and in the attached survey reports as we continue preparation of the Environmental Assessment.

We look forward to a collaborative working relationship with the USFWS on this project. If you have any questions or would like to discuss in more detail the project or our agencies' respective roles and responsibilities during preparation of the EA, please contact Kevin Wright at 202-868-2628 or kevin.wright@dot.gov.

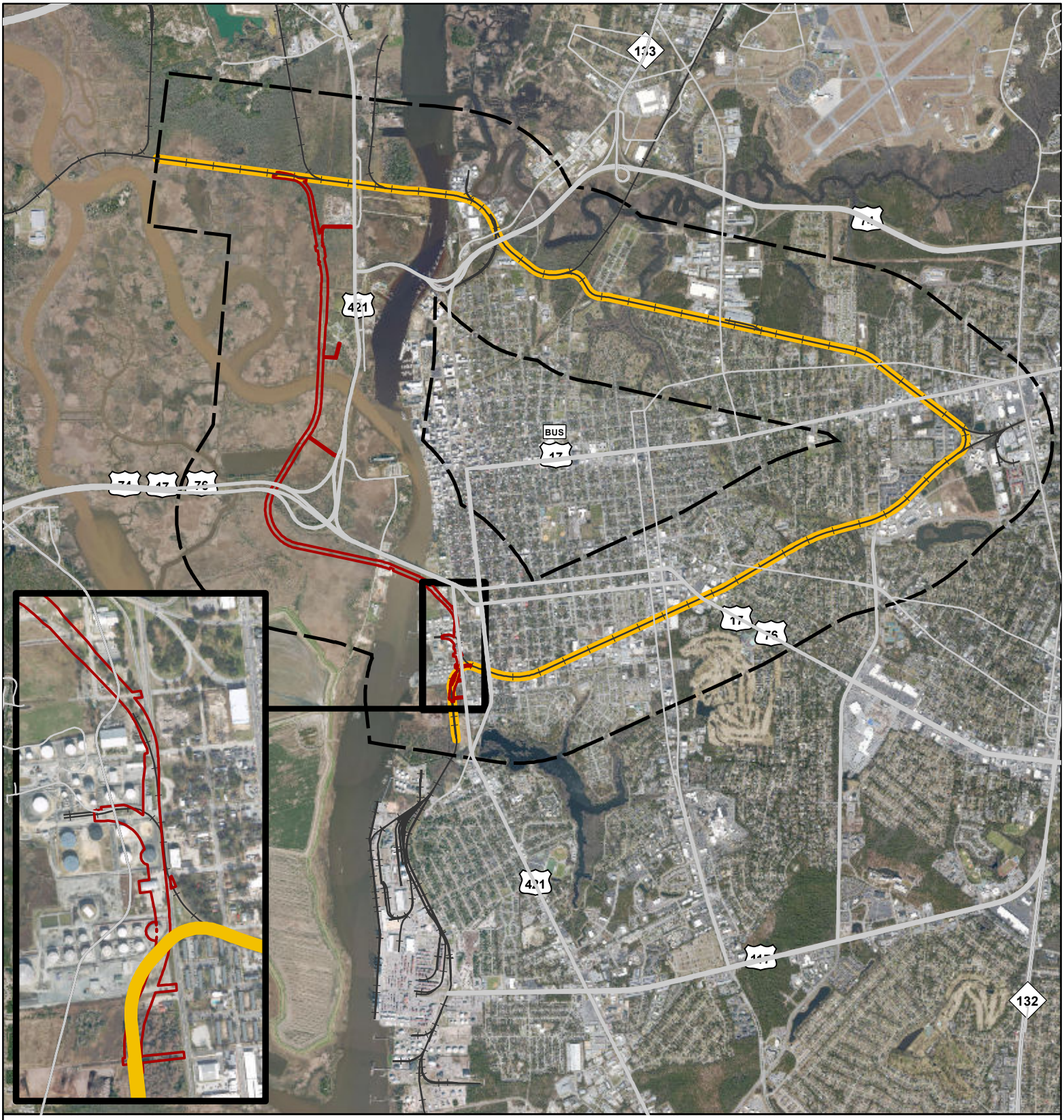
Sincerely,

Brandon Bratcher
Supervisory Environmental Protection Specialist

Attachments (4):

Figure 1 Study Area
WRR Black Rail Survey
WRR Plant Survey
Bald Eagle Survey

Cc: Aubrey Parsley, City of Wilmington



CITY OF WILMINGTON NORTH CAROLINA

Wilmington Rail Realignment Project

New Hanover County and Brunswick County, NC

Source: Esri Aerial Imagery

Legend

- Project Study Area
- Preferred Alternative Impact Area
- No-Build Corridor
- Railroad

Figure 1
No-Build and Preferred Alternative Corridors

Date: January 2022

0 0.25 0.5 1
Miles

1 inch = 4,000 feet

201 N. Front Street,
Wilmington, NC
(910) 251-9790 Fax

DIAL CORDY
AND ASSOCIATES INC
Environmental Consultants

Suite 307
238401
(910) 251-9409

July 9, 2021

Jeff Mann
Project Manager
AECOM
201 N. Front Street
Suite 509
Wilmington, NC 28401

Re: City of Wilmington Rail Realignment EA – Draft Black Rail Survey Report

Dear Jeff,

Dial Cordy and Associates Inc. (DCA) was contracted by AECOM to develop a survey plan for black rail **(***Laterallus jamaicensis*), gain concurrence from USFWS, implement the survey, and prepare this letter report. An introduction to the black rails status, a review of the approved survey methods, and survey results are summarized below.

Introduction

Marsh dependent birds are those that primarily inhabit marsh habitats and many of these species are considered “inconspicuous” or “secretive” in their behavior (Conway 2009). These species include rails, bitterns, herons, egrets, grebes, gallinules, and snipes that typically inhabit dense persistent emergent vegetation in fresh and/or brackish aquatic environments. Except during the breeding season, many of these marsh bird species vocalize infrequently and remain hidden from typical survey methods such as point counts and road-side surveys. As such, call-response surveys are utilized to elicit vocalizations to provide estimations of marsh bird populations. Marsh bird populations are good indicators of environmental health, as marsh birds rely on abundant and diverse fish, amphibian, and invertebrate populations, which are in turn, reliant on good water quality.

Due to their secretive nature and challenging habitat to survey, marsh bird population monitoring data is often limited or lacking in many areas. To our knowledge, no systematic marsh bird surveys have occurred within the project area; however, observations from local birders have identified many marsh bird species in the lower Cape Fear River watershed, including the black rail. One of the most imperiled marsh bird species in North America today is the black rail (Wilson et al 2016). Population declines are linked to habitat loss, tidal flooding, sea level rise, and increasing storm intensity and frequency. Its endangered status listing by the United States Fish and Wildlife Service (USFWS) on 9 November 2020, reinforces the population is in jeopardy. The black rail is known to occur close to the project area as observations have occurred in Southport (4 January 2007) and Wilmington (5 January 2007) (Davis 2008).

Survey Methods

A draft survey plan for black rail was forwarded to the USFWS (John Ellis and John Hammond) on 1 April 2021 to gain approval for the proposed methods. On 20 April 2021 John Hammond concurred with our methods but requested that five replicate surveys be scheduled, rather than the two proposed.

The USFWS approved survey plan is summarized below:

Due to their secretive nature and the habitat preferred by the black rail, species specific survey protocols have been developed and revised over the last decade to increase the likelihood of observing this species. The protocol used for this survey focuses on passive listening and broadcasting intermittent black rail vocalizations to assess black rail populations. Surveys were performed during and shortly after the peak breeding season when bird vocalizations are highest (15 April – 31 May) (Conway 2009). The methods followed during this survey were adapted from the United States Fish and Wildlife Service (USFWS) Southeast Region, 2017 Secretive Marsh Bird Survey Protocol (Smith and Wiest 2017) which is adapted from the Standard North American Marsh Bird Monitoring Protocol (Conway 2009). Standard playback files were acquired from the USFWS and used by DCA biologists. The file attained was 12 minutes and 15 seconds in length consisting of fifteen seconds of “burn in time”, followed by two minutes of passive listening, followed by intermittent calls starting with three “Ki Ki Kerr” calls, one “Ik Ik” call, one “growl”, and one additional minute of silence. The call sequence MP3 file was loaded onto an MP3 player and broadcast via a Bluetooth amplified speaker (Ankor Soundcore, Model # A3102011). A sound level meter was used to ensure the broadcast was between 70-80 dB (Meterk model: MK09) before every survey. The speaker was mounted to a PVC pole that was inserted into the ground at each survey point and the speaker was oriented to face the largest expanse of marsh.

The surveys were conducted approximately 30 minutes before sunrise to 2.5 hours after sunrise and 2.5 hours before sunset to 30 minutes after sunset. The area covered by the Wilmington Rail Realignment corridor limited the number of broadcast stations to six land stations and five shoreline stations. Consultation with the USFWS on site selection occurred in early April and no additional sites were requested (Figure 1, Table 1). The minimum spacing advised for call/response surveys is 400 meters between each site to prevent any potential overlap of calling birds. One survey replicate consisted of surveying all stations within one week. Survey stations were selected near high marsh areas away from roads, where possible.

Many factors can limit the ability of an observer to hear marsh bird vocalizations; however, wind may be the most limiting factor when conducting call-response surveys. As such, surveys were limited to days with winds less than 20 kilometers/hour (12 miles/hour). Surveyors used a handheld anemometer before and during surveys to ensure winds were acceptable for surveys. Additionally, heavy fog and sustained rain can limit marsh bird vocalizations and should be avoided. The tide stage can also affect detectability of some marsh birds and due to the lunar tide experienced within the Cape Fear, surveys were scheduled around the tides when feasible.

Figure 1. City of Wilmington Rail Realignment Corridor Black Rail Survey Stations, Wilmington, NC (Spring 2021).

Table 1. Wilmington Rail Realignment Black Rail Survey Stations Wilmington, North Carolina (Spring 2021).

	Point I.D.	Latitude (DD)	Longitude (DD)
Land Route	L-1	34.22680000	77.95568333
	L-2	34.23316667	77.96628333
	L-3	34.24498333	77.96048333
	L-4	34.24603333	77.96066667
	L-5	34.25031667	77.96081667
	L-6	34.25505000	77.96096667
Water Route	W-1	34.23785000	77.96311667
	W-2	34.24238333	77.96168333
	W-3	34.24206667	77.95863333
	W-4	34.24376667	77.96151667
	W-5	34.24715000	77.96233333

Results

Survey dates and weather conditions for both land and water-based surveys are provided in Table 2. During the surveys, the weather conditions were generally good with very little precipitation. The majority of the sites are relatively protected which reduced the influence the wind had on creating background noise. A description of the habitat at each survey station is provided below.

Habitat Descriptions of Survey Stations

Station L1

The tidal floodplain at Station L1 is entirely dominated by dense monospecific common reed (*Phragmites australis*) stands on dredged material deposits. The stands along Battleship Road that were visually examined appear to be positioned just above MHW where flooding is intermittent by higher than average high tides.

Table 2. Wilmington Rail Realignment Black Rail Call/Response Station Survey Dates and Weather Conditions Wilmington, North Carolina (Spring 2021).

Survey Type	Date	Temp Range (F)	Cloud Cover Range	Precipitation	Wind Range	Ambient Noise Level Range
Land - Morning	4/22/2021	60-64	0-1	None	2-4	2-4
Water - Morning	4/23/2021	52-54	0	None	1	1-3
Water- Evening	5/3/2021	81-82	2	None	3-4	1-4
Land - Evening	5/5/2021	82	1-2	None	3-4	2-3
Land - Morning	5/13/2021	47-51	1-2	None	1-3	1-2
Water - Morning	5/14/2021	54	0	None	1	2
*Water - Morning	5/21/2021	62	0	None	1	1-2
Land - Evening	6/2/2021	77-80	2-5	light drizzle at L3	1-4	1-3
Water-Morning	6/7/2021	77-79	1	None	1	1-2
Land-Evening	6/8/2021	78-81	1	None	0-1	1
Water -Morning	6/14/2021	69-73	1	None	2	1-2

Cloud Cover: 0 -clear or a few clouds, 1-partly cloudy or variable sky, 2-cloudy or overcast, 4-fog or smoke, 5-drizzle, 6-snow, 8-showers

Wind: 0-Smoke rises vertically, 1-wind direction shown by smoke, 2-wind felt on face, 3-leaves and twigs in constant motion, 4-raises dust and loose paper, 5-small trees sway; crested wavelets on inland water

Noise: 0-no noise, 1-faint, 2-moderate, 3-loud, 4-intense

* Makeup date for Station W1 and W5 on 5/14/21

Station L2

The tidal floodplain at Station L2 is strongly dominated by monospecific narrowleaf cattail (*Typha angustifolia*) marshes. The cattail marshes are interspersed with dense patches of common reed on elevated dredged material deposits and scattered salt-stressed trees and shrubs such as bald cypress (*Taxodium distichum*), red maple (*Acer rubrum*), Chinese tallow (*Triadica sebifera*), and wax myrtle (*Morella cerifera*). The position of the MHW line appears to be near the upland boundary along US Highway 74/76. The common reed stands generally occur on tidally-restricted dredged material deposits that are intermittently flooded by higher than average high tides. Otherwise, supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Stations L3 and L4

Dense monospecific common reed stands comprise a 200- to 400-ft-wide zone along the upland boundary at Stations L3 and L4. The remainder of the tidal floodplain between the common reed stands and the Cape Fear River channel is dominated by monospecific cattail marshes. The position of the MHW line appears to be near the upland boundary. The uppermost fringes of the common zone appear to be just above MHW where flooding is intermittent by higher than average high tides. Otherwise, supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at these locations.

Station L5

The outer portion of the tidal floodplain along the upland boundary at Station L5 is strongly dominated by dense monospecific common reed stands on elevated fill material. The remainder of the tidal floodplain between the common reed stands and the Cape Fear River channel is dominated by monospecific cattail marshes that are interspersed with a few scattered salt-stressed trees (bald cypress). The common reed stands generally occur on tidally-restricted ditch spoil berms and other elevated fill deposits that are intermittently flooded by higher than average high tides. Otherwise, supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Station L6

A narrow (~20-ft-wide) tidal marsh zone along the upland boundary at Station L6 is dominated by narrowleaf cattail and soft-stem bulrush (*Schoenoplectus tabernaemontani*). The remainder of the tidal floodplain is strongly dominated by monospecific narrowleaf cattail marshes. The cattail marshes are interspersed with scattered dead and severely salt-stressed trees and shrubs such as bald cypress, green ash (*Fraxinus pennsylvanica*), swamp tupelo (*Nyssa biflora*), and wax myrtle. The position of the MHW line appears to be within a few feet of the upland boundary. Supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Station W1

The tidal floodplain at Station W1 is dominated by a combination of monospecific narrowleaf cattail marshes and monospecific common reed stands. The cattail marshes are interspersed with small, isolated upland scrub-shrub areas that are dominated by Chinese tallow, Chinaberry (*Melia azedarach*), and wax myrtle. The common reed stands generally occur on tidally-restricted dredged material deposits that are intermittently flooded by higher than average high tides. Otherwise, supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Station W2

A narrow (~20-ft-wide) tidal marsh zone on the slightly elevated river- bank is dominated by narrowleaf cattail and softstem bulrush with scattered big cordgrass (*Spartina cynosuroides*) and saltmarsh water-hemp (*Amaranthus cannabinus*). The top-of-bank zone is backed by

expansive monospecific narrowleaf cattail marshes. Supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Station W3

A fringing (5- to 10-ft-wide) smooth cordgrass (*Spartina alterniflora*) zone along the edge of the river channel is backed by a narrow (~50-ft-wide) big cordgrass-saltmarsh bulrush (*Bolboschoenus robustus*) zone on the elevated river- bank. The tidal floodplain beyond the top-of-bank zone is highly altered by dredged material deposits and is dominated by a combination of monospecific narrowleaf cattail marshes, monospecific common reed stands, and isolated upland scrub-shrub areas. Typical woody species of the upland scrub-shrub areas include Chinese tallow, Chinaberry, and wax myrtle. The common reed stands generally occur on tidally-restricted dredged material deposits that are intermittently flooded by higher than average high tides. Otherwise, supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Station W4

A narrow (~50-ft-wide) big cordgrass zone occurs on the slightly elevated river- bank. The tidal floodplain beyond the top-of-bank zone is dominated by a combination of monospecific narrowleaf cattail marshes and monospecific common reed stands. The common reed stands generally occur on tidally-restricted dredged material deposits that are intermittently flooded by higher than average high tides. Otherwise, supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Station W5

Dense monospecific common reed stands comprise a 200- to 400-ft-wide zone along the upland boundary at Stations W5. The remainder of the tidal floodplain between the common reed stands and the Cape Fear River channel is dominated by monospecific cattail marshes. A narrow (~20-ft-wide) tidal marsh zone on the slightly elevated banks of the Cape Fear River and the main rice canals is dominated by narrowleaf cattail, big cordgrass, softstem bulrush, and wild rice (*Zizania aquatica*). The uppermost portions of the common reed zone along the upland boundary appear to be just above MHW where flooding is intermittent by higher than average high tides. Otherwise, supratidal high marsh zones that would constitute suitable black rail nesting habitat appear to be absent at this location.

Marsh Bird Observations

No black rail were heard in response to the calls during all five replicate surveys at the six land- and five water-based stations. Clapper/king rails (*Rallus crepitans*, *Rallus elegans*) were detected at land Station 4 and all water stations during several of the surveys in response to the calls. Over the course of the survey, 15 clapper/king rails were detected (Table 3). The vocalizations of the clapper rail and king rail are essentially indistinguishable, and the Standard North American Marsh Bird Monitoring Program suggests recording the vocalizations heard as clapper/king rails in areas where both species may occur. Additionally, one least bittern (*Ixobrychus exilis*) was observed at water station 1.

Table 3. Wilmington Rail Realignment Marsh Bird Observations Wilmington, North Carolina (Spring 2021).

Station	Date	Common Name	Scientific Name
Land - 4	4/22/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	4/23/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 2	4/23/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 5	4/23/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 3	5/3/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 3	5/14/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	5/21/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	5/21/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	5/21/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	5/21/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	5/21/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	6/7/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	6/7/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 1	6/7/2021	Least Bittern	*Ixobrychus exilis*
Water - 1	6/7/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*
Water - 4	6/14/2021	Clapper/King Rail	*Rallus crepitans, Rallus elegans*

The preferred habitat of the black rail is the high marsh. The high marsh is typically only inundated during extreme high tide events and is dominated by plants such as marsh elder (*Iva frutescens)*, saltgrass (*Distichlils spicata)*, and salt meadow hay (*Spartina patens).* The majority of the area within the proposed rail realignment corridor has very minimal high marsh due to anthropogenic modification of the system. Based on the lack of high marsh habitat common to this area of the river, the habitat located within the study area would not be expected to be used commonly by black rail for nesting, as occurs in the lower more saline and less disturbed portions of the Cape Fear River.

Literature Cited

Conway, C. J. 2009. Standardized North American Marsh Bird Monitoring Protocols, version 2009-2. Wildlife Research Report #2009-02. U.S. Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.

Davis, Ricky. 2008. Briefs for the Files. The Chat Vol 72 No 2 Spring 2008, Carolina Bird Club, 608 Smallwood Drive, Rocky Mount, NC 27804. Unpublished Report.

Smith, Adam. Wiest, Whitney. 2017. 2017 Secretive Marsh Bird Survey -USFWS Southeast Region. United States Fish and Wildlife Service, Unpublished Report.

Wilson, M.D., B. D. Watts, and D. Poulton. 2016. Black Rail Status Survey in North Carolina. Center for Biology Technical Report Series, CCBTR-16-01. College of William and Mary and Virginia Commonwealth University. 21 pp.

Should you have any questions regarding the content of our report, please contact either James Hargrove or myself.

Regards,

Dial Cordy and Associates Inc.

R Steve Dial

R. Steve Dial
President

DIAL CORDY
AND ASSOCIATES INC
Environmental Consultants

201 N. Front Street, Suite 307
Wilmington, NC 28401
(910) 251-9790

24 August, 2021

Jeff Mann
Project Manager
AECOM
201 N. Front Street
Suite 509
Wilmington, NC 28401

Re: City of Wilmington Rail Realignment Rail EA – Listed Plant Species Survey

Dear Mr. Mann:

Dial Cordy and Associates Inc. (DCA) has completed the federally listed plant species survey and habitat assessment for the identified area of potentially suitable habitat along US 421 in Brunswick County (Figure 1). A survey and habitat suitability assessment for Cooley's Meadowrue (*Thalictrum cooleyi*), golden sedge (*Carex lutea*), and rough-leaved loosestrife (*Lysimachia asperulifolia*) was conducted by DCA staff Rahlff Ingle (MS Botany NCSU) and James Hargrove on 8 April 2021. No occurrences of listed plant species were encountered during the survey. Furthermore, based on the habitat assessment provided below, the assessment area does not contain suitable habitat for any of the listed plant species.

Habitat Assessment

The assessment area is located along the western margin of US 421 on the tidal floodplain of the Cape Fear River. Soils are mapped by the NRCS as Chowan silt loam. Tidal hydrology has been modified by filling and grading, including the construction of an elevated road bed/powerline corridor that bisects the site. The site contains a disturbed supratidal to non-tidal swamp forest community with an open canopy of red maple (*Acer rubrum*), sweet-gum (*Liquidambar styraciflua*), swamp tupelo (*Nyssa biflora*), and eastern cottonwood (*Populus deltoides*). The very dense to moderately dense shrub layer is dominated by Chinese privet (*Ligustrum sinense*), sweetgum, Chinese tallow-tree (*Triadica sebifera*), wax myrtle (*Morella cerifera*), and silverling (*Baccharis halimifolia*). The sparse groundcover stratum is dominated by Japanese stilt-grass (*Microstegium vimineum*) and woody vines such as poison ivy (*Toxicodendron radicans*),

honeysuckle (*Lonicera japonica*), and Virginia creeper (*Parthenocisus quinquefolia*). Known occurrences of Cooley's meadowrue and golden sedge are associated with ecotones between fire-maintained pine savannas and non-riverine swamp forests; including powerline corridors where the typical assemblage of savanna herbaceous species is maintained by mowing (Suiter and LeBlond 2014). Similarly, rough-leaved loosestrife is associated with ecotones between longleaf pine savannas and pocosin communities; including roadside depressions and powerline corridors where the typical assemblage of savanna herbaceous species is maintained by artificial disturbance (Suiter 2014). The tidal floodplain habitats of the assessment area do not constitute suitable habitat for any of these species.

Regards,

R Steve Dial

R Steve Dial
President

Figure 1. Assessment Area.

DIAL CORDY
AND ASSOCIATES INC
Environmental Consultants

201 N. Front Street, Suite 307
Wilmington, NC 28401
(910) 251-9790

June 15, 2021

Jeff Mann
Project Manager
AECOM
201 N. Front Street
Suite 509
Wilmington, NC 28401

Re: City of Wilmington Rail Realignment Rail EA – Bald Eagle Survey

Dear Mr. Mann:

Dial Cordy and Associates Inc. (DCA) has completed the bald eagle (*Haliaeetus leucocephalus*) nest survey for the above study and is submitting this letter report as part of our contractual requirements with AECOM. The bald eagle is protected under the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA), which prohibit the take of bald eagles and their nests without a permit. In accordance with survey protocol contained in the National Bald Eagle Management Guidelines (USFWS 2007) and the NCDOT Guidelines to Assess Potential Project Impacts to the Bald Eagle and Survey Protocols (NCDOT 2015), a pedestrian survey of the study corridor, inclusive of a 660-ft buffer, was performed to identify bald eagle nests and determine the status of the one known nest (Element Occurrence # 27956), and an older historic nest location located at the north end of the corridor (Figure 1). All forested areas and potential nest trees within the corridor were visually inspected for the presence of nests. The general corridor nest survey was performed on April 1 and 8, 2021. Known nest status surveys were conducted between 0630-0800 am on April 1, 9 and 12, 2021. DCA staff participating in the surveys included James Hargrove, Rahlff Ingle, and Steve Dial.

Survey Results and Observations

No bald eagle nests were observed within the survey area other than the one known nest cited above (EO # 27956). Surveys of the known nest site documented the presence of an active nest with at least one eaglet (Photograph 1 and 2). The nest is positioned near the top of a large loblolly pine (*Pinus taeda*) that is 80-90 feet (ft) in height and ~20 inch (in) diameter at breast height. The nest tree coordinates are N 34º 15.482', W 077º 57.755', located 233 ft west of the corridor (Figure 1). During the first visit on 1 April 2021, the male eagle responded to our presence

by posting on trees over 300 ft from the nest tree and flying in large circles around the nest tree. One flight by the male from an isolated cypress tree in the adjacent marsh to the nest tree was abruptly aborted, apparently in response to our presence at a distance of ~200 ft from the nest tree. No eagle activity was observed during the second visit on 9 April 2021. On the third and final visit on 12 April 2021, a fledging was observed moving and extending its wings above the edge of the nest. Therefore, it can be concluded that the nest is active with at least one eaglet.

Habitat Description for Eagle Nest Tree Location

The nest site is a linear upland feature on the tidal floodplain of the Cape Fear River. The associated plant community is a relatively natural coastal fringe evergreen forest with an open canopy of loblolly pine (*Pinus taeda*), sand laurel oak (*Quercus hemisphaerica*), magnolia (*Magnolia grandiflora*), and sweetgum (*Liquidambar styraciflua*). Scattered understory trees include American beech (*Fagus grandifolia*) and American holly (*Ilex opaca*). The moderately dense shrub layer is dominated by American holly, witch-hazel (*Hamamelis virginiana*), blueberry (*Vaccinium* sp.), wild olive (*Osmanthus americanus*), and dwarf paw paw (*Asimina parviflora*). The groundcover stratum is dominated by sparse woody vines such as muscadine (*Vitis rotundifolia*) and greenbrier (*Smilax* sp.).

Past Activity at Element Occurrence

Based on the NC Natural Heritage Program (NCNHP) Element Occurrence (EO) record (# 27956), two nest trees, including the existing nest tree cited above and an older additional tree at the site that is not present today, have historically been used by bald eagles. The EO record includes the following incomplete annual nest survey data: active nest 2008-2009 (D. Allen NCWRC), no survey 2011-2012, and inactive nest 2015 (Carpenter NCWRC 2018-2019). As shown in Figure 1, the larger circle indicates the present active nest and the very small one, the location of the historic nest tree.

Conclusion

Based on the presence of an active bald eagle nest within the survey area, consultation with the USFWS pursuant to the Eagle Act will be required for the proposed project. If it is determined that the project will result in the take of eagles (disturbance, injury, or killing) or an eagle nest (removal, relocation, or destruction), an incidental take permit or nest take permit will be required, respectively.

Regards,

DIALCORDY AND ASSOCIATES INC.

R. Steve Dial
President

cc. J21-1460

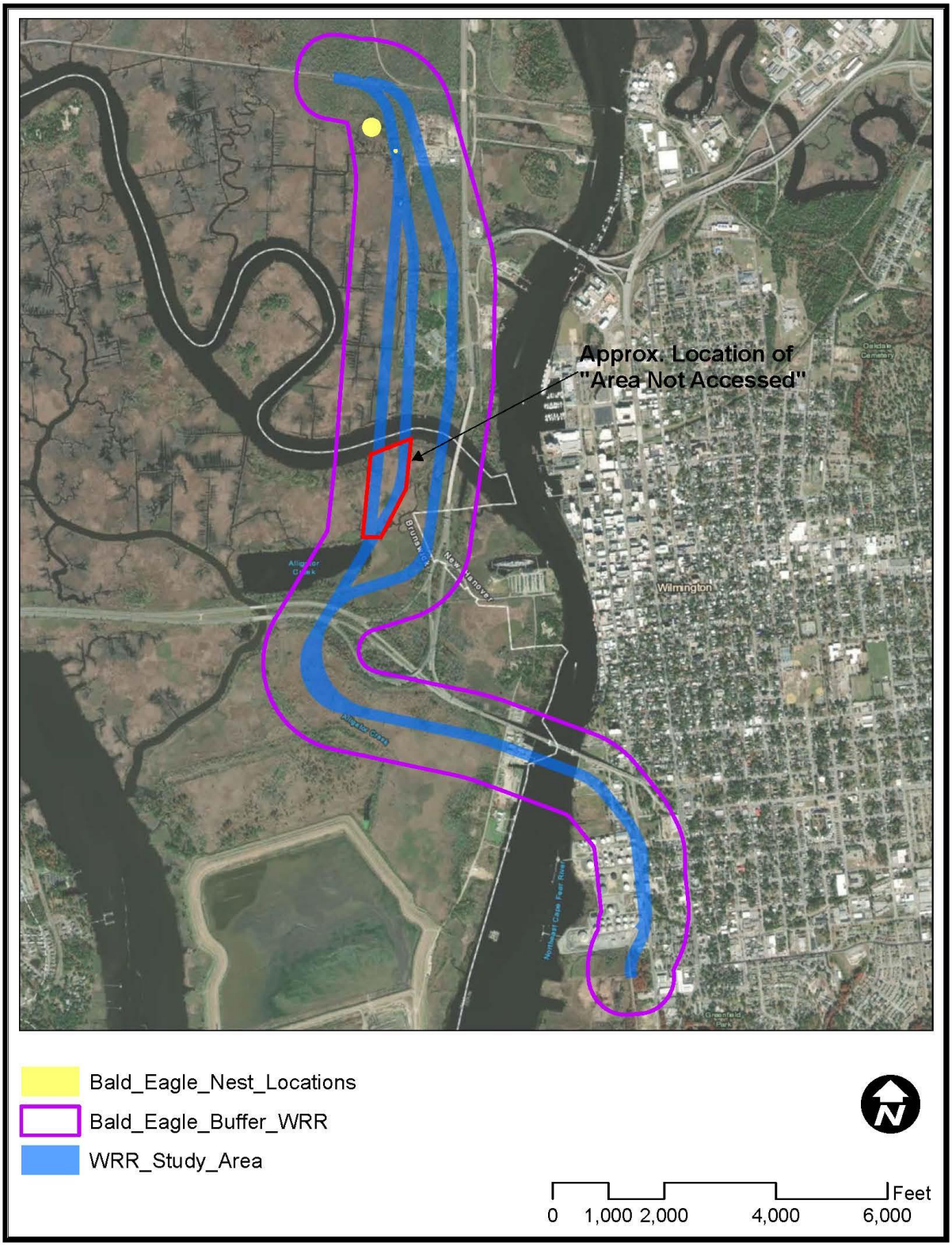


Figure 1. City of Wilmington Rail Realignment Study Area and Bald Eagle Buffer Area.

Photograph 1. Bald Eagle Active Nest Tree.

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Photograph 2. Close up of Bald Eagle Nest in Loblolly Pine.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
https://www.fisheries.noaa.gov/region/southeast

06/21/2022

F:SER31/AH

Mr. Brandon Bratcher
U.S. Department of Transportation
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC, 20590

Attention: Kevin Wright

Re: Wilmington Rail Realignment

Dear Mr. Bratcher:

NOAA's National Marine Fisheries Service (NMFS) participated in a teleconference on January 18, 2022, with representatives from the Federal Railroad Administration (FRA), WSP USA, AECOM, and Dial Cordy Associates Inc. to discuss Magnuson-Stevens Fishery Conservation and Management Act (MSA) and Endangered Species Act (ESA) consultations on the Wilmington Rail Realignment. During the call, NMFS was provided an overview of the project, which proposes to reroute the existing freight traffic from the CSXT Beltline in the city of Wilmington to a new freight line across the Cape Fear River and Eagles Island in New Hanover and Brunswick Counties, NC. The FRA and NMFS agreed that because the project's current scope includes only preliminary engineering, up to 30% design, the level of detail available will be insufficient to conduct a thorough ESA Section 7 consultation. Therefore, FRA and NMFS agreed ESA Section 7 consultation should be deferred to the project's final phase of engineering design. NMFS also confirmed our role as a cooperating agency and our intention to provide robust technical assistance throughout the preceding design phases, to help avoid, minimize, and mitigate potential impacts to NOAA trust resources.

In a June 2, 2022, letter, the FRA provided NMFS additional information on the project, consistent with our role as a cooperating agency and our intention to provide robust technical assistance. That letter also requested NMFS provide a letter confirming FRA's deferral of Section 7 consultation to the final engineering design phase. NMFS supports the FRA's decision to postpone ESA Section 7 consultation to the final phase of engineering design. We look forward to further coordination with you on this to ensure the conservation of marine and estuarine species and their habitats.

Sincerely,

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David Bernhart
Assistant Regional Administrator
for Protected Resources

File: 1514-22cc.

cc: F/SER3, Bernhart, Farmer, Shotts, Herndon
F/SER4, Wilber, Rohde

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

August 4, 2022

Amanda Murphy, Acting FPO
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Amanda.Murphy2@dot.gov

RE: Wilmington Rail Realignment, Final Intensive-Level Historic Architecture Survey Report, Brunswick and New Hanover Counties, ER 19-2629

Dear Ms. Murphy:

Thank you for your July 12, 2022, letter concerning the above-referenced report and our comments of May 5, 2022. Having reviewed the information provided by the Federal Railroad Administration (FRA), we provide the following comments.

We note and appreciate that the Final Intensive Level Historic Architecture Survey Report:

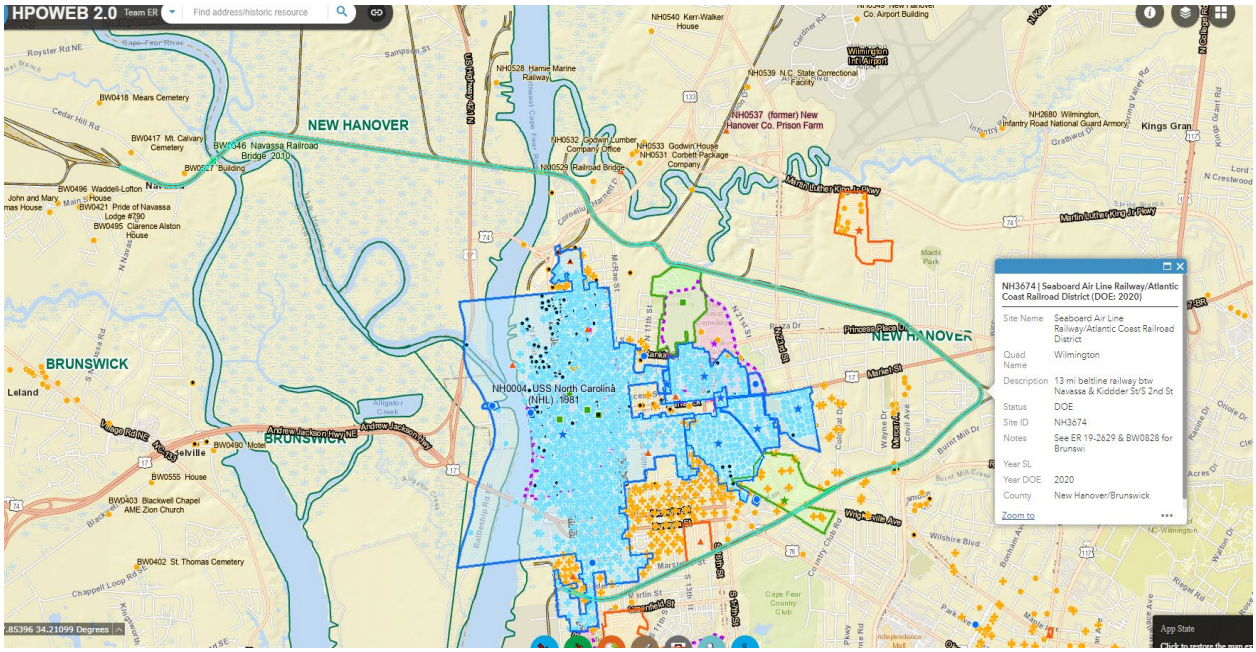
- Added a management summary that includes a listing of the evaluated resources and their National Register of Historic Places (NRHP) eligibility determinations.
- Amended the language of the Recommendation Section for the former Holy Church of Jesus Christ to clarify the NRHP-eligibility recommendation.
- Updated the survey numbers for the former Holy Church of Jesus Christ and Wilmington Historic District-Potential Expansion area to reflect the new numbers assigned to them after FRA's submittal of the initial report and updated the name of the Wilmington Historic District Potential Expansion area to match the one associated with its number.

Based on the reassessment of eligibility for the Greenfield Lake and Gardens (NH1381), we concur with FRA's finding that Greenfield is not eligible for listing in the NRHP as it no longer retains sufficient overall integrity to convey historical significance.

In response to your request that we provide additional information about our concurrence with FRA's earlier Determination of Eligibility for the Wilmington Beltline, we provide the following.

The North Carolina State Historic Preservation Office considers the **Seaboard Air Line Railway/Atlantic Coast Railroad Beltline with its connection to Navassa (NH3674)** (as shown on the map below) a linear historic district eligible for listing in the National Register of Historic Places under Criterion A for Transportation, Development, and Industry. The system through various mergers and consolidations provided trade and transportation routes mainly to southern and middle Atlantic seaboard states and early

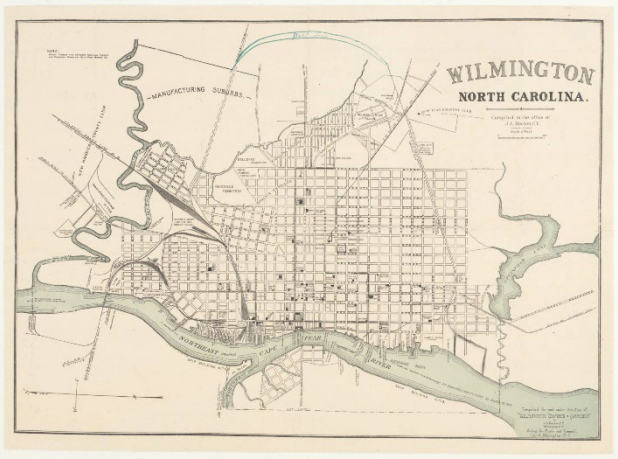
twentieth century cities and towns. These connections boosted regional economies and encouraged Wilmington's shipyards as well as other local and regional industries. The Seaboard Air Line Railway/Atlantic Coast Railroad Beltline contributed to the early 20th-century growth in Wilmington by providing trade links with major cities and stimulating local industrial and commercial enterprises through improved transportation services and passenger railways. Indeed, this historic district continues as a major factor in the economic wellbeing of the city and region.



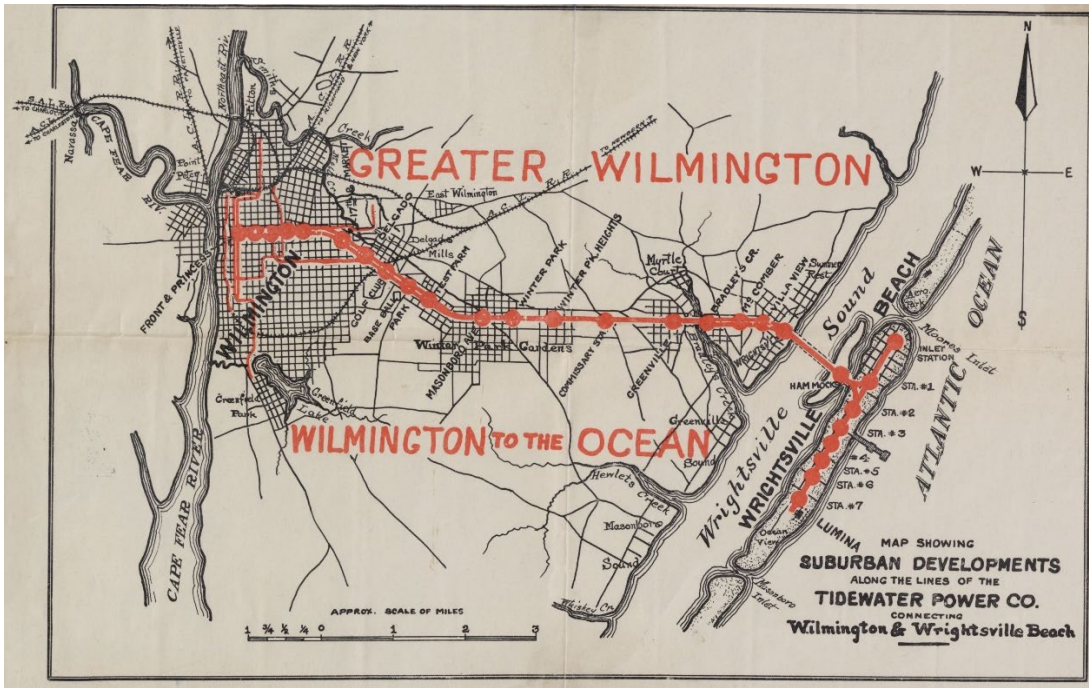
NH3674 | Seaboard Air Line Railway/Atlantic Coast Railroad Historic District (DOE 2020) - in turquoise

As background to our 2020 concurrence with FRA, we provide the following.

1. A November 14,1906 news item from the *Wilmington Messenger* describes construction of the southern section of the beltline and an issue with the crossing of the beltline with the electric car line at Delgado Mills in southeast Wilmington. The crossing was at what was formerly Colwell Avenue, which may have been the route of the trolley line to the beach. The article states that the beltline being constructed by ACL made use of parts of a previously built line that had been abandoned, and that work had started recently and would be completed once the crossing issue was resolved. It concludes, "The completion of the beltline will be a wonderful help to the wholesale merchants along Water Street" by improving the movement of freight cars around the city.
2. A map of Wilmington from the NC Maps website, undated but believed to be about 1918, shows the configuration of the railroad encircling Wilmington at that time, including the "Belt Line" (drawn and labeled in pencil on the far east side, at the top of the map). It largely follows the Beltline as it is today, with changes on the north side, mostly in removal of some track that extended into the north side of downtown to Water Street, and some realignment. (**Note:** The map is turned so east is at the top.)



3. A circa 1940 streetcar map that shows essentially the same configuration.



We also believe the Seaboard Air Line Railway/Atlantic Coast Railroad Beltline, with its bridges crossing the Cape Fear and Northeast Cape Fear and connecting with the Navassa Yard, retains integrity of setting/location, design, and materials, understanding that while tracks, crossties, signals, etc. are continuously replaced, they are essentially the same as those used in early construction and well into the twentieth century.

We understand and agree that FRA will assess effects to the following historic architectural properties within the Undertaking's Area of Potential Effects (APE).

- Wilmington Historic District,
- USS North Carolina Battleship Memorial State Historic Site
- Seaboard Air Line Railway/Atlantic Coast Railroad District (Beltline)
- former Holy Church of Jesus Christ, and
- Cape Fear Memorial Bridge.

We look forward to receipt of the revised archaeological survey report under separate cover.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc:	Wright, Kevin. FRA	kevin.wright@dot.gov
	Aubrey Parsley, Wilmington	Aubrey.Parsley@wilmingtonnc.gov
	Jessica Baldwin, Wilmington HPC	Jessica.Baldwin@wilmingtonnc.gov
	Joanna Rocco, AECOM	Joanna.rocco@aecom.com
	Travis Gilbert, HWF	gilbert@historicwilmington.org

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
https://www.fisheries.noaa.gov/region/southeast

08/04/2022

F:SER/BR

Mr. Brandon Bratcher
U.S. Department of Transportation
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC, 20590

Attention: Kevin Wright

Re: Wilmington Rail Realignment

Dear Mr. Bratcher:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Draft Environmental Assessment (EA) and the Essential Fish Habitat (EFH) Assessment (Appendix D) for the Federal Railroad Authority's (FRA) proposed Wilmington Rail Realignment Project. We conducted our review as a cooperating agency and as a consulting agency under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and Endangered Species Act (ESA). General comments on the Administrative Draft EA and EFH assessment are provided in the following sections.

Project Description

The City of Wilmington (City) is proposing to reroute existing freight traffic from the CSX Transportation Inc. (CSX) Beltline to a new freight line approximately four miles in length crossing the Cape Fear River and traversing Eagles Island in New Hanover and Brunswick Counties, North Carolina. The proposed bypass would improve freight rail operations, regional mobility, and public safety by providing an alternate route with a more direct connection to the Port of Wilmington.

Previous & Ongoing Coordination

The Federal Railroad Administration (FRA) and NMFS previously agreed that because the project's scope included only preliminary engineering, up to 30% design, the level of detail available will be insufficient to conduct a thorough ESA Section 7 consultation. Therefore, FRA and NMFS agreed ESA Section 7 consultation should be deferred to the project's final phase of engineering design. NMFS also confirmed our role as a cooperating agency and our intention to provide robust technical assistance throughout the preceding design phases to help avoid, minimize, and mitigate potential impacts to NOAA trust resources.

In a June 2, 2022, letter, the FRA provided NMFS additional information on the project, consistent with our role as a cooperating agency and our intention to provide robust technical assistance. That letter also requested NMFS provide a letter confirming FRA's deferral of Section 7 consultation to the final engineering design phase. NMFS supported the FRA's decision to initiate ESA Section 7 consultation during the final phase of engineering design.

Initiation of Section 7 consultation during the final engineering design phase of the project affects completion of the EFH consultation under the MSA. Surface transportation projects covered by the Fixing America's Surface Transportation Act (FAST Act) are posted to the federal Permitting Dashboard

(permits.performance.gov), an online tool for Federal agencies, project sponsors, and interested members of the public to track the Federal government's environmental review and authorization process for large or complex infrastructure projects.

It is unclear whether or not the FRA intends to publish our EFH and ESA consultation timelines to the Permitting Dashboard. Presently, the Wilmington Rail Realignment Project tracks the completion of both the EA and the National Historic Preservation Act of 1966 (NHPA) Section 106 consultation. If deferred to the final engineering design phase of the project, completion of the ESA consultation would occur outside of the window encompassed by the EA timeline making it unnecessary to track its completion on the Permitting Dashboard.

It is NMFS agency policy to align EFH and ESA timelines to the extent practicable to provide more unified communications to action agencies and promote cross-divisional collaboration on complex infrastructure projects. Due to the differing lengths of time necessary to conduct our EFH and ESA consultations from the point of initiation (typically 60 days versus 135 days, respectively), we strive to align the first two milestones (date for "request for consultation received" and date for "consultation package deemed complete").

We propose postponing completion of the EFH consultation under the MSA until the final phase of engineering design. Our intention is to ensure the ESH and ESA consultations are conducted concurrently while reducing the likelihood of needing to re-initiate either consultation at a later date. We remain committed to supporting the FRA through the environmental review process by providing technical assistance during pre-planning stages to help avoid, minimize, and mitigate potential impacts to resources.

Magnuson-Stevens Fishery Conservation and Management Act

The EFH Assessment adequately describes fishery habitat (estuarine emergent wetlands, unconsolidated bottom, and submerged aquatic vegetation) and Habitat Areas of Particular Concern (HAPCs) (primary nursery areas) and associated managed species. Direct and indirect impacts will occur in these habitats. The current level of design does not allow for a complete analysis of potential impacts, for example, acoustic impacts on fishes during construction. Typically, an environmental window is established to avoid these impacts. Impacts from sedimentation suspension during construction would degrade water quality but are expected to be localized. The preliminary project design has included several measures to avoid or minimize impacts to EFH or HAPC, particularly the elevation of the rail line through wetlands. The FRA will continue to coordinate with NMFS through the process to develop additional avoidance and minimization measures to EFH/HAPC.

Endangered Species Act (Section 7)

On page 3-108, the statement regarding the Biological Assessment which reads: "a Biological Assessment may be required during the Section 7 consultation with NMFS to assess impacts that may result from the Project to shortnose and Atlantic sturgeon, and the Atlantic sturgeon designated critical habitat…." should be revised. A complete Biological Assessment is required to initiate Section 7 consultation; the word may should be replaced with shall**.**

General NEPA Comments

Table S-1: Summary of Potential Impacts (page ES-9 through ES-12) - This table accurately identifies potential impacts and proposed mitigation strategies for impacts to threatened and endangered species. It does not, however, identify impacts and proposed mitigation to other biological resources (i.e., fisheries

stocks occurring in the project area managed under the MSA which are not listed as either threatened or endangered species under the ESA). Section 3.15 indicates potential impacts and mitigation strategies for EFH resulting from the Project will be addressed with consultation under the MSA. We suggest inserting another row to Table S-1 between "Threatened and Endangered Species" and "Soil and Farmland" entitled "Anadromous Species" for identification and description of impacts and proposed mitigation to other species managed under the authority of the Fish and Wildlife Coordination Act (*16 U.S.C. §§ 661–666c*).

Section 3.24 Indirect and Cumulative Impacts - It is unclear if the FRA anticipates an increase in vessel calls to the Port of Wilmington as a result of the rail realignment. Such an increase would need to be accounted for in the cumulative impacts section of the EA as the increased vessel traffic to and from the Port has the potential to affect threatened and endangered species (vessel strikes, etc.) and also warrants consideration in your effects analysis for the Biological Assessment.

Conclusion

We appreciate your coordination with our office on this project. If you have any additional questions regarding the comments provided above, please do not hesitate to contact us. For questions pertaining to essential fish habitat and/or the MSA, please contact Mr. Fritz Rohde by email at fritz.rohde@noaa.gov. For questions pertaining to protected species and/or the ESA, please contact Mr. Andrew Herndon by email at andrew.herndon@noaa.gov.

Sincerely,

AMENDOLA.KIMBERLY.BARBARA.1365830769

Digitally signed by AMENDOLA.KIMBERLY.BARBARA.1365830769
Date: 2022.08.04 05:14:43 -04'00'

for Andrew J. Strelcheck
Regional Administrator

cc:
F, Chabot, Youngkin
F/SER: Strelcheck, Amendola, Blough, Silverman, Rosegger
F/SER3, Bernhart, Farmer, Shotts, Herndon
F/SER4, Fay, Wilber, Rohde

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Raleigh ES Field Office
551-F Pylon Drive
Raleigh, North Carolina 27606

September 8, 2022

Kevin Wright
US DOT- Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: City of Wilmington Rail Realignment – Brunswick and New Hanover Counties

Dear Mr. Wright:

This letter is to inform you that the Service has established an on-line project planning and consultation process which assists developers and consultants in determining whether a federally-listed species or designated critical habitat may be affected by a proposed project. For future projects, please visit the Raleigh Field Office's project planning website at https://www.fws.gov/office/eastern-north-carolina/project-planning-and-consultation. If you are only searching for a list of species that may be present in the project's Action Area, then you may use the Service's Information, Planning, and Consultation System (IPaC) website to determine if any listed, proposed, or candidate species may be present in the Action Area and generate a species list. The IPaC website may be viewed at https://ipac.ecosphere.fws.gov/. The IPaC web site contains a complete and frequently updated list of all endangered and threatened species protected by the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act), a list of federal species of concern[1] that are known to occur in each county in North Carolina, and other resources.

Section 7 of the Act requires that all federal agencies (or their designated non-federal representative), in consultation with the Service, ensure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species. A biological assessment or evaluation may be prepared to fulfill that requirement and in determining whether additional consultation with the Service is necessary. In addition to the federally-protected species list, information on the species' life histories and habitats and information on completing a biological assessment or

[1] The term "federal species of concern" refers to those species which the Service believes might be in need of concentrated conservation actions. Federal species of concern receive no legal protection and their designation does not necessarily imply that the species will eventually be proposed for listing as a federally endangered or threatened species. However, we recommend that all practicable measures be taken to avoid or minimize adverse impacts to federal species of concern.

evaluation and can be found on our web page at https://fws.gov/office/eastern-north-carolina. Please check the web site often for updated information or changes.

If your project contains suitable habitat for any of the federally-listed species known to be present within the county where your project occurs, the proposed action has the potential to adversely affect those species. As such, we recommend that surveys be conducted to determine the species' presence or absence within the project area. The use of North Carolina Natural Heritage program data should not be substituted for actual field surveys.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a federally-protected species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on federally listed species, then you are not required to contact our office for concurrence (unless an Environmental Impact Statement is prepared). However, you should maintain a complete record of the assessment, including steps leading to your determination of effect, the qualified personnel conducting the assessment, habitat conditions, site photographs, and any other related articles.

With regard to the above-referenced project, we offer the following remarks. Our comments are submitted pursuant to, and in accordance with, provisions of the Endangered Species Act.

Based on the information provided and other information available, it appears that the proposed action is not likely to adversely affect any federally-listed endangered or threatened species, their formally designated critical habitat, or species currently proposed for listing under the Act at these sites. We believe that the requirements of section 7(a)(2) of the Act have been satisfied for your project. Please remember that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner that was not considered in this review; or, (3) a new species is listed or critical habitat determined that may be affected by the identified action.

However, the Service is concerned about the potential impacts the proposed action might have on aquatic species. Aquatic resources are highly susceptible to sedimentation. Therefore, we recommend that all practicable measures be taken to avoid adverse impacts to aquatic species, including implementing directional boring methods and stringent sediment and erosion control measures. An erosion and sedimentation control plan should be submitted to and approved by the North Carolina Division of Land Resources, Land Quality Section prior to construction. Erosion and sedimentation controls should be installed and maintained between the construction site and any nearby down-gradient surface waters. In addition, we recommend maintaining natural, vegetated buffers on all streams and creeks adjacent to the project site.

The North Carolina Wildlife Resources Commission (NCWRC) has developed a Guidance Memorandum (found at https://www.ncwildlife.org/Conserving/Learn-Resources/Ways-to-Conserve) to address and mitigate secondary and cumulative impacts to aquatic and terrestrial

wildlife resources and water quality. We recommend that you consider this document and the NCWRC's other conservation recommendations in the development of your projects and in completing an initiation package for consultation (if necessary).

We hope you find our web page useful and informative and that following the process described above will reduce the time required, and eliminate the need, for general correspondence for species' lists. If you have any questions or comments, please contact John Ellis of this office at (919) 856-4520 ext. 26.

Sincerely,

Pete Benjamin

Field Supervisor

North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office
Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

September 14, 2022

Amanda Murphy
Deputy Federal Preservation Officer
Federal Railroad Administration

Amanda.murphy2@dot.gov

RE: Archaeological Report: *Terrestrial and Underwater Archaeological Survey for Wilmington Rail Realignment, Wilmington, Brunswick and New Hanover Counties,* ER 19-2629

Dear Ms. Murphy:

We have reviewed the above-referenced archaeological survey report, that presents AECOM, Inc's. archaeological investigations of a portion of the Wilmington Rail Realignment (WRR) project for which we received the initial draft on April 5, 2022. This report, which includes additions recommended by our office, contains additional background information concerning the historical context of the Wilmington area as it relates to the rail construction project as well as previous archaeological work that has taken place. In addition, the findings of the underwater remote sensing survey of the proposed rail crossings over the Cape Fear River were explored in much greater detail. AECOM, Inc. has produced a excellent report that is in keeping with the exceptional nature of the Eagles Island and Wilmington waterfront community that was the focus of their research.

As part of the report, recommendations were made concerning seven "Targets of Interest" recorded during the underwater remote sensing survey. These targets produced magnetic anomalies or sonar images that, while not confirmed, were consistent with those produced by known shipwrecks. These targets, four in the northern crossing and three in the southern crossing, were each recommended for avoidance by a 100-foot buffer.

While such a recommendation may be appropriate for terrestrial sites, it is our opinion that all seven "Targets of Interest"/sites should be evaluated for their National Register eligibility at this stage. Given that construction plans are only for 30% at this point as well as the potential for future changes in design and construction techniques, the seven sites should be identified through targeted diving and conducting additional archaeological background information on the sites to prepare a Determination of Eligibility for each. Minus such an evaluation, it appears difficult to accurately assess the effects of the proposed undertaking. By delaying the determinations of eligibility for the seven sites, the parties could well be confronted with having to do the additional work under tight deadlines, at additional costs, and with limited possibilities to adjust the plans to avoid adverse effects to eligible properties.

We request that AECOM submit a research proposal for the targeted diver investigations, the project goals, methodology, and crew experience in assessing underwater archaeological sites. While a State ARPA or

NCDNCR Underwater Research Permit are not typically required for compliance projects, we do ask that a formal research proposal be submitted to minimize the need for follow-up fieldwork. This proposal should be submitted early enough to allow for review and comment prior to the beginning of the fieldwork.

The results of the diving assessment should be presented as a section of the overall, formatted archaeological report instead of as a target diving addendum.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc: Aubrey Parsley, WRR aubrey.parsley@wilmingtonnc.gov
Kevin Wright, FRA kevin.wright@dot.gov
Mathew Jorgenson, AECOM matt.jorgenson@aecom.com

United States Department of Agriculture

Natural Resources
Conservation Service

North Carolina
State Office

4407 Bland Rd.
Suite 117
Raleigh
North Carolina 27609
Voice (919) 873-2100
Fax (844) 325-2156

March 9, 2023

Todd McAuliffe, AICP
Planner, Planning Department, North Carolina
AECOM
6000 Fairview Road, Suite 200
Charlotte, NC 28210
D +1-704-295-2433

Dear Todd McAuliffe:

The following information is in response to your request soliciting comments regarding the Wilmington Rail Realignment project in Brunswick County, NC.

> Projects are subject to Farmland Protection Policy Act (FPPA) requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency.
>
> For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the Act or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the Secretary to be farmland of statewide of local importance.
>
> “Farmland" does not include land already in or committed to urban development or water storage. Farmland ``already in" urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland already in urban development also includes lands identified as ``urbanized area" (UA) on the Census Bureau Map, or as urban area mapped with a ``tint overprint" on the USGS topographical maps, or as ``urban-built-up" on the USDA Important Farmland Maps. See over for more information.

The area in question **does include** land classified as Prime Farmland. In accordance with the Code of Federal Regulations 7CFR 658, Farmland Protection Policy Act, the AD-1006 was initiated. NRCS has completed Parts II, IV, V of the form, and returned for completion by the requesting agency.

If you have any questions, please feel free to email me at Ryan.Janway@usda.gov.

Sincerely,

Ryan Janway

Ryan Janway
Natural Resource Specialist

cc:
Joshua Davis, supervisory soil conservationist, NRCS, NC
Michael Jones, state soil scientist, Raleigh, NC

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **3/2/23**	4. Sheet 1 of **1**
1. Name of Project **Wilmington Rail Realignment**	5. Federal Agency Involved **Federal Railroad Administration**	
2. Type of Project **Railroad corridor**	6. County and State **Brunswick County, NC**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **3/2/23**	2. Person Completing Form **Ryan Janway**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated **0** / Average Farm Size **193**
5. Major Crop(s) **Corn**	6. Farmable Land in Government Jurisdiction Acres: **370,856** % **64.72**	7. Amount of Farmland As Defined in FPPA Acres: **370,856** % **64.7**
8. Name Of Land Evaluation System Used **Brunswick County LESA**	9. Name of Local Site Assessment System **NA**	10. Date Land Evaluation Returned by NRCS **3/9/23**

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____			
	Corridor A	**Corridor B**	**Corridor C**	**Corridor D**
A. Total Acres To Be Converted Directly	**33**			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	**0**			
C. Total Acres In Corridor	**33**			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	**27**			
B. Total Acres Statewide And Local Important Farmland	**0**			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	**0.0073%**			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	**94.2%**			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	0.00			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15	**9**			
2. Perimeter in Nonurban Use — 10	**5**			
3. Percent Of Corridor Being Farmed — 20	**0**			
4. Protection Provided By State And Local Government — 20	**20**			
5. Size of Present Farm Unit Compared To Average — 10	**0**			
6. Creation Of Nonfarmable Farmland — 25	**0**			
7. Availablility Of Farm Support Services — 5	**5**			
8. On-Farm Investments — 20	**0**			
9. Effects Of Conversion On Farm Support Services — 25	**0**			
10. Compatibility With Existing Agricultural Use — 10	**0**			
TOTAL CORRIDOR ASSESSMENT POINTS — 160	39			
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	0			
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	39			
TOTAL POINTS *(Total of above 2 lines)* — 260	39			

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
Alternative 2	**33**	**3/10/23**	YES ☐ NO ☑

5. Reason For Selection:

The City and FRA, with the benefit of significant public input and in collaboration with cooperating and participating agencies, identified Alternative 2 as the Preferred Alternative for the Project. Key advantages of Alternative 2 as compared to the other Build Alternatives evaluated are that it supports the purpose and need to reduce at-grade crossings, maximizes use of the out-of-service railbed, minimizes use of conservation lands, and results in less impact to coast and high-quality wetlands.

Signature of Person Completing this Part: **R. Todd McAulliffe** DATE **3/10/23**

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

United States Department of Agriculture

Natural Resources
Conservation Service

North Carolina
State Office

4407 Bland Rd.
Suite 117
Raleigh
North Carolina 27609
Voice 919-873-2132
Fax (844) 325-2156

March 9, 2023

Todd McAuliffe, AICP
Planner, Planning Department, North Carolina
AECOM
6000 Fairview Road, Suite 200
Charlotte, NC 28210
D +1-704-295-2433

Dear Todd:

The following information is in response to your request soliciting comments regarding the Wilmington Rail Realignment project in New Hanover County, NC.

> For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the Act or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the Secretary to be farmland of statewide of local importance.
>
> “Farmland" does not include land already in or committed to urban development or water storage. Farmland ``already in" urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland already in urban development also includes lands identified as ``urbanized area" (UA) on the Census Bureau Map, or as urban area mapped with a ``tint overprint" on the USGS topographical maps, or as ``urban-built-up" on the USDA Important Farmland Maps. See over for more information.

The area in question includes land already in, or committed to, urban development; or is not considered Prime Farmland. There is **no need to initiate** an AD-1006 form according to the Code of Federal Regulation 7CFR 658, Farmland Protection Policy Act. The area in question is exempt of the FPPA regulations.

If you have any questions, please feel free to call me at (919) 873-2132.

Ryan Janway, Natural Resource Specialist
4407 Bland Rd
Raleigh, NC 27609

cc:
Joshua Davis, NC
Mike Jones, State Soil Scientist, Raleigh, NC

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **3/2/23**	4. Sheet 1 of **1**
1. Name of Project **Wilmington Rail Realignment**	5. Federal Agency Involved **Federal Railroad Administration**	
2. Type of Project **Railroad corridor**	6. County and State **New Hanover, NC**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **3/2/23**	2. Person Completing Form **Ryan Janway**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☑		4. Acres Irrigated **0** / Average Farm Size **15**
5. Major Crop(s) **Corn**	6. Farmable Land in Government Jurisdiction Acres: **61,608** % **43.9**	7. Amount of Farmland As Defined in FPPA Acres: **61,608** % **43.9**
8. Name Of Land Evaluation System Used **New Hanover LESA**	9. Name of Local Site Assessment System **NA**	10. Date Land Evaluation Returned by NRCS **3/9/23**

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	**46**			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	**0**			
C. Total Acres In Corridor	**46**			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*				
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — **15**				
2. Perimeter in Nonurban Use — **10**				
3. Percent Of Corridor Being Farmed — **20**				
4. Protection Provided By State And Local Government — **20**				
5. Size of Present Farm Unit Compared To Average — **10**				
6. Creation Of Nonfarmable Farmland — **25**				
7. Availablility Of Farm Support Services — **5**				
8. On-Farm Investments — **20**				
9. Effects Of Conversion On Farm Support Services — **25**				
10. Compatibility With Existing Agricultural Use — **10**				
TOTAL CORRIDOR ASSESSMENT POINTS — **160**				
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — **100**				
Total Corridor Assessment (From Part VI above or a local site assessment) — **160**				
TOTAL POINTS *(Total of above 2 lines)* — **260**				

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
Alternative 2		**3/10/23**	YES ☐ NO ☐

5. Reason For Selection:

The City and FRA, with the benefit of significant public input and in collaboration with cooperating and participating agencies, identified Alternative 2 as the Preferred Alternative for the Project. Key advantages of Alternative 2 as compared to the other Build Alternatives evaluated are that it supports the purpose and need to reduce at-grade crossings, maximizes use of the out-of-service railbed, minimizes use of conservation lands, and results in less impact to coast and high-quality wetlands.

Signature of Person Completing this Part: **R. Todd McAulliffe** DATE **3/10/23**

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

June 30, 2023

Melissa Ivie
Deputy Federal Preservation Officer
Federal Railroad Administration

Melissa.Ivie@dot.gov

Re: Revised Report (May 2023) for Terrestrial and Underwater Archaeological Surveys, Wilmington Rail Realignment and Right of Way Use P-5740, New Hanover County, ER 19-2629

Dear Ms. Ivie:

Thank you for transmitting the archaeological report for the above-referenced undertaking that we received on May 31, 2023. Having reviewed the report, which meets our standards and those of the Department of the Interior, we offer the following comments.

The archaeological survey resulted in the following:

- The terrestrial survey revisited one previously recorded site and identified one new archaeological site. Site 31NH686, originally defined as a 20th century railroad causeway and turntable, was revisited during this project.

- Site 31NH895 is a newly identified 19th century domestic scatter and 20th century railroad causeway with an isolated prehistoric component.

- Sites 31NH686 and 31NH895 are recommended as not eligible for the National Register of Historic Places (NRHP). No further work is recommended at these two sites.

- The underwater survey identified a total of 46 magnetic anomalies, 25 side-scan sonar targets, and no sub-bottom, paleo features. Correlated datasets resulted in the identification of seven targets, N.1-N.4 and S.1-S.3, which may represent submerged cultural resources.

- These seven targets were investigated by AECOM scientific divers in March 2023. The likely sources for all seven targets were determined to be either modern debris or natural features on the riverbed.

- All seven targets do not meet criteria to be considered archaeological or historic in nature. No further work is recommended at any of the seven identified marine archaeological targets.

We agree with the Federal Railroad Administration's (FRA) recommendation that sites 31NH686 and 31NH895 are not eligible for the NRHP, that no further work is recommended at these two sites, and that no further work is recommended at any of the seven identified marine archaeological targets either. Based on the information provided, we concur with the FRA's finding that no historic resources are present within the archaeological APE for the project's two river crossings. As noted in your letter, we are awaiting the information about the architecture-history assessment of effects report and other information requested at the April 20, 2023, meeting before offering further comments on those resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc:	Kristen Zscholmer, FRA	Kristen.zschomler@dot.gov
	Aubrey Parsley, Wilmington/Rail Realignment	Aubrey.Parsley@wilmingtonnc.gov
	Jessica Baldwin, Wilmington HPC	Jessica.Baldwin@wilmingtonnc.gov
	Alan Tabachnick, FPO/STB	Alan.tabachnick@stb.gov
	Evan Folds, New Hanover/Soil & Water Conservation	evan@beagriculture.com
	Capt. Terry Bragg, USS NC Battleship Commission	terry.bragg@ncdcr.gov
	Travis Gilbert, Historic Wilmington Foundation	gilbert@historicwilmington.org
	Joanna H. Rocco, AICP	Joanna.rocco@aecom.com

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

July 3, 2023

Renee Gledhill-Earley
North Carolina State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

RE: Section 106 Assessment of Effects for Architecture/History Historic Properties Report and Finding of Effect for the Project, Wilmington Rail Realignment, Brunswick and New Hanover Counties (ER 19-2629)

Dear Ms. Gledhill-Earley:

The Federal Railroad Administration (FRA) is providing financial assistance to the City of Wilmington (City) to complete the preliminary engineering and environmental process for the proposed Wilmington Rail Realignment Project (Project). Funding for final design and construction has not been identified.

The Project is an undertaking subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations 36 CFR Part 800 (Section 106). FRA initiated Section 106 consultation with the North Carolina State Historic Preservation Office (NCHPO) and the North Carolina Office of State Archaeology (OSA) in a letter dated February 19, 2021. The purpose of this letter is to continue Section 106 consultation for the Project and seek your concurrence with FRA's findings of effects for the Project.

Project Background and Description
Freight rail traffic between the Port and Davis Yard in the Town of Navassa currently travels through the City, along the existing Transportation Inc (CSX) line, commonly referred to as the "Beltline." The Preferred Alternative is the construction of a new rail line to bypasses the City to provide for a more direct connection between the Port and Davis Yard. The purpose of the Project is to improve safety, regional transportation mobility, and freight rail operations, while also improving resiliency from storms, regional travel reliability, and operational fluidity of the sole freight rail route connecting the Port of Wilmington (Port) and southeastern North Carolina with the national freight rail network.

Area of Potential Effects and Identification of Historic Properties
Defining of the Project's Area of Potential Effects (APE) and the identification of historic properties is complete, as documented in letters and supporting reports from our agency dated July 27, 2021 (Identification of Known and Potential Historic Properties**);** April 6, 2022 (Archaeology and Historic Structures Survey results) and July 12, 2022 (Final Historic Structures Survey results); and concurrence from your office on May 5, 2022 (Terrestrial Archaeology and Historic Structures Survey results), and August 4, 2022 (Final Architecture/History survey results). FRA's last determination that there were no underwater archaeological sites that are historic properties was documented in a letter dated May 15, 2023, with hard copy submittal on May 24, 2023, that was concurred upon by your office June 30, 2023.

As per our previous correspondence and in consultation with your office and the consulting parties, the identified historic properties within the Project APE therefore are the Wilmington Historic District, the

USS North Carolina Battleship Memorial Site (Battleship), the Beltline District, the Holy Church of Jesus Christ, and the Cape Fear Memorial Bridge.

Consulting Party Outreach
As mentioned above, FRA initiated Section 106 consultation with the NCHPO and the North Carolina OSA in a letter dated February 19, 2021. FRA and the City subsequently worked with your office to identify potential consulting parties to the Section 106 consultation process which consisted of the City of Wilmington, the Historic Wilmington Foundation, the North Carolina Commission of Indian Affairs, the U.S. Coast Guard, the New Hanover County Soil and Water Conservation District, and the Gullah Geechee Cultural Heritage Corridor Commission. Formal acceptance of consulting party status was received from the Historic Wilmington Foundation, the USS North Carolina Commission, and the New Hanover County Soil and Water Conservation District.

FRA also invited the following federally recognized Native American tribes to participate in consultation by separate letter dated July 29, 2021.

- Catawba Indian Nation
- Lumbee Tribe of North Carolina
- Tuscarora Nation
- Waccamaw-Siouan Indian Tribe

The Catawba Indian Nation was the only tribe to respond. They noted that they had no immediate concerns regarding traditional properties, sacred sites, or Native American archaeological sites within the boundary of the APE; however, they requested that they be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of this project. They did not accept the invitation to be a Consulting Party. Since the archaeological survey work for the Project did not identify any Native American-related properties, FRA has not re-initiated consultation with the identified federally recognized tribes.

On February 22, 2021, FRA invited the NCHPO and OSA, along with the U.S. Army Corps of Engineers (USACE) and the Surface Transportation Board/Office of Environmental Analysis (STB/OEA) to become Participating Agencies in the development of an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA). The USACE and STB recognized FRA as the lead federal agency for the Project under NEPA but have not commented on if they will recognize FRA as the lead federal agency under Section 106. **Via copy on this letter, we invite the USACE and STB to notify our office in writing if they wish to recognize FRA as the lead federal agency under Section 106 for the Project, thereby fulfilling the collective responsibilities under Section 106.** If USACE and STB do not designate FRA as the lead Federal agency, they will remain individually responsible for their compliance with this 36 CFR 800.

Consulting Party Meetings
FRA and the City jointly conducted three Section 106 consulting party meetings: November 17, 2021; February 23, 2022; and April 20, 2023. The April 20, 2023, meeting focused on receiving consulting party comments on FRA's assessment and finding of effects to architecture-history historic properties based on our finding letter dated March 21, 2023. Your office and the consulting parties requested additional information. FRA determined that your office and the consulting parties did not need to respond to the March 21, 2023, letter and that FRA would submit an updated findings of effects letter with the requested information and addressing the concerns raised about potential effects to the Wilmington Historic District and the Memorial Bridge.

This letter, therefore, documents FRA's consideration of your comments from that meeting in the finding of effects and transmits the additionally requested information, consisting of the *Revised Wilmington Rail*

Realignment Section 106 Assessment of Effects for Architecture/History Historic Properties (Revised AOE Report) prepared by AECOM Technical Services, Inc. (AECOM) (Attachment 1); the 30% Design Plan Progress Prints (Attachment 2); larger print outs of the Project Visualizations (Attachment 3); and the Noise and Vibration Technical Memorandum (Attachment 4). In addition, we have enclosed the consulting party meeting summary for the meeting on April 20, 2023 (Attachment 5).

The assessment of effects discussion below has been updated to address concerns raised in the meeting specific to the Wilmington Historic District and the Memorial Bridge. The text for the Battleship, Beltline, and Holy Church of Jesus Christ is the same as the March 21, 2023, letter.

Assessment of Effects
Utilizing the examples of adverse effects from 36 CFR 800.5(a)(2), FRA continues to find that none of the five historic properties will be destroyed, moved, neglected, repaired, or rehabilitated, or have a change of use. Below is the assessment regarding potential visual, noise, and vibration effects. See the AOE Report submitted with this letter for additional details on the analysis of effects (Attachment 1).

Wilmington Historic District (Revised from March 21, 2023, Findings Letter)
The AOE Report has been revised to address concerns raised at the April 20, 2023, consulting parties meeting over noise impacts and concerns about vibration near one building that contributes to the Wilmington Historic District.

The Project construction, including the entirety of the proposed rail bridge over the Cape Fear River, will occur within the boundaries of the Wilmington Historic District; however, the Project will not demolish, destroy, or move any contributing resources to the historic district. Construction within the historic district boundaries is limited to non-contributing properties, except for the Cape Fear River which is a resource type typically excluded from the definition of a site by the National Register.[1] Regardless, FRA

[1] The 1974 Wilmington Historic District nomination had a period of significance from c.1740 to 1924 and the boundaries included small portions of the eastern banks of the Cape Fear River north of the Memorial Bridge, but the river was not listed a contributing resource, as is consistent with National Register policy that natural waterways be excluded from the definition of a site. As per the National Park Service's (NPS) Bulletin 15 *How to Apply the National Register Criteria for Eligibility*:

> A site may be a natural landmark strongly associated with significant prehistoric or historic events or patterns of events if the significance of the natural feature is well documented through scholarly research. Generally, though, the National Register excludes from the definition of "site" natural waterways or bodies of water that served as determinants in the location of communities or were significant in the locality's subsequent economic development. While they may have been "avenues of exploration," the features most appropriate to document this significance are the properties built in association with the waterways (page 5).

The 2003 National Register nomination update expanded the end of the historic district's period of significance to 1945 to include events and architecture from the 20th Century, mainly associated with African American history, and with two later dates associated with specific buildings outside the Project APE. The boundaries for the historic district were also expanded to the south of the Memorial Bridge and to the west bank of the Cape Fear River, although there are no contributing properties in this expanded area associated with the expanded period of significance. The Cape Fear River was included as a contributing resource in the 2003 nomination update, which stated: "This wide, navigable river has played a crucial role in the historical development of Wilmington and is one of the most important features within the district (Section 4, Page 244)." While the river was noted as having played a crucial role in the City's settlement and development and is an important feature, nothing in the nomination demonstrates how the expanded period of significance equals the expansion of the boundaries to include a natural waterway, which are typically excluded from the National Register. The only mention of the Cape Fear River in the 2003 nomination focuses on properties already captured within the original nomination and to the north, which is outside the Project APE.

> . . . [The] Cape Fear River was the site of many industrial and commercial concerns including saw and planing mills, lumber yards, distilleries, warehouses, and the cotton compress located at Harnett and Nutt streets (all within the existing district boundaries). Farther north, in the expansion area, warehouses and lumber yards lined the Cape Fear River. The proximity of the expansion area to these businesses led to the growth of residential areas for railroad and industrial workers (Section 8; Page 20).

is responsible for assessing effects to the historic property, which is the Wilmington Historic District, not the Cape Fear River individually.

The Project reduces noise within the Wilmington Historic District. If the project is not constructed (i.e., the No Build Alternative), the Wilmington Historic District would experience an increase in severe noise by up to 10 percent due to the increase in rail operations and speed on the existing Beltline. Warning horns would occur at each of the existing 32 at-grade crossings on the Beltline, including in the Wilmington Historic District, resulting in severe noise impacts to approximately 1,500 residences, particularly at night. For the Preferred Alternative, the increase in rail traffic would be rerouted to the bypass. While the Project's noise report identified the need to sound warning horns at the Wright and Dawson Streets grade crossings along South Front Street, which would create severe noise impacts to 12 contributing properties to the Wilmington Historic District, representing less than 0.005 percent of the contributing resources, the Project would eliminate current and projected adverse noise effects by 97 percent by moving train operations to the Preferred Alternative.

Our office found in our letter dated March 21, 2023, that severe noise impacts to a very small number of contributing resources did not rise to the level of adversely affecting the Wilmington Historic District, as per 36 CFR 800.5, specifically that the audible element would not diminish the integrity of the property's significant historic features as defined in the National Register nomination. This finding was made with consideration to the substantial noise reduction that the Project would provide to the entire historic district.

After concerns about the noise impacts to these 12 contributing resources raised at the consulting party meeting on April 20, 2023, FRA and the City reviewed potential noise mitigation that could be employed to eliminate the noise impacts identified along South Front Street, even though this type of analysis is typically performed during the final design process. Based on that discussion, the City committed to addressing severe noise impacts through appropriate noise mitigation in the EA for the Project. Mitigation measures likely will include closing Dawson Street and reassigning Wright Street to private driveways to eliminate the need for sounding warning horns along the bypass. Such measures require City Council approvals, which would be obtained during the final design process. Additional mitigation measures for the Preferred Alternative may also be considered during the final design process. As mentioned above, there is no funding for the completion of final design and construction; however, if such funds are provided in the future by FRA, our agency will reinitiate Section 106 consultation with your office and the consulting parties to review the final plan development, including noise impact mitigation. Based on the information available from the current Project design, it is the finding of our agency that the project will substantially eliminate noise impacts within the Wilmington Historic District by moving freight traffic to the Preferred Alternative and that, through the implementation of identified noise mitigation measures, there would be no noise impacts to the Wilmington Historic District from the Project.

The consulting parties also noted concern for potential vibration effects to the property at 1121 South Front Street, which is a contributing resource to the Wilmington Historic District. This property is currently used for several small commercial businesses, including the Sol Bear Winery/restaurant and, due to its commercial nature, is not considered a sensitive vibration receptor per FTA's Transit Noise and Vibration Impact Assessment Manual (September 2018). Even though this building is not classified as a sensitive receptor, operation and construction noise and vibration levels were evaluated based on the concerns raised by consulting parties at the April 20th, 2023, meeting. The analysis provided in the enclosed Noise and Vibration Technical Report found that neither noise or vibration related to operations

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The inclusion of this natural waterway as a contributing resource is inconsistent with NPS guidance and the nomination is silent on why a typically excluded property type was included as a contributing resource.

or construction exceed the federal criteria for temporary or permanent impacts to the building or activities associated with the building (see Attachment 5).

While our previous letter dated March 21, 2023, stated pile drivers might be used, FRA and the City confirmed in recent conversations that pile drivers will not be used proximate to any contributing resource to the historic district, other than the Cape Fear River. Even though natural waterways are excluded as sites under the National Register, the Wilmington Historic District 2003 nomination update listed it as a contributing resource. Regardless, natural waterways are not defined by design, material, and workmanship that could be affected by noise and vibration. Therefore, based on the analysis presented above and in the Revised AOE Report, the Project will not have adverse effects that are auditory, atmospheric, or physical in nature from noise or vibration. In fact, the Project will reduce auditory effects to the Wilmington Historic District.

Using 36 CFR 800.5 examples, consideration was also given to if the Project would change the physical features within the historic district's setting that contribute to its historic significance or introduce visual elements that diminish the integrity of the historic district's significant historic features. The proposed rail line and rail bridge will introduce new elements to the southwest side of the Wilmington Historic District. As stated previously, the new railroad line is being constructed on non-contributing properties and is being moved farther away from contributing properties, such as the property at 1121 South Front Street, so its presence will not change the physical features within the historic district's setting that contribute to its historic significance or introduce visual elements that diminish the integrity of the historic district's significant historic features. The new bridge is a minor addition within a historic district that includes 2,500 contributing resources and covers 170 acres. Further, the new bridge was designed to minimize its visual presence. A Preliminary Navigational Clearance Determination from the U.S. Coast Guard established a horizontal navigational clearance of 250 feet and a vertical clearance of 135 feet above mean high tide. The reduced horizontal clearance requirement allows for the proposed bridge's vertical lift span towers to be inset from the Memorial Bridge's towers making its massing and scale comparable to the Memorial Bridge but with a lower profile. Its approaches and movable span will be about 40 feet above the river in the resting position, lower than the 65-foot height above the river of the Memorial Bridge's span in the resting position. In all key viewpoints of the proposed bridge north of the Memorial Bridge from within the historic district, the Memorial Bridge minimizes views to the proposed bridge. The built-up character of the historic district, the height of the buildings along Front Street, the presence of numerous mature shade trees, and the distance of the historic district's contributing resources limits key views to the proposed bridge. In locations where it is visible, the proposed bridge will be largely shielded from view and visually minimized by the extant bridge.

FRA applied the criteria of adverse effect under 36 CFR 800.5(a)(1) and finds that the Project will not diminish the location, setting, design, material, workmanship, feeling, and association of the Wilmington Historic District and therefore will not adversely affect the Wilmington Historic District.

<u>USS North Carolina Battleship Memorial Site (Battleship) (Same as the March 21, 2023, findings letter)</u>
The towers of the proposed bridge will be almost imperceptible on the horizon to the southeast of the Battleship due to distance, their location beyond (south of) the Cape Fear Memorial Bridge, and their height, which is lower than those of the Memorial Bridge. The proposed rail line will also not be visible due to distance and tree coverage. The Project will not change the physical features within the property's setting that contributes to its historic significance or introduce visual and atmospheric elements that diminish the integrity of the historic property's significant historic features; therefore, the Project will not adversely affect the Battleship's integrity of setting, feeling, and association. FRA applied the criteria of adverse effect under 36 CFR 800.5(a)(1) and finds that the Project will not adversely affect the Battleship.

Beltline District (Same as the March 21, 2023, findings letter)
The proposed rail bridge and the rail line on the west side of the Cape Fear River will not be visible from the Beltline District. On the east side of the Cape Fear River, a small portion of the new line running adjacent to South Front Street between Marstellar Street and Laughing Oak Lane will be visible from within the Beltline District's boundary. However, most of the Project work will be constructed along South Front Street along portions of the Beltline that are not included within the Beltline District. Since no Project elements will be visible from the Beltline, the Project will not have a visual effect upon the Beltline's integrity of location, design, setting, materials, workmanship, feeling, and association. FRA applied the criteria of adverse effect under 36 CFR 800.5(a)(1) and finds that the Project will not adversely affect the Beltline District.

Holy Church of Jesus Christ (Same as the March 21, 2023, findings letter)
The top of the east tower of the proposed rail bridge would be located more than 3,000 feet northwest of the church's NRHP-eligible boundaries. Three blocks of residential and industrial development, two largely vacant lots, and mature trees obscure the bridge site from the church. No part of the bridge would be visible from the church at any time of the year. At its closest point, the rail line portion of the Project will run about 700 feet west of the church, to the west of South Front Street. Rail traffic will be distant, but partially visible, from the northern edge of the church, looking west. The visible portion of the proposed rail line will parallel the line that has run along and west of South Front Street since the late nineteenth century. This rail line was a fixture when the church was built and has continued to be so to the present. The proposed new bridge will not be visible from the church, but a small portion of the proposed rail line will be visible in the distance from the northern edge its NRHP-eligible boundary. That portion of the rail line will run along or immediately adjacent to the Beltline, a historic rail corridor that continues to carry trains. Trains remain active here and will continue to run along South Front Street under the Build Alternative. As no new visual element will be introduced, the Project will not have a visual effect upon the Church's integrity of setting, feeling, and association. FRA applied the criteria of adverse effect under 36 CFR 800.5(a)(1) and finds the Project will not adversely affect the Holy Church of Jesus Christ.

Memorial Bridge (Revised from the March 21, 2023, findings letter)
The Memorial Bridge is significant for its notable engineering features under NRHP Criterion C. These features are its through-truss, vertical lift span; the two steel towers upon which that span can be raised and lowered; the wide concrete piers that support the towers; and the cantilevered extensions beyond both towers that hold traffic control gates and parking platforms for the bridge tender and work vehicles. The approaches beyond these elements are constructed in standard NCDOT fashion for the time. They are not distinctive characteristics of the lift-bridge's notable type of construction. The boundary for the Memorial Bridge is delineated by its notable engineering features (lift span, steel towers, concrete piers, cantilevered extensions) and its approaches, which are its key physical features. Due to the importance of these engineering features, the retention of location, design, material, and workmanship are critical to its retention of significance. Further, the Memorial Bridge will also continue to cross the Cape Fear River, as it was intended to; therefore, the integrity of its feeling and association will also remain intact even if its setting is altered. The Memorial Bridge was erected within an industrial environment to its immediate north and south on both banks of the Cape Fear. When it was constructed, rail lines on the east side of the river extended up to either side of its eastern approach span. The proposed new bridge and rail line will not change the character of the Memorial Bridge's use or of its physical features that contribute to its historic significance. While the Project will introduce a new element in the bridge's setting, based on the property type, since the physical features of the bridge's setting are less important than other aspects of integrity, it will not introduce a visual element that will diminish the integrity of the historic property's significant historic features.

Your office stated at the Consulting Parties meeting that you believe the placement of the Project bridge downstream from the Memorial Bridge would be an adverse effect to the Memorial Bridge. Our office

acknowledged that while the placement of a new bridge would affect the setting of the Memorial Bridge, such a change to its setting did not rise to the level of adverse effects as demonstrated through the analysis presented in the original AOE report dated March 2023. During the meeting, FRA requested details on why your office believed this change to the Memorial Bridge's setting was adverse, but no information was provided for our agency's consideration. Therefore, FRA continues to find that the proposed line and bridge will not alter the characteristics of the Memorial Bridge that qualified it for NRHP eligibility in a manner that would diminish its NRHP integrity of location, design, setting, materials, or workmanship, and, by extension, its integrity of feeling and association. FRA applied the criteria of adverse effect under 36 CFR 800.5(a)(1) and finds that the Project will not adversely affect the Memorial Bridge.

Finding of Effects for the Wilmington Rail Realignment Project and Request for Concurrence
In accordance with 36 CFR Part 800.5, FRA continues to find that the proposed Project will have **No Adverse Effect** on historic properties, as documented herein and in the attachments and in consideration of the concerns raised by consulting parties at the meeting on April 20, 2023. FRA requests your detailed response and seeks concurrence within 30 days of receipt of this letter. Please e-mail your response to Kristen Zschomler, Environmental Protection Specialist at Kristen.zschomler@dot.gov. If you have any questions or need additional information about this undertaking, please contact Ms. Zschomler. Thank you for your cooperation on the Project.

Sincerely,

Melissa Ivie
Deputy Federal Preservation Officer
Federal Railroad Administration

CC:
Kristen Zschomler, FRA
Alan Tabachnick, Federal Preservation Officer, Surface Transportation Board
Mickey Sugg, Chief, Wilmington Regulatory Field Office, USACE
Aubrey Parsley, Director of Rail Realignment, City of Wilmington, NC
Evan Folds, New Hanover County Soil & Water Conservation District
Captain Terry Bragg, USS North Carolina Battleship Commission
Travis Gilbert, Historic Wilmington Foundation

Attachments:

Attachment 1: One hard copy and one digital copy of the Revised Assessment of Effects for Architecture/History Historic Report for the Wilmington Rail Realignment Project, Brunswick and Hanover Counties, North Carolina
Attachment 2: 30% Design Plan Progress Prints
Attachment 3: Project Visualizations
Attachment 4: Noise and Vibration Technical Memorandum
Attachment 5: 4/20/23 Consulting Party Meeting Summary

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

July 14, 2023

Laura Shick
Acting Federal Preservation Officer
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590
Laura.Shick@dot.gov

Re: **Wilmington Rail Realignment (ER 19-2629) of the CSX Transportation, Inc. Beltline in the City of Wilmington, North Carolina**

Dear Ms. Shick:

Pursuant to 36 C.F.R. § 800.2 (a)(2), I am writing to delegate the Federal Railroad Administration (FRA) as the lead federal agency under Section 106 of the National Historic Preservation Act, 54 U.S.C. § 306108, (Section 106) for the above-referenced rail realignment project (the Project). On February 22, 2021, FRA as lead federal agency, invited the Surface Transportation Board (Board) to become a participating agency in the preparation of an environmental assessment for the Project, pursuant to the National Environmental Policy Act, 42 U.S.C. §§ 4321-4370m-12. FRA is providing funding to the City of Wilmington (City) to complete the environmental review and preliminary engineering, and the proposed rail line construction and operation may require a license from the Board.

The Project involves the realignment of freight rail traffic from the CSX Transportation, Inc. (CSX) Beltline in the City to between the Port of Wilmington (Port) and the CSX Davis Yard in the Town of Navassa, North Carolina. The proposed new rail line would bypass the City and provide a more direct connection between the Port and Davis Yard. The purpose of the Project is to improve safety, regional transportation mobility, and freight rail operations, while also improving resiliency from storms, regional travel reliability, and operational fluidity of the sole freight rail route connecting the Port and southeastern North Carolina with the national freight rail network.

FRA and the City identified the Board's Office of Environmental Analysis (OEA) as a potential Section 106 consulting party early in the process, and OEA has participated in two of the three outreach meetings, with a fourth scheduled for July 25, 2023. This letter officially

acknowledges OEA's role as a consulting party and designates FRA as the lead agency in the Section 106 review.

If you have any questions, please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer for the Section 106 review at 202-934-8469 (Alan.Tabachnick@stb.gov), or Diana Wood, OEA's Project Manager for the environmental review, at 202-934-0388 or by email at Diana.Wood@stb.gov.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

July 24, 2023

Brad Shaver
U. S. Army Corps of Engineers
69 Darlington Ave
Wilmington, NC 28403

Subject: Preliminary Jurisdictional Determination for the Proposed Wilmington Rail Relocation (SAW-2016-00594), Brunswick and New Hanover Counties

Dear Mr. Shaver:

The City of Wilmington, in coordination with the Federal Railroad Administration (lead federal agency) and North Carolina Department of Transportation, is undertaking a study to evaluate realigning an existing CSX Transportation freight rail line in Brunswick and New Hanover Counties, North Careolina. The study, referred to as the Wilmington Rail Realignment, proposes a route to bypass the existing freight rail route between Navassa (Davis Yard) and the Port of Wilmington.

A previous Preliminary Jurisdictional Determination was issued for the project (SAW-2016-00594) on May 28, 2021 for a 184.7 acres study area. The attached PJD request is for the project's preferred alternative, and includes a revised study area of 79.2 acres. The preferred alternative is predominantly contained within the footprint of the study area of the previously issued PJD, with several minor adjustments. Data forms and photographs are not included in the PJD request for the preferred alignment as they were included in the 2021 approved PJD request and have not changed.

If you have any questions or need additional information, please contact me at caleb.sullivan@wsp.com or (980) 701-3161. Thank you for your assistance with this project.

Kind regards,

Caleb Sullivan, PWS
Senior Environmental Scientist

CPS/AHK.cs

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North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

August 9, 2023

Melissa Ivie
Deputy Federal Preservation Officer
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

melissa.ivie@dot.gov

RE: Wilmington Rail Realignment and Right of Way Use P-5740, Wilmington, New Hanover County, ER 19-2629

Dear Ms. Ivie:

Thank you for your letter of July 5, 2023, providing the Federal Railroad Administration's (FRA) *Section 106 Assessment of Effects for Architecture/History Historic Properties Report and Finding of Effect* for the above-referenced undertaking and for FRA's Kristen Zschomler hosting a July 25, 2023, on-line meeting of the consulting parties to further discuss the Assessment and Finding of Effects (A/F of Effects). We appreciate, Ms. Zschomler's granting us an extension until August 9, 2023, to reply to the FRA's A/F of Effects and the information exchanged on-line.

Having reviewed the A/F of Effects and additional information as well as consulting with staff of the National Register of Historic Places, we provide the following comments for the above-ground properties as the parties have agreed that there are no National Register-eligible terrestrial or underwater archaeological properties/sites within the Area of Potential Effects (APE).

The North Carolina State Historic Preservation Office (HPO) concurs with the FRA's finding that the following properties will not be adversely affected by the proposed undertaking:

- USS North Carolina Battleship Memorial Site (Battleship),
- Beltline District,
- Holy Church of Jesus Christ, and
- Memorial Bridge.

However, as outlined below, we are concerned about several contributing properties within the Wilmington Historic District for which there is the potential of an adverse effect minus the additional considerations.

While the project will reduce noise levels in the majority of the historic district, the report indicates that there will be *severe noise impacts to twelve (12) contributing resources in the historic district*. To minimize or avoid an adverse effect to these resources, the City of Wilmington has committed to addressing severe noise impacts through appropriate noise mitigation in the Environmental Assessment (EA) for the project.

FRA has suggested that mitigation measures to address these concerns likely will include closing Dawson Street and reassigning Wright Street to private driveways to eliminate the need for sounding warning horns along the bypass. However, such measures require City Council approvals, which would be obtained during the final design process. Additional mitigation measures for the Preferred Alternative may also be considered during the final design process.

The HPO and consulting parties are also concerned about potential *vibration effects to the property at 1121 South Front Street*, a contributing resource to the Wilmington Historic District. FRA and the City have confirmed that pile drivers will not be used proximate to any contributing resource to the historic district, other than the Cape Fear River. However, we believe that additional monitoring and possible remediation efforts may be needed once more detailed design plans are prepared and provided for our review and comment.

Understanding there is no funding for completion of final design of the proposed undertaking, and should such funds be provided in the future by FRA, that FRA will reinitiate Section 106 consultation with the HPO and the consulting parties to review the final plan development, including noise impact mitigation and vibration effects within the Wilmington National Register Historic District, we concur with FRA's finding of No Adverse Effect on the district.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@dncr.nc.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc:

Kristen Zschomler, FRA	Kristen.zschomler@dot.gov
Mickey Sugg, USACE	Mickey.t.sugg@usace.army.mil
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