

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ROY COOPER GOVERNOR J. ERIC BOYETTE Secretary

October 4, 2022

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Reference: Replacement of Robeson County Bridge No.'s 146 & 147, I-95 across the Lumber River, as part of NCDOT STIP Project No. I-6064 Federal Aid Project No. FA# 0095077

Dr. Duncan/Ms. Farrell:

The North Carolina Department of Transportation (NCDOT), with the Federal Highway Administration (FHWA) as lead agency, proposes to improve a section of I-95 between exits 13 and 22 in Robeson County NC. The purposes of improving this section of I-95 are to help relieve congestion, improve mobility, and enhance the resiliency of the highway to storm events such that it can continue to serve as a primary East Coast route. This section of I-95 was closed for several days due to flooding during hurricanes Matthew and Florence, emphasizing the need to improve the interstate to be more resilient against future storm events. This project has been certified as a Type III Categorical Exclusion (Attachment A).

This section of I-95 also contains the crossing of the Lumber River that is designated as Wild and Scenic under Section 2(a)(ii) of the national Wild and Scenic Rivers Act and is part of the North Carolina Natural and Scenic River System under the North Carolina Natural and Scenic Rivers Act. This river section is classified as Recreational under both acts.

Website: ncdot.gov

As you are aware, NCDOT decided to Let this project using the Design Build process. To establish appropriate design criteria, NCDOT did some preliminary analysis so that appropriate design considerations could be provided to firms bidding on the contract. NCDOT set the height of the roadway to stay above the 100 yr storm recurrence level and added 1.5 feet of additional freeboard. The height of the Lumber River Bridge was set accordingly raising the low chord of the bridge by 10-feet. 2D hydraulic modeling was performed to optimize the opening of the bridge to allow increased flow during storm events while not adversely affecting downstream features such as the levee, fifth street bridge, or other downstream structures (Attachment B and C).

As part of this pre-bid process, NCDOT also engaged the National Parks Service (NPS) and the North Carolina Division of Parks and Recreation (NCDPR) to coordinate and gain input on the Lumber River Bridge due to the river's Wild and Scenic classification. Virtual meetings were held in February, March, April, and May of 2021. A field meeting was also held in March 2022.

While multiple aspects of the bridge crossing were discussed, of primary concern was the proposed length or opening of the proposed bridge and an area directly downstream of the bridge where a river meander bend turns sharply back toward I-95.

To address the bridge opening, NCDOT shared modeling results (Attachment C) that showed in conjunction with raising the low chord elevation of the bridge by 10 feet, increasing the bridge length from the existing 380 feet to 500 feet provided conveyance of the flood of record and provided only minimal increase in flood water depths on the levee and bridges downstream.

Initial functional designs of the Lumber River bridge proposed a bridge with increased width to the northeast corner to accommodate a deceleration ramp for the immediately adjacent exit. This design required a retaining wall approaching the water's edge of the Lumber River where the river meanders back toward I-95. While the proposed retaining wall was located within existing NCDOT right of way and an in area of existing rip rap slope protection, NPS and NCDPR staff thought that this proposed design inhibited some of the free flowing and aesthetic values that make the Lumber Wild and Scenic. NCDOT subsequently proposed a modified alternative that moved the deceleration lane entirely onto the bridge. While this increased the width of the bridge slightly at the southwest corner, it enabled pulling the roadway embankment retaining wall 10-feet back from the river's edge (Attachment E).

Project Commitments and Benefits

NCDOT design requirements included retaining walls rather than standard embankment in the northeast and northwestern quadrants of the bridge crossing minimizing the roadway footprint.

The successful Design-Build contract further minimized negative elements of retaining wall construction adjacent to the meander bend downstream of the bridge by designing a deep foundation sheet-pile wall with dead-man tie backs and lightweight fill to ensure the stability of the roadway embankment to potential predicted scour while minimizing the amount of slope protection needed near the river Attachment F).

The rip rap protected slope along the southwestern approach to the bridge initially proposed with 4:1 slopes was steepened to 2:1.

The hydraulic opening at the bridge will be increased by lengthening the bridge, raising the low chord elevation, removal of ~37,000 cubic yards of existing roadway embankment and reducing the number of interior bents (Attachment B).

Raising the low chord of the bridge will result in an increased number of days that the Lumber River will be navigable by canoe/kayak. Assuming 8-feet of headroom is required, the proposed structure could result in up to a 25% increase in the recreational navigability of the river (Attachment D).

The existing I-95 bridge structures discharge stormwater through deck drains directly into the river and onto floodplain areas. The proposed structure will take storm water from the bridge deck through appropriate BMPs before discharge into the river. Adjacent roadwork drainage as part of the project will also improve stormwater treatment before it enters the river (Attachment F).

During construction, signs to warn paddlers will placed upstream and downstream of the work area. Buoys will be placed to guide paddlers through the work area. NCDOT reserves the right to close the river to paddle traffic for brief periods (e.g. setting of girders spanning the channel) to prioritize safety. A path to facilitate canoe portage will be provided when the river needs to be closed to paddlers for safety (Attachment G).

NCDOT will provide painted signage on the upstream and downstream faces of the new bridge. Upstream text – "LUMBER RIVER" "I-95 SOUTHBOUND"; Downstream text- "LUMBER RIVER" "I-95 NORTHBOUND" The Wild and Scenic River insignia will also be painted upstream and downstream (Attachment H).

The rip rap slope protection that will be needed near the meander bend will be planted with native live stakes to help naturalize the appearance of rock near the river channel (Attachment I).

NCDOT will stain the outside concrete surfaces of the bridge with a color that will reduce the visual starkness of the structure to recreational river paddlers. The color will be determined by a registered landscape architect.

Appendix C of Section 7 of the Wild and Scenic Rivers Act outlines the procedure for evaluating projects for their Direct and Adverse Effects. The Registered Landscape Architect sealed survey included here (Attachment J) addresses the questions posed in Appendix C and indicates that although the proposed bridge will be larger than the current structure, by raising the bridge; reducing the number of bents located in the channel and interior bents in total; increasing the overall hydraulic opening at the bridge; stabilizing the banks under the bridge; and the routing of bridge deck stormwater runoff from the bridge and adjacent roadway through appropriate structures before discharge onto the floodplain and into the river, contribute to the overall improvement of conditions at the bridge site and enhance the recreational values of the Lumber River.

The NCDOT believes that the proposed project will not have any adverse effects at I-95 bridge site and therefore this section of the Lumber River's Recreational designation under the Wild and Scenic Rivers Act and the North Carolina Natural and Scenic Rivers Act. We request concurrence of this from the National Parks Service and the NC Department of Parks and Recreation based on the documentation provided.

Please do not hesitate to call (919-707-6139) or email (<u>cmellor@ncdot.gov</u>) me if there are any questions.

Sincerely,

CAT-

Colin Mellor Environmental Policy Unit North Carolina Department of Transportation

Attachments: A. I-6064 Categorical Exclusion
B. Bridge Survey & Hydraulic Design Report
C. 2D Hydraulic model summary
D. Lumber River paddle exceedance
E. NCDOT Pre-bid plans
F. NCDOT Post-bid plans
G. Boater Safety Signage
H. Concept Signage
I. Typical Planting Species
J. NCDOT Section 7 Evaluation of Direct and Adverse Effects
K. Structure Plans

cc.	Liz Hair	US Army Corps of Engineers
via email	Brandon Oliver	FHWA
	Hannah Sprinkle	NCDWR

Replacement of Robeson County Bridge No.'s 146 & 147 I-95 across the Lumber River, part of NCDOT STIP Project No. I-6064 Federal Aid Project No. FA# 0095077

ATTACHMENT A I-6064 Categorical Exclusion

Type III Categorical Exclusion Action Classification Form

STIP Project No.	I-6064
WBS Element	49067.1.1
Federal Project No.	FA# 0095077

A. <u>Project Description:</u>

The project will widen I-95 and elevate the vertical grade of parts of the roadway for about 9 miles between I-74 (Exit 13) and US 301/Fayetteville Road (Exit 22) in Lumberton.

B. <u>Description of Need and Purpose:</u>

Improvements will be needed to accommodate future traffic volumes and ensure the highway operates at an acceptable level of traffic service, particularly during the peak hour. Traffic volumes along I-95 are expected to increase approximately fifty percent by the design year 2040, creating conditions in which operations degrade and average travel speeds are below the posted speed limit. The proposed additional through lanes will increase the traffic-carrying capacity of the roadway, improve the flow of traffic, and reduce daily traffic delays resulting from expected traffic volume growth.

Currently, the number of vehicles using the section of I-95 between Exit 13 and Exit 22 in Robeson County ranges between 52,300 vehicles per day (vpd) to 68,200 vpd. The current Level of Service (LOS) is C or better throughout the corridor. Future traffic volumes (2040 No Build) are expected to range between 82,500 vpd to 104,100 vpd between Exit 13 and Exit 22. Without improvements, operations along the I-95 corridor between Exits 13 and Exit 22 are anticipated to degrade significantly by year 2040. Aside from the section between Exit 13 and Exit 17, all segments of the I-95 corridor in the project area are expected to operate at a LOS E or worse in both the AM and PM peak hours.

Improvements to I-95 will also increase the resiliency of the highway against future rainstorm events. The highway will be elevated in strategic locations and major water conveyance structures will be upgraded to provide greater protection for I-95 during and following storms as the Lumber River drains the primary watersheds. Portions of I-95 were closed for several days due to flooding during hurricanes Matthew and Florence, emphasizing the need to improve the interstate to be more resilient against future storm events. Along with reduced mobility, periods of inoperability impede emergency services, interstate commerce, and erodes military preparedness.

The purposes of improving this section of I-95 are to help relieve congestion, improve mobility, and enhance the resiliency of the highway to storm events such that it can continue to serve as a primary East Coast route through the project design year of 2040.

C. Categorical Exclusion Action Classification:

Type III

D. Proposed Improvements:

The proposed project will add two through travel lanes in each direction and increase the total number of lanes on this section of I-95 from four to eight. The project will also modernize interchanges and elevate vulnerable sections of the interstate to enhance resiliency against future rainstorm events. Existing bridges at interchanges, overpasses, and river crossings will be replaced as necessary to accommodate the widened and/or elevated roadway. Drainage culverts will be upgraded or replaced as necessary to accommodate the necessary to accommodate 100-year storm volumes. To minimize the project footprint and reduce impacts to

surrounding human and natural environmental features, extensive use of retaining walls is recommended. Using retaining walls will allow the majority of the described improvements to remain within the existing right of way.

Areas where additional right of way or easement may be required are generally located at each of the three interchanges being re-configured along the corridor (Exits 17, 19, and 20). The need for additional right of way is expected around the proposed bridge replacements at VFW Road and the Lumber River, along with the culvert replacements at Fivemile Branch and Meadow Branch. Finally, additional right of way and easement areas are located where the realignment or regrading of parallel service roads would be required. This includes sections of Kenric Drive, Jonathan Drive, Cox Road, Hester Drive, Lackey Street, Capuano Street, Dawn Drive, and Kahn Drive. As currently proposed, the project would also result in the removal of Hackett Street along the west side of I-95. See Figures 2A-2H in Appendix A for location and illustration of the major elements of this work.

E. Special Project Information:

<u>Alternatives</u>

In addition to the recommended improvements, the following alternatives to the proposed widening were considered:

- No-Build Alternative
- Alternate Modes of Transportation Alternative
- Transportation System Management Alternative
- Widen/Raise Roadway with earthen slopes

The No-Build Alternative does not propose any changes to I-95 within the study area aside from projects that are currently under construction or programmed in the 2020-2029 State Transportation Improvement Program (STIP). The No-Build Alternative would neither increase the traffic carrying capacity of I-95 within the study area nor provide additional storm resiliency needed to maintain the integrity of the corridor so that it can continue to serve as a primary East Coast transportation route through the project design year of 2040. Since the No-Build Alternative does not fulfill the primary purposes of the project or address the area transportation needs, it is not recommended.

The Alternate Modes of Transportation Alternative would include increasing ridership and freight on mass transportation modes like buses, railroads, and airplanes to reduce the number of vehicles that would use I-95 daily. While this option could reduce congestion on I-95, it would not provide nearly the same level of congestion reduction as the recommended alternative. As well, the Alternate Modes of Transportation Alternative would not modernize the infrastructure or provide any storm resiliency improvements needed to support the remaining buses, trucks, and automobiles that would still use I-95. Since the Alternate Modes of Transportation Alternative does not fulfill the primary purposes of the project or address the area transportation needs, it is not recommended.

The Transportation System Management (TSM) Alternative includes operational or physical improvements to increase the available capacity of a roadway within the existing right of way with minimum capital expenditures and without reconstructing or adding through lanes to the existing road. Operational changes are largely administrative in nature while physical improvements are typically more capital intensive. Examples of operational changes include traffic law enforcement, speed restrictions, and access control. Physical improvements would include striping, signing, and minor realignments. TSM improvements are best suited for areas with capacity or safety deficiencies in specific locations. The capacity issues, antiquated infrastructure, and flood-prone portions of the highway are widespread through the project area and require more intensive solutions than those provided by TSM. For these reasons, the Transportation System Management Alternative would not satisfy the project purpose or fulfill the transportation need and is not recommended.

The Widen/Raise Roadway with Earthen Slopes Alternative would add two through lanes in each directionon I-95 bringing the total number of through lanes to eight. This alternative would also modernizeinterchanges and elevate vulnerable sections of the interstate to enhance resiliency against futurev2019.1I-6064 Type III CEPage 2

rainstorm events. Existing bridges at interchanges, overpasses, and river crossings will be replaced as necessary to accommodate the widened and/or elevated roadway. Drainage culverts will be upgraded or replaced as necessary to accommodate 100-year storm volumes. Although this option fulfills the transportation need and satisfies the project purposes, the combination of raising the roadway and using earthen slopes through the length of the project would result in wholesale relocation of the existing service roads that parallel most of I-95 in the project area, thereby increasing the human and natural environmental impacts of the project. For these reasons, the Widen/Raise Roadway with Earthen Slopes Alternative is not recommended.

Flood Protection

Portions of I-95 within the project limits have historically been vulnerable to flooding from the Lumber River and its tributaries during storm events. In October 2016, Hurricane Matthew caused flooding that overtopped I-95 in several locations, forcing a four-day shutdown of the highway while floodwaters receded. In September 2018, Hurricane Florence inundated the highway with floodwaters prompting a nine-day detour through Tennessee for normal users of I-95 while floodwaters receded. Within the project limits, the portions of the highway between Exit 17 (Caton Road) and Exit 19 (Carthage Road) have been susceptible to flooding from the Lumber River during storm events. As well, a portion of I-95 north of Exit 20 (N Roberts Avenue) has been flooded by Fivemile Branch and Meadow Branch, both tributaries to the Lumber River.

Extensive hydraulic modeling was conducted to determine the recommended vertical elevation of I-95 that will provide additional resilience against future storm events as well as the dimensions of bridges and culverts that convey the Lumber River and its tributaries. The model was calibrated using empirical data collected during hurricanes Matthew and Florence, including high water marks and actual storm hydrographs. Numerous storm intensities were tested with the model (I-6064 Hydraulics and Hydrology Reports are available upon request and are located with the project files on the Connect NCDOT site) and assessed by the NCDOT technical team. After careful consideration of the level of resilience that could be expected on I-95, the team recommended designing structures and elevating I-95 to accommodate the 100-year design storm with 1.5 feet of additional freeboard along the interstate mainline and 2.0 feet of additional freeboard at the bridges.

The portion of I-95 through and adjacent to Exit 17 will be elevated between three feet to five feet on average. Heading north, I-95 will be elevated as much as twelve feet to provide adequate clearance over the CSX railroad line parallel to VFW Road and to provide adequate flood resilience near the Lumber River. The bridges that carry I-95 over the Lumber River will be replaced with a single structure approximately 500 feet long that will allow greater water conveyance than the existing shorter structures. Just north of Exit 20 near Fivemile Branch and Meadow Branch, the mainline of I-95 will be elevated between four and six feet to provide a desired level of resilience to the 100-year design storm. The existing dual 10-foot by 8-foot reinforced concrete box culvert (RCBC) at Meadow Branch, is recommended to be replaced with a triple 10-foot by 11-foot RCBC. At Fivemile Branch, the dual 10-foot by 8-foot RCBC will be elevated one foot. The increased sizes of the culverts at both Meadow Branch and Fivemile Branch will provide additional conveyance and have been sized to accommodate flows from a 100-year storm event. As an interim flood mitigation measure, a 560-foot section of median barrier wall will be replaced with 560 foot of slotted median barrier wall to reduce backwater issues in the area at Fivemile Branch and Meadow Branch. This measure will be in place until the project is constructed.

Interchange Modifications

Three interchanges will be reconstructed as part of the project. These include the interchanges of I-95 with NC 72/Caton Road (Exit 17), SR 1536/Carthage Road (Exit 19), and NC 211/N Roberts Avenue (Exit 20). The bridges will be rebuilt to accommodate the widened and elevated interstate. As well, the interchanges will be reconfigured to optimize traffic operations. As project design continues, traffic maintenance strategies and potential detour routes will be evaluated to minimize traffic impacts during project construction. Any additional impacts that may result from temporary signals or detour routes will be assessed in a separate environmental analysis as needed. Wholesale reconstruction is not expected at either the I-74/US 74 (Exit 13) interchange or the US 301/Fayetteville Road (Exit 22) interchange, *v2019.1 I-6064 Type III CE Page 3*

excepting some ramp alterations at Exit 22. The following major elements of work are anticipated at interchanges within the project limits:

Exit 17 (I-95/NC 72 Caton Road) – The existing interchange configuration in this location is a diamond interchange with signalized intersections at the ramp terminals with Caton Road. The proposed improvements retain the basic diamond configuration but will rebuild the bridge over I-95 to accommodate the widened and elevated interstate. The bridge will provide dual left turn lanes accessing each the northbound and southbound entrance to I-95. The entrance ramps will both include two lanes before tapering down to one before meeting the I-95 mainline. Two through lanes will be provided across the new bridge in both the eastbound and westbound direction on NC 72 (Caton Road). Current plans limit construction activities west of I-95 on Caton Road to just east of the existing bridge over the Lumber River and will not replace the Caton Road bridge over the river.

For traffic exiting southbound I-95, dual left turn lanes will be provided to access eastbound Caton Road as well as an exclusive right turn lane for westbound Caton Road. The ramp will be lengthened and relocated slightly to the west to improve interchange ramp storage and interchange geometry. This will result in relocating a portion of Cox Road to the west to accommodate the proposed ramp improvements.

For traffic exiting northbound I-95, dual right turn lanes will provide access to eastbound Caton Road and a shared through and right turn lane will provide access to westbound Caton Road traffic. The ramp will be lengthened and relocated slightly to the east to improve interchange ramp storage and interchange geometry.

Other major elements of work at this interchange include relocating the northbound ramp accessing I-95 slightly to the east to improve interchange geometry. As well, sidewalks will be added on both sides of 5th Street within the project limits in accordance with the Comprehensive Transportation Plan (CTP). The proposed improvements along 5th Street and other routes in the project area can be viewed in Figures 2A-2J.

Exit 19 (I-95/Carthage Road) – The existing interchange configuration in this location is a diamond interchange with unsignalized intersections at the ramp terminals with SR 1536 (Carthage Road). The proposed improvements will retain the basic diamond configuration but will rebuild the existing bridge over I-95 to accommodate the widened and elevated interstate and provide roundabouts at the ramp terminals to manage traffic ingress and egress. Currently, Capuano Street directly intersects with the northbound entrance ramp from Carthage Road to I-95. This condition will be revised such that Capuano Street will access the proposed "elongated" roundabout on the east side of the interchange.

Each of the ramps providing access to eastbound and westbound Carthage Road from I-95 will be reconstructed to provide greater storage space and interchange geometry. As well, each ramp providing access to northbound and southbound I-95 from Carthage Road will be reconstructed to provide better geometry. A portion of the service road on the west side of I-95 (Lackey Street) will be relocated to accommodate the proposed ramp improvement and minimize impacts to the businesses located in the northwest quadrant of the interchange. As well, a portion of the service road on the east side of I-95 (Capuano Street) will be reconstructed near the interchange to accommodate the new tie-in to the proposed roundabout and to accommodate ramp improvements and widening on mainline I-95.

Other major elements of work at this interchange include the provision of a 10-foot wide multiuse path on the south side of the proposed bridge carrying Carthage Road across I-95. The multiuse path would continue on the south side of Carthage Road west of I-95 to the relocated intersection with Lackey Street. A sidewalk is proposed on the north side of Carthage Road west of I-95 to provide connectivity from the proposed multiuse path to the businesses located adjacent to the northwest quadrant of the interchange on Lackey Street.

East of I-95, sidewalks are proposed on both sides of Carthage Road to the eastern project limits near Velcord Drive and Delmar Street. The multiuse path will transition to a sidewalk east of the northbound I-95 exit ramp onto Carthage Road.

Exit 20 (I-95/NC 211 N Roberts Avenue) – The existing interchange at this location is a partial cloverleaf with loops in the northwest and southeast quadrants providing access from N Roberts Avenue to I-95 in v2019.1 I-6064 Type III CE Page 4

both the northbound and southbound directions. Ramps signalized at N Roberts Avenue are provided in each quadrant to provide the remainder of the moves between I-95 and N Roberts Avenue. The proposed improvements will replace the interchange with a diverging diamond type configuration. The loops will be removed and the ramps will be reconstructed to accommodate the diverging diamond interchange. Due to the proposed interchange geometrics combined with the existing topography, some impacts to the service roads at each of their approaches to N Roberts Avenue are anticipated.

A portion of Kahn Drive will be reconstructed east of its current location near the northeast quadrant of the proposed interchange. The reconstruction will impact a parcel of land that recently contained a hotel and restaurant but is planned for redevelopment by a private developer. Near the northwest interchange quadrant, a portion of Dawn Drive will be reconstructed in association with replacing the culverts at Meadow Branch and Fivemile Branch requiring some additional right of way and easement from land currently owned by the City of Lumberton adjacent to French Park. Some right of way and easement are anticipated near the southwest quadrant of the interchange to accommodate the new interchange ramp and rebuild Lackey Street. The proposed changes to Lackey Street will impact some parking for a retail area. Finally, a portion of Capuano Street will be slightly realigned near the southeast interchange quadrant to accommodate ramp construction for the diverging diamond interchange. The changes to Capuano Street are anticipated to impact parking for a retail store, two hotels, and a restaurant adjacent to the road.

Other major elements of work at this interchange include the provision of a multiuse path across one of the interchange bridges to connect proposed sidewalks on both sides of N Roberts Avenue east of I-95 with a proposed multiuse path on the south side of N Roberts Avenue west of I-95 and a sidewalk on the north side of N Roberts Avenue west of I-95 to the western project limits.

Wetlands and Streams

Water resources in the study area are part of the Lumber River basin [U.S. Geological Survey (USGS) Hydrologic Unit 03040203]. A total of 37 jurisdictional wetlands were identified within the study area. As currently proposed, the project is anticipated to result in impacts to seven jurisdictional wetlands, or a total of 5.37 acres. A review of project impacts to these resources is provided in the table below.

Map ID	NCWAM Classification	Hydrologic Classification	Area in Study Area (ac.)	Impacts (ac.) ¹
WAD	Riverine Swamp Forest	Riparian	1.06	0.02
WAE	Riverine Swamp Forest	Riparian	39.31	1.50
WAJ	Riverine Swamp Forest	Riparian	6.95	0.05
WCC	Riverine Swamp Forest	Riparian	35.67	2.43
WK	Riverine Swamp Forest	Riparian	4.32	0.19
WW	Riverine Swamp Forest	Riparian	30.97	0.74
WX	Non-Tidal Freshwater Marsh	Riparian	0.85	0.44
			Total Impacts	5.37

Calculated Wetland Impacts

¹ ac = acres. Calculated impacts are based on slope stake limits of the preliminary design plus 25 feet.

A total of 17 jurisdictional streams (mitigable) and 42 surface waters were identified in the study area. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation. As currently proposed, the project is anticipated to result in impacts to five jurisdictional streams, or a total of 960 linear feet. A review of the anticipated project impacts to these resources is provided in the table below.

Map ID	Class ¹	Compensatory Mitigation	Length in Study Area (lf) ²	Impacts (If) ²
Fivemile Branch	Perennial	Mitigable	2,495	384.2
Lumber River	Perennial	Mitigable	6,259	201.0
Meadow Branch	Perennial	Mitigable	1,506	184.9
Saddletree Swamp	Perennial	Mitigable	1,691	60.7
SM	Perennial	Mitigable	1,512	129.2
		Total Impa	cts (Mitigable)	960.0
TAC	TribWoUS	Non-Mitigable	426	40.2
TAD	TribWoUS	Non-Mitigable	104	32.7
TAE	TribWoUS	Non-Mitigable	309	57.4
TAF	TribWoUS	Non-Mitigable	283	86.4
TAG	TribWoUS	Non-Mitigable	149	94.1
TJ	TribWoUS	Non-Mitigable	5	4.8
TL	TribWoUS	Non-Mitigable	324	77.1
TZ	TribWoUS	Non-Mitigable	590	26.5
Total Impacts (Non-Mitigable)				

Calculated Stream Impacts

¹ TribWoUS = Tributary waters of the U.S.

² If = Linear feet. Calculated impacts are based on slope stake limits of the preliminary design plus 25 feet.

No stream in the study area has been designated as an Outstanding Resource Water (ORW). The Lumber River within the study area and upstream (west) of I-95 is designated as High Quality Waters (HQW). Sections of the Lumber River that are upstream (west) of a City of Lumberton raw water supply intake (located approximately 0.5-mile upstream of I-95) are also classified as Water Supply Waters (WS-IV). Back Swamp is also classified as WS-IV.

Area near the crossing of VFW Road/CSX Railroad and immediately west of I-95 is located within the Lumber River (Lumberton) Water Supply Watershed Critical Area. This Critical Area is associated with the City of Lumberton raw water supply intake approximately 0.5 mile upstream of the bridge carrying I-95 over the Lumber River. Additional area west of I-95 between I-74/US 74 (Exit 13) and VFW Road/CSX Railroad is located within a HQW Water Management Zone surrounding the Lumber River.

The North Carolina 2018 Final 303(d) list of impaired waters does not identify any stream within the study area as an impaired water.

Noise Analysis

The source of this traffic noise information is the *Draft Traffic Noise Report, I-95 From I-74 (Exit 13) to US 301 (Fayetteville Road) (Exit 22),* Ramey Kemp Associates dated December 2020. This report is under review by NCDOT and expected to be finalized by early 2021.

Summary

A traffic noise evaluation was performed that identified three noise barriers that preliminarily meet feasibility and reasonableness criteria found in the NCDOT Traffic Noise Policy. A more detailed analysis will be completed during project final design. Noise barriers preliminarily found to be feasible and reasonable during the preliminary noise analysis may not be found to be feasible and reasonable during the final design noise analysis due to changes in proposed project alignment and other design considerations, surrounding land use development, or utility conflicts, among other factors. Conversely, noise barriers that preliminarily were not considered feasible and reasonable may meet the established criteria and be recommended for construction. This evaluation was conducted in accordance with the highway traffic noise requirements of Title 23 CFR Part 772.

In accordance with NCDOT Traffic Noise Policy, the federal/state governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Categorical Exclusion (CE). NCDOT strongly advocates the planning, design and construction of noise-compatible development and encourages its practice among planners, building officials, developers and others.

Traffic Noise Impacts

The maximum number of receptors in each project alternative predicted to become impacted by future traffic noise is shown in the table below. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the Federal Highway Administration (FHWA) Noise Abatement Criteria or by a substantial increase in exterior noise levels as defined in the NCDOT Traffic Noise Policy.

Predicted Traffic Noise Impacts by Alternative*

Traffic Noise Impacts				
Alternative	Residential (NAC B)	Places of Worship/Schools, Parks, etc. (NAC C & D)	Businesses (NAC E)	Total
Design Year 2040 Build Conditions	102	16	6	124

*Per TNM 2.5 and in accordance with 23 CFR Part 772

Traffic Noise Abatement Measures

Measures for reducing or eliminating the traffic noise impacts, including noise barriers, were considered for all impacted receptors in each alternative. Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb, and reflect highway traffic noise.

Noise Barriers

A noise barrier evaluation was conducted for this project utilizing the Traffic Noise Model (TNM 2.5) software developed by the FHWA. The following table summarizes the results of the evaluation.

NSA	Noise Barrier Location	Length / Height ¹ (feet)	Square Footage	Number of Benefited Receptors	Square Feet per Benefited Receptor / Allowable Square Feet per Benefited Receptor	Preliminarily Feasible and Reasonable ("Likely") for Construction
1	NW1 – Adjacent to Kenric Road	1,200/11	13,022	6	2,170/1,500	No ⁴
2	NW2A – Adjacent to 5 th Street	900/13	11,670	2	5,835/1,500	No ⁴
2	NW2B – Adjacent to 5 th Street and Contempora Drive	1,740/11	19,740	13	1,498/1,500	Yes
2	NW2C – Adjacent to Cottonwood Drive	960/13	12,000	3	4,000/1,500	No ⁴
4	NW4A – Adjacent to Hester Drive	780/17	13,469	3	4,490/1,500	No ⁴
4	NW4B – Adjacent to West Lumberton Baptist Church	1,200/25	29,396	0	NA/1,500	No ³
4	NW4C – Adjacent to Luther Britt Park	1,260/13	15,988	2	7,994/1,500	No ⁴
6	NW6 – Adjacent to Capuano Street	1,740/17	29,190	25	1,168/1,500	Yes
7	NW7 – Adjacent to Dawn Drive and Wellington Road	3,800/14	53,202	41	1,298/1,500	Yes
8	NW8 – Adjacent to Kahn Drive	960/12	11,640	3	3,800/1,500	No ⁴
10	NW10 – Adjacent to Hill Street	1,200/11	12,961	3	4,320/1,500	No ⁴

Preliminary Noise Barrier Evaluation Results

¹Average wall height. Actual wall height at any given location may be higher or lower. ²The likelihood of a barrier's construction is preliminary and subject to change, pending completion of final design and the public involvement process. ³Barrier is not feasible due to an inability to achieve a minimum of 5 dB(A) of noise reduction for at least two impacted receptors.

⁴Barrier is not reasonable due to the quantity per benefited receptor exceeding the allowable quantity per benefited receptor <u>OR</u> Barrier is not reasonable due to an inability to achieve at least 7-dBA noise reduction for at least one benefited receptor.

Public and Stakeholder Involvement

Start of Study Notification – February 24, 2020:

Start of Study Notifications were sent via US Mail and email that contained general project information and mapping. Recipients were asked to provide comments on the proposed project. Recipients of the Start of Study Notifications included local and elected officials in the City of Lumberton and Robeson County, the Lumber River Council of Governments, the Catawba Cultural Preservation Project, and the Lumbee Tribe of North Carolina.

In addition, the Start of Study Notification was provided to federal and state regulatory and resource agencies including the US Environmental Protection Agency, US Fish and Wildlife Service, the US Army Corps of Engineers, US Coast Guard, US Forest Service, National Park Service, and the North Carolina State Clearinghouse.

The Catawba Cultural Preservation Project had no immediate concerns but requested notification if Native American artifacts and/or human remains are located during the ground disturbance phase of the project.

Other comments received included various requests for general information to be included in the environmental documentation for the project, identification of potential permit requirements, general preferences for stormwater treatment, and recommendations on minimization techniques that could be applied in later design phases and the construction phase of the project.

Agency Introduction Meeting – March 17, 2020:

A meeting was held via teleconference in advance of field review to familiarize US Army Corps of Engineers (USACE), the National Park Service (NPS), and NC Division of Water Resources staff with general project information. The Agency Introduction Meeting included a presentation that included a project overview, discussion of the need for and purpose of the proposed project, known environmental features, proposed typical sections, and the project schedule and funding.

During this meeting, NPS noted the designation of the Lumber River as a National Wild & Scenic River. For the purposes of conducting a Section 7(a) determination under the federal Wild and Scenic Rivers Act, NPS will work with FHWA and USACE as the federal funding and permitting agencies. NPS will need to determine whether the proposed project has a direct and adverse effect on the river's Outstandingly Remarkable Values (ORVs) such as free flow, water quality, and scenery.

Newsletter – May 2020:

NCDOT distributed approximately 750 copies of an informational newsletter to citizens and local officials with properties or interest in the project study area. The newsletter provided an overview of the project proposal, an explanation of the project purpose, preliminary schedule information, and a general explanation of the project development process. Recipients were also invited to submit comments via the project website, email, letter, or telephone call to the project team.

Public and Local Officials Meetings – September 22 and 29, 2020:

NCDOT held two meetings as part of the effort to involve local stakeholders and the public in the planning and design for the subject project. A virtual Local Officials Informational Meeting was held on September 22, 2020 from 2 - 3 p.m. via teleconference. The project team provided attendees a preview of discussions that would be provided at the virtual public meeting, including information on the project background, a high-level review of the proposed improvements and functional level design, the current schedule, and the next steps. Attendees were invited to comment on the presentation. No comments were provided at the Local Officials Informational Meeting. A subsequent live virtual Public Meeting was held by NCDOT on September 29, 2020 from 6-7 p.m. Approximately two weeks ahead of the meeting, the project website was updated and included a video summary of the proposed improvements, a flyover style visualization developed from the functional design plans, a printable informational "handout," public meeting maps, stormwater and drainage information, and general noise assessment information. The public meeting was advertised via legal ads posted in local newspapers, approximately 1,735 postcards sent to residents in the study area, notification on the NCDOT project website, and radio and social media advertisements.

A total of 134 individuals signed-in to the meeting, and 26 comments were received during the public meeting. Citizens were invited to comment on the project via e-mail and telephone before and following the virtual public meeting. An additional 37 comments were received outside of the virtual public meeting via emails, comments on the project page, or phone calls. Although several of the comments were unique and specific to designated locations along the project, there were also some general questions related to:

- Flooding and Hydrology
- Project Schedule
- Construction Impacts
- Effects to Service Roads
- Noise Impacts and Mitigation
- Drainage Structures
- Multimodal Accommodations
- Other Miscellaneous Design Comments

Lumber River – Section 7(a) of Wild and Scenic Rivers Act Coordination Meeting – December 2, 2020

An interagency review meeting was held via teleconference on December 2, 2020. The purpose of the meeting was to review functional bridge design information with NPS and FHWA representatives and determine appropriate commitments to carry forward in documentation as the project moves forward into more detailed hydraulic and structural design. Along with reviewing the proposed bridge design information, a Draft Aesthetic Analysis was developed by the NCDOT Landscape Design & Development Section and provided to NPS and FHWA representatives.

It was determined that sufficient bridge design information does not currently exist to satisfy the requirements of Section 7(a) of the Wild and Scenic Rivers Act at this time. As such, NCDOT has committed to continue coordination with NPS and FHWA as structural and hydraulic design progresses.

Lumber River – NC Natural and Scenic River and Paddle Trail Coordination Meeting – December 8, 2020

An interagency review meeting was held via teleconference on December 8, 2020. Similar to the previous meeting with NPS, the purpose of the meeting was to review functional bridge design information with representatives from the North Carolina Division of Parks and Recreation (NCDPR) and FHWA. The NCDPR noted they share administration of the Lumber River with the NPS. The recently completed Lumber River State Park Master Plan was discussed, particularly in relation to the management objectives of the Lumber River in the vicinity of I-95. Additional discussion included the status of the Lumber River as a designated NC Natural and Scenic River and part of the North Carolina Trails System.

The NCDPR also indicated their representatives typically work closely with the NPS to ensure compliance under Section 7(a) of the Wild and Scenic Rivers Act within North Carolina. It was determined that sufficient bridge design information does not currently exist to satisfy Section 7(a) or related statutes under North Carolina law at this time. As such, NCDOT has committed to continue coordination with NCDPR, NPS, and FHWA as structural and hydraulic design progresses.

Potential Section 4(f) Resources

Eight resources were identified within the project study area that would potentially be protected under Section 4(f) of the Department of Transportation Act. These include the Lumber River, the Lumber River State Park, the McNeil's Bridge Boat Launch, Luther Britt Municipal Park and Riverwalk Greenway, PC Brooks Municipal Playlot, French Municipal Park, Jennings Mill, and the Tanglewood Historic District. Each property was identified in advance of preparing functional roadway designs. As currently designed, four of the resources have been avoided and three resources have been assessed by the Federal Highway Administration and found to have *de minimis* impacts from the project. One resource was determined by the FHWA to not be protected under Section 4(f).

- A portion of the Lumber River State Park is located with frontage along Kenric Drive just west of I-95. The access road/drive is not signed for public use or park access and appears to be in use by adjacent commercial properties on Kenric Drive. As currently proposed, the project would not impact this resource.
- McNeil's Bridge Boat Launch (North Carolina Wildlife Resources Commission) is located near the southwestern quadrant of Exit 17 on the northern bank of the Lumber River. The launch is accessed from Kenric Drive. There are no public facilities at the launch site and parking areas are unpaved. As currently proposed, the project would not impact this resource.
- Luther Britt Municipal Park and Riverwalk Greenway are both located along the east side of I-95 in the vicinity of Crystal Road and the Lumber River crossing just south of Exit 19. The predominant park feature is a large pond/reservoir encompassed by a segment of the Riverwalk greenway/trail which extends from the park property east into Lumberton. As currently proposed, the project would not impact this resource.
- The Lumber River is designated National Wild & Scenic/NC Natural & Scenic as it passes along the northern side of Luther Britt Park and Riverwalk trail. Along with being a Wild & Scenic River, the Lumber River is also designated as an NC Paddle Trail in this location. On the opposite/western side of the I-95 corridor, properties along both sides of the Lumber River are under ownership of the City of Lumberton as well as the Lumber River Conservancy (NGO). At this location on the I-6064 project corridor, the existing bridges carrying I-95 across the river will be replaced as part of the project. After meeting with the NPS and NCDPR and review of the Lumber River State Park Master Plan, the FHWA did not find evidence of the Lumber River as it crosses beneath I-95 as a Section 4(f) resource.
- PC Brooks Municipal Playlot is a small public park with playground equipment located in the northeastern quadrant of the Capuano Street and W 24th Street intersection. Right of way and easement impacts were anticipated to this park under previous NCDOT STIP Project I-5879 (Carthage Road Interchange Improvements). These impacts included approximately 653 square feet (ft²) of permanent right of way and an additional 108 ft² of temporary construction easement. Impacts were anticipated to the existing fencing and landscaping in this portion of the park, though direct impacts to the playground equipment were not expected. A *de minimis* finding was made by FHWA regarding these impacts in 2017. Under the current NCDOT Project I-6064, some right of way and easement impacts are occurring in the same location of the PC Brooks Municipal Playlot, however overall square footage of impacts has been reduced. As such, FHWA has determined additional 4(f) coordination regarding impacts to this resource was unnecessary.
- French Park is located in the northwestern quadrant of Exit 20 with frontage along NC 211. The park is operated by the City of Lumberton and provides a playground, walking trail, wooded park, picnic tables, and paved parking lot. The park does not currently have driveway access along NC 211 and is accessed via Kings Cross Road. A segment of multiuse path is currently proposed in along the north side of NC 211 in the vicinity of this park. As currently proposed, the project would not impact this resource.

- Jennings Mill is located east of I-95 near the Exit 19 interchange at Carthage Road on the south side of Carthage Road. The site is eligible for inclusion on the National Register of Historic Places under Criterion C and the northern side of the historic boundary extends to Carthage Road. The proposed design will add sidewalks and likely move a utility pole in the northwest corner of the boundary for this historic property. The property will be affected by acquisition of right of way, a temporary construction easement, and a permanent utility easement. There are two trees within the easement. NCDOT, NC State Historic Preservation Office (HPO), and FHWA agreed there will be no adverse effect to this historic property with commitments for tree protection during construction, and FHWA will use HPO's concurrence on this effects finding to reach a *de minimis* finding under Section 4(f) of USDOT regulations.
- Tanglewood Historic District is located east of I-95 between the Exit 19 interchange and the Exit 20 • interchange at NC 211 (N Roberts Avenue). The district is likely eligible for inclusion on the National Register of Historic Places under Criterion C for Architecture and under Criterion A for Community Planning and Development. The Traffic Noise Report identifies a "likely" noise barrier within the NCDOT existing right of way adjacent to the western boundary of the Tanglewood Historic District near the I-95 service road (Capuano Street). The current design plans indicate no trees will be removed for the potential construction of a noise barrier and no visual intrusions are anticipated to the historic district. There would be no effect to the Tanglewood Historic District under these conditions resulting from a noise wall if it is constructed. The current design plans would raise N Roberts Avenue, which will in turn elevate Rowland Avenue. The house located at 301 N 36th Street is within the boundary for the Tanglewood Historic District and a temporary construction easement is proposed along the parcel line of the property. Construction would not impact the fire hydrant located adjacent to the property and driveway access to the house will be maintained during project construction. NCDOT, HPO, and FHWA agreed there is no adverse effect to the Tanglewood Historic District as a result of these construction activities and FHWA will use HPO's concurrence on this effects finding to reach a *de minimis* finding under Section 4(f) of USDOT regulations.

Project Cost Estimates

Several cost estimates were produced for the proposed project, including those for utility relocations, right of way acquisition, and construction costs. A review of these costs in comparison to the STIP cost estimates is provided below.

	NCDOT STIP ^{1,2}	I-6064 Project Estimates
Preliminary Engineering	\$10,000	N/A
Utility Relocation	\$10,794,000	\$10,515,250
Right of Way	\$10,516,000	\$1,200,000
Construction	\$273,001,000	\$418,600,000
TOTAL	\$294,321,000	\$430,315,250

¹ STIP Cost estimates based on NCDOT 2020-2029 Current STIP (November 2020)

² The STIP notes Project I-6064 will be let with Project I-5879 (Carthage Road Interchange Improvements), which has an additional estimated cost of \$13.54 million.

F. Project Impact Criteria Checklists:

F3. Type III Actions

Proposed improvement(s) that fit Type III Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix C) answer questions below.

- NCDOT will certify the Categorical Exclusion for FHWA approval.
- If any questions are marked "Yes" then additional information will be required for those questions in Section G.

		Yes	No
1	Does the project involve potential effects to Threatened or Endangered species listed by the US Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?		
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGEPA)?		$\mathbf{\nabla}$
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?		V
4	Does the project cause disproportionately high and adverse impacts relative to low- income and/or minority populations?		V
5	Does the project involve substantial residential or commercial displacements or right of way acquisition?		V
6	Does the project include a determination under Section 4(f)?	\checkmark	
7	Is a project-level analysis for direct, indirect, or cumulative effects required based on the NCDOT community studies screening tool?		V
8	Does the project impact anadromous fish spawning waters?		\checkmark
9	Does the project impact waters classified as Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply Watershed Critical Areas, 303(d)-listed impaired water bodies, buffer rules, or submerged aquatic vegetation (SAV)?	V	
10	Does the project impact Waters of the United States in any of the designated mountain trout streams?		V
11	Does the project require a US Army Corps of Engineers (USACE) Individual Section 404 Permit?	\checkmark	
12	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?		$\mathbf{\nabla}$
13	Does the project include Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a No Effect, including archaeological remains?	\checkmark	
14	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.?	\checkmark	
15	Does the project require work encroaching and adversely effecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	V	
16	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Areas of Environmental Concern (AEC)?		V

Туре	e III Actions (continued)	Yes	No
17	Does the project require a US Coast Guard (USCG) permit?		\checkmark
18	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	\checkmark	
19	Does the project involve Coastal Barrier Resource Act (CBRA) resources?		\checkmark
20	Does the project impact federal lands (e.g. US Forest Service (USFS), US Fish and Wildlife Service (USFWS), etc.) or Tribal (Trust) Lands?		
21	Does the project involve any changes in access control or the modification or construction of an interchange on an interstate?	\checkmark	
22	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?		\checkmark
23	Will maintenance of traffic cause substantial disruption?	\checkmark	
24	Is the project inconsistent with the STIP, and where applicable, the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP)?		\checkmark
25	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, TVA, Tribal Lands, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?		V
26	Does the project involve Federal Emergency Management Act (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?		
27	Is the project considered a Type I under the NCDOT's Noise Policy?	\checkmark	
28	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?		
29	Is the project in an Air Quality non-attainment or maintenance area for a National Ambient Air Quality Standard (NAAQS)?		\checkmark
30	Are there other issues that arose during the project development process that affected the project decision?		\checkmark

G. Additional Documentation as Required from Section F (ONLY for questions marked 'Yes'):

Question 1 - Does the project involve potential effects to Threatened or Endangered species listed by the US Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?

As of July 17, 2020 the United States Fish and Wildlife (USFWS) lists four federally protected species, under the Endangered Species Act (ESA) for Robeson County. For each species, a discussion of the presence or absence of habitat is included below along with the Biological Conclusion rendered based on survey results in the study area.

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Alligator mississippiensis	American alligator	T (S/A)	Yes	Not Required
Picoides borealis	Red-cockaded woodpecker	E	Yes	No Effect
Mycteria americana	Wood stork	т	Yes	May Affect, Not Likely to Adversely Affect
Rhus michauxii	Michaux's sumac	E	Yes	No Effect

ESA federally protected species listed for Robeson County

E – Endangered, T – Threatened, T(S/A) - Threatened due to similarity of appearance

Wood Stork:

The Biological Conclusion for the Wood Stork (*Mycteria americana*) is May Affect, Not Likely to Adversely Affect. Suitable habitat for the wood stork is present in the study area in the form of wetlands, swamps and canals; however, no individuals were observed during a site visit conducted on June 23, 2020. A review of NCNHP records updated on July 22, 2020 indicates no known occurrences within 1.0 mile of the study area. Per Division 6 coordination with USFWS, the biological conclusion for the Wood stork is May Affect, Not Likely to Adversely Affect.

Question 6 - Does the project include a determination under Section 4(f)?

Identification efforts resulted in one historic property and one historic district determined eligible for National Register of Historic Places (NRHP) listing within the current project Area of Potential Effect (APE). In coordination with NCDOT, FHWA has taken into account the effects of its undertaking on historic properties and afforded HPO an opportunity to comment on its findings in a virtual meeting held on December 2, 2020. During the meeting, the HPO concurred with the following:

Jennings Mill (RB0693)

The proposed design for I-6064 will add sidewalks and likely move a utility pole in the northwest corner of the boundary for this historic property. The property will be affected by acquisition of right of way, a temporary construction easement, and a permanent utility easement. There are two trees within the easement. NCDOT, HPO, and FHWA agreed to there will be no adverse effect to this historic property with commitments for tree protection during construction. The HPO concurred with this determination and FHWA has subsequently reached a *de minimis* finding under Section 4(f) of USDOT regulations.

Tanglewood Historic District (RB0737)

A noise study for I-6064 is not yet complete; however, early indications are that a noise wall will likely be constructed within the NCDOT existing right of way adjacent to the Tanglewood Historic District, near the I-95 service road – Capuano Street. No trees will be removed for the construction of the noise wall, and no visual intrusions will be introduced to the historic district. There will be no effect to the Tanglewood Historic District District District resulting from the noise wall, if it is constructed.

The I-6064 project will raise N Roberts Avenue, which will in turn raise Rowland Avenue. The house located at 401 N 36th Street is within the boundary for the Tanglewood Historic District, and there will be a temporary construction easement along the parcel line of the property. No construction will impact the fire hydrant located adjacent to the property. Driveway access to the house will be maintained during construction. NCDOT, HPO, and FHWA agreed there is no adverse effect to the Tanglewood Historic District as a result of these construction activities.

PC Brooks Playlot

PC Brooks Municipal Playlot is a small public park with playground equipment located in the northeastern quadrant of the Capuano Street and W 24th Street intersection. A *de minimis* finding was made by FHWA regarding these impacts in 2017. Under the current NCDOT Project I-6064, some right of way and easement impacts are occurring in the same location of the PC Brooks Municipal Playlot, however overall *v2019.1 I-6064 Type III CE Page 15*

square footage of impacts has been reduced. As such, FHWA has determined additional 4(f) coordination regarding impacts to this resource was unnecessary.

Question 9 - Does the project impact waters classified as Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply Watershed Critical Areas, 303(d)-listed impaired water bodies, buffer rules, or submerged aquatic vegetation (SAV)?

All sections of the Lumber River in the I-6064 study area that are upstream (west) of the bridges carrying I-95 are classified as HQW. Area near the crossing of VFW Road/CSX Railroad and immediately west of I-95 is located within the Lumber River (Lumberton) Water Supply Watershed Critical Area (WS-IV Classification). This Critical Area is associated with an existing municipal surface water supply intake along the Lumber River approximately 0.5-mile upstream from I-95.

As currently proposed, the I-6064 project would not result in construction impacts or right of way impacts to the river in the section classified as HQW. Areas potentially draining to the WS-IV, HQW classified waters should be looked at on a site by site basis for consideration of various treatment options, including hazardous spill basins, if directly discharging to waters of the US. Stormwater runoff must be addressed in accordance with the most recent version of the NCDOT BMP Toolbox. Sedimentation and erosion control must be addressed in accordance with the most recent version of the NC Division of Land Resources Sediment & Erosion Control Planning & Design Manual.

Question 11 - Does the project require a US Army Corps of Engineers (USACE) Individual Section 404 Permit?

Under the current Section 404 permitting requirements, it is expected the project will require an Individual Permit (IP). In general, the USACE Wilmington District issues an IP for projects that result in 0.5 acre or more of fill to Waters of the US or 300 linear feet or more of stream impacts or if the project is considered by the agency to be a major action. This permit requires a full public interest review, including public notices and coordination with involved agencies, interested parties, and the general public. The final decision regarding the type of permit required to construct the project rests with the USACE.

The proposed project did not follow the formal NEPA/Section 404 Merger Process during project development due to the nature of the proposed improvements. Most of the proposed widening is contained within the current right of way limits, although limited additional right of way will need to be acquired where interchanges are being modernized at Exits 17, 19, and 20. The need for additional right of way is expected around the proposed bridge replacements at VFW Road and the Lumber River, along with the culvert replacements at Fivemile Branch and Meadow Branch. Finally, additional right of way and easement areas are located where the realignment or regrading of parallel service roads would be required. This includes sections of Kenric Drive, Jonathan Drive, Cox Road, Hester Drive, Lackey Street, Capuano Street, Dawn Drive, and Kahn Drive. Additional right of way and/or easement will be needed due to the realignment and regrading of Cox Road, VFW Road, and Hackett Street to accommodate the footprint of the City of Lumberton's flood gate project.

Coordination with agency stakeholders began with the distribution of Start of Study letters, continued with a formal Agency Introduction Meeting, and has continued further with field meetings to determine location of wetlands and streams in the project area. Minimization of unavoidable impacts will continue to be considered as designs for the project advance to right of way plans.

Question 13 - Does the project include Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a No Effect, including archaeological remains?

As previously noted in the response to Question 6, identification efforts resulted in one historic property and one historic district that were determined eligible for the NRHP within the project APE. During a virtual meeting held on December 2, 2020, the HPO concurred with the following:

- Jennings Mill: No Adverse Effect
- Tanglewood Historic District: No Adverse Effect

As a result of the project-level archaeological investigation, 14 new archaeological sites were recorded, including three cemeteries. While none of these sites were considered eligible for the NRHP, preservation by avoidance is recommended for the cemeteries.

Although archaeological surveys concluded the project will not adversely impact any significant or potentially significant archaeological resources, the Catawba Indian Nation asked to be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of the project. The Catawba Indian Nation had no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the project.

Question 14 - Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.?

The NCDOT GeoEnvironmental Section identified fifty-four (54) sites of concern within the project study area. Low monetary and scheduling impacts are anticipated if any of the sites are impacted by the final project design.

Question 15 - Does the project require work encroaching and adversely effecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?

The proposed project is anticipated to impact floodways and 100-year floodplain. As such, appropriate special coordination commitments are included on the greensheets.

Question 18 - Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?

The Lumber River as it crosses beneath I-95 in Robeson County is designated as a National Wild and Scenic River. Initial coordination has occurred between NCDOT and the National Park Service (Lumber River Wild and Scenic Administering Agency) regarding the proposed replacement of the bridges carrying I-95 over the Lumber River. Documentation of this coordination is included in Appendix B. To ensure compliance with Section 7(a) of the federal Wild and Scenic Rivers Act, additional coordination between NCDOT and National Park Service will be required as hydraulic and structural design continue through the development of final Roadway Design Plans. Appropriate special coordination commitments are included in the greensheets.

Question 21 - Does the project involve any changes in access control or the modification or construction of an interchange on an interstate?

The project will substantively modify three interchanges within the project limits including Exit 17 (I-95/Caton Road), Exit 19 (I-95/Carthage Road) and Exit 20 (I-95/N Roberts Avenue). Detailed descriptions of the interchange modifications are described in Section E of this document. Modifications at each of these interchanges are expected to result in improved operations and safety at the interchanges and on the I-95 mainline. An Interchange Access Request (IAR) will be completed by NCDOT prior to project construction.

Question 23 - Will maintenance of traffic cause substantial disruption?

The project involves constructing two additional lanes in each direction as well as multiple interchange reconfigurations. Additionally, multiple hydraulic structures will be replaced. Traffic maintenance will likely cause periodic disruption that will be minimized through developing work zone traffic control plans and coordinating with localities as design continues. Use of off-site detours is not anticipated for extended periods of time, however, further design needs to be completed to provide a more definitive assessment. Any additional impacts that may result from temporary signals or detour routes will be assessed in a separate environmental analysis as needed.

Question 27 - Is the project considered a Type I under the NCDOT's Noise Policy?

The project meets the conditions as a Type I project under the NCDOT Noise Policy. As such, a noise evaluation has been conducted and mitigation measures have been identified (See Special Project Information in Section E).

Question 28 - Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?

Farmland soils eligible for protection under FPPA are present within the project footprint. Based on the current functional design slope stakes plus 25 feet, approximately 12.5 acres, including 5.1 acres of prime farmland and 7.4 acres of statewide important farmland are expected to be directly impacted/converted. The preliminary screening of farmland conversion impacts as a result of the project has also been completed (NRCS Form CPA-106 for corridor projects, Part VI), resulting in a total score of 73 points for the I-6064 project site (see Appendix C). Since the total site assessment score exceeds the 60-point threshold established by NRCS, notable project impacts to eligible soils are anticipated. Given that notable project impacts to eligible soils may be anticipated, the NCDOT Project Development Engineer should coordinate completion of the NRCS farmland conversion form post-design and submission to NRCS for further evaluation.

H. Project Commitments (attach as Green Sheet to CE Form):

NCDOT PROJECT COMMITMENTS

STIP Project No. I-6064 I-95 improvements from Exit 13 (I-74/US 74) to Exit 22 (US 301 Fayetteville Road) in Lumberton Robeson County Federal Aid Project No. FA# 0095077 WBS Element 49067.1.1

Division 6, Environmental Coordination and Permitting, Environmental Policy Unit, Aesthetic Engineering Section – Section 7(a) of Wild and Scenic Rivers Act Compliance

The NCDOT will continue coordination with the National Park Service for the proposed replacement of Bridge Numbers 770146 and 770147 carrying I-95 across the Lumber River just south of Exit 19 in accordance with the Wild and Scenic Rivers Act as hydraulic and structural design continue through the development of final Roadway Design Plans. Appropriate measures to preserve and protect the Outstandingly Remarkable Values (ORVs) as defined for the Lumber River will be developed in coordination with the National Park Service for the bridge replacement when more detailed information is available for the bridge design including bent locations, pile types, and construction methodology. NCDOT will provide the Bridge Survey and Hydraulic Design Report, Structure Design Plans, and a Field Analysis performed by a Registered Landscape Architect to document the potential effect of the proposed structure on the Lumber River's Free-Flowing condition and the ORVs on which the segment of the Lumber River within the project limits gained its Scenic designation.

Division 6, Environmental Coordination and Permitting, Environmental Policy Unit, Aesthetic Engineering Section – North Carolina Natural and Scenic Rivers Act of 1971 (G.S. 143B-135.140 through G.S. 143B-135.172)

The NCDOT will continue coordination with North Carolina Division of Parks and Recreation for the proposed replacement of Bridge Numbers 770146 and 770147 carrying I-95 across the Lumber River just south of Exit 19 in accordance with the North Carolina Natural and Scenic Rivers Act as hydraulic and structural design continue through the development of final Roadway Design Plans. Appropriate measures to preserve and protect the river management objectives specified in the Lumber River State Park Master Plan will be developed in coordination with the NC Division of Parks and Recreation for the bridge replacement when more detailed information is available for the bridge design including bent locations, pile types, and construction methodology. NCDOT will provide the Bridge Survey and Hydraulic Design Report, Structure Design Plans, and a Field Analysis performed by a Registered Landscape Architect to document the potential effect of the proposed structure on the Lumber River's Water Flow, Public Access, and Environmental Quality characteristics on which the segment of the Lumber River within the project limits gained its Scenic designation.

Division 6 – Catawba Indian Nation Coordination

The Catawba Cultural Preservation Project had no immediate concerns, but requested notification if Native American artifacts and/or human remains are located during the ground disturbance phase of the project.

Division 6 – City of Lumberton and Other Local Stakeholder Coordination

The Division will continue appropriate coordination with the City of Lumberton and other relevant stakeholders as design for the project continues. Specific items for further coordination include the City's proposed flood gate project at VFW Road, potential realignments of VFW Road, Cox Road, and Hackett Street, corridor lighting considerations, potential for extension of the proposed multiuse path along Dawn Drive, and aesthetic considerations for the bridge carrying Carthage Road over I-95.

Division 6 – Robeson County Work Zone Traffic Control Plan Coordination

The Division will coordinate directly with local school transportation officials in Robeson County in developing work zone traffic control plans to ensure accessibility of the Public Schools of Robeson County school bus garage along Kenric Drive is maintained throughout project construction.

Division 6 and NCDOT Community Studies – Farmland Conversion

The NCDOT Project Engineers should coordinate completion of the NRCS farmland conversion form (Form CPA- 106 for corridor projects) and submission to NRCS for further evaluation upon completion of final design plans.

Division 6 – Detour Routes and Signalization

Any additional impacts that may result from temporary signals, detour routes, or Intelligent Transportation System (ITS) improvements will be assessed in a separate environmental analysis as needed.

Division 6 and Integrated Mobility Division – Bicycle and Pedestrian Accommodations

The NCDOT Project Manager should coordinate with NCDOT Division of Bicycle and Pedestrian Transportation/Integrated Mobility Division (IMD) regarding the need for inclusion of pedestrian signals and/or other pedestrian facility enhancements. Additionally, if any other modifications are made to proposed bicycle or pedestrian facilities in final design, the NCDOT Project Manager should coordinate with NCDOT IMD to ensure compliance with the Complete Streets Policy.

NCDOT Hydraulics Unit – Floodplain Mapping Coordination

The NCDOT Hydraulics Unit will coordinate with the North Carolina Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to the applicability of NCDOT's Memorandum of Agreement with the FMP (dated April 22, 2013, modified February 5, 2015), or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

NCDOT Hydraulics Unit – Stormwater Treatment

Areas potentially draining to the WS-IV, HQW classified waters should be looked at on a site by site basis for consideration of various treatment options, including hazardous spill basins, if directly discharging to waters of the US. Stormwater runoff must be addressed in accordance with the most recent version of the NCDOT BMP Toolbox. Sedimentation and erosion control must be addressed in accordance with the most recent version of the NC Division of Land Resources Sediment & Erosion Control Planning & Design Manual.

Division 6, NCDOT Lighting Unit, and NCDOT Design-Build Unit – FAA Coordination

Additional coordination and approvals are needed with the Federal Aviation Administration and Lumberton Airport due to the proximity of the project lighting and the Lumberton Airport. The Design-Build Team will complete any necessary coordination and approvals prior to construction of the project.

Division 6, NCDOT Design-Build Unit, NCDOT Cultural Resources Unit – Tree Protection

NCDOT, HPO, and FHWA agreed there will be no adverse effect to the Jennings Mill historic property with commitments for tree protection during construction. FHWA used HPO's concurrence on this effects finding to reach a de minimis finding under Section 4(f) of USDOT regulations. NCDOT will ensure the two trees in the northwest corner of the Jennings Mill historic property are protected through construction of the project.

Division 6, NCDOT Human Environment Unit

The Draft Traffic Noise Report (TNR) is currently under review by NCDOT and will be finalized by early 2021. When completed, the TNR will be uploaded to the project Connect NCDOT site.

I. <u>Categorical Exclusion Approval:</u>

STIP Project No.	I-6064
WBS Element	49067.1.1
Federal Project No.	FA# 0095077
Prepared By: 12/29/2020 Date	DocuSigned by: Brian Yamamoto
Prepared For:	NCDOT Division 6
Reviewed By: 12/29/2020 Date	DocuSigned by: Unisty Huff Standard Version, PE, Division 6 Project Manager NCDOT Division 6
Approve	d
Certifie	• If classified as Type III Categorical Exclusion.
12/29/2020 Date	Gry Burus E87FB962A03E488, Division Engineer North Carolina Department of Transportation Division 6
FHWA Approved: F	or Projects Certified by NCDOT (above), FHWA signature required.
12/29/2020 Date for	DocuSigned by: Jourda WBarrer 68D99254A36D46A,, Division Administrator Federal Highway Administration

Note: Prior to ROW or Construction authorization, a consultation may be required (please see Section VII of the NCDOT-FHWA CE Programmatic Agreement for more details).

Appendix A




















Appendix B

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MEETING SUMMARY

To: Meeting Participants

From: Brian Yamamoto, NV5

Date: December 22, 2020

Re: Lumber River Bridge Replacement Meeting Summary; Project ID: I-6064, I-95 Widening from Exit 13 (I-74) to Exit 22 (US 301/Fayetteville Road) in Robeson County near Lumberton.

An interagency review meeting was held via teleconference on December 8, 2020. The purpose of the meeting was to review functional bridge design information with the NC Division of Parks and Recreation (NCDPR) and Federal Highway Administration (FHWA) representatives and determine appropriate commitments to carry forward in National Environmental Policy Act (NEPA) documentation as the project moves forward into more detailed hydraulic and structural design. The FHWA has determined a Categorical Exclusion (CE) is appropriate documentation for the proposed widening project. The CE is proposed to be completed by December 2020 in order to meet the proposed Design Build let date of June 2021. Due to the need for a timely completion of the CE, it is important to identify how coordination will take place to ensure compatibility with the Natural and Scenic Rivers Act of 1971 (G.S. 143B-135.140 through G.S. 143B-135.172) as administered by NCDPR through the Lumber River State Park Master Plan as details of bridge design and construction methodology are developed in the Design Build process.

MEETING PARTICIPANTS

Chris Anderson	NV5	Dave Head	NCDPR
Loretta Barren	FHWA	Colin Mellor	NCDOT OEP
Jon Blanchard	NCDPR	Nick Mountcastle	NV5
Scott Crocker	NCDPR	Brian Strong	NCDPR
Lane Garner	NCDPR	Brian Yamamoto	NV5
Christine Gears	NCDPR		

PROJECT DISCUSSION

After introductions, Brian Yamamoto provided a summary of the project background. NCDOT STIP Project I-6064 proposes to widen approximately 9.0 miles of I-95 between Exit 13 and Exit 22 in Lumberton, Robeson County. The project will widen the interstate from a total of four to eight lanes, along with interchange and resiliency improvements. Within the project limits, I-95 crosses the Lumber River which has been designated as a State Natural and Scenic River and a North Carolina Paddle Trail. The crossing currently consists of dual bridges that need to be replaced to accommodate the proposed highway widening and elevation. A summary of the existing bridge geometrics, proposed replacement concept, and meeting discussion follows:

Existing Bridges over the Lumber River

- I-95 currently crosses the Lumber River using dual structures each approximately 380 feet long.
- The bridge carrying northbound I-95 traffic (770146) is approximately 34 feet wide. The bridge carrying southbound I-95 traffic (770147) is approximately 81 feet wide. The two structures are separated by approximately 15 feet.
- Both bridges have a recent history of flooding causing closure of I-95 for substantial periods of time.
- Each the northbound and southbound bridge consists of 8 spans at 48 feet length.



- Depending on the varying water level in the Lumber River, each bridge typically has 3-4 bents in the river. The bents supporting the northbound lanes are supported by 5 octagonal piles on each bent. The southbound lanes are supported by four drilled shafts on each bent.
- Drainage from the bridge is currently allowed to drop directly into the Lumber River from the bridge deck.

Proposed Bridge over the Lumber River

- The proposed structure is a single bridge approximately 500 feet long.
- The proposed bridge varies between approximately 162 feet wide and 174 feet wide and will carry eight 12-foot travel lanes, the Carthage Road southbound entrance ramp, a portion of the northbound exit ramp, 13-foot inside shoulders, and 14-foot outside shoulders.
- The proposed structure will be elevated by approximately 12 feet so that I-95 can more quickly return to service following major storm events.
- As shown on the conceptual design, the proposed structure would reduce the number of bents in the Lumber River to two, however, the number and type of piles is not known at this level of functional design. As further hydraulic and structural design continues, the span arrangement and number of bents could change.
- Drainage from the proposed bridge will likely be routed to either end of the bridge, allowing filtration of water before entry into the Lumber River.

Discussion of Conceptual Design and Suggestions for Future Design Consideration

- NCDPR asked about the proposed retaining walls leading up to the new bridge at the Lumber River. Some concern was expressed about additional fill material being placed in the floodway and potential hindrance of wildlife passage at this location. A visualization was provided to show the general location/appearance of these walls and it was explained the use of retaining walls would enable NCDOT to construct the bridge and roadway improvements while minimizing impacts that would otherwise occur with earth slopes. It was also noted the proposed new bridge would increase the open space beneath the bridge carrying I-95 over the Lumber River by approximately 120 feet and should therefore improve wildlife passage over existing conditions.
- NCDPR indicated the Lumber River is designated as both a North Carolina Natural & Scenic River and US Wild & Scenic River. As such, the National Park Service (NPS) will also need to review the proposed improvements to ensure compliance with Section 7(a) of the Wild and Scenic Rivers Act. Brian Yamamoto said the project team has also been in discussion with NPS during project development. NCDOT is currently developing a commitment to include in the CE document regarding future coordination with NPS. NCDPR indicated a similar commitment would be beneficial to ensure the project is consistent with objectives identified in the Lumber River State Park Master Plan.
- NCDPR noted they typically coordinate with NPS on projects that involve a Wild & Scenic River. Since this project is still early in the design phase, NCDPR and NPS will continue discussion with NCDOT and FHWA as more detailed bridge and roadway designs are developed.
- A question was asked about whether the Lumber River's designation as Wild & Scenic would result in a higher-level environmental document being required than a CE. Brian Yamamoto noted the CE template contains a section on Wild & Scenic Rivers and coordination on this topic will be documented appropriately. As such, it is anticipated a CE will provide sufficient environmental documentation for the I-6064 project.
- NCDPR noted a Master Plan for the Lumber River State Park was recently completed. FHWA asked whether this plan identifies any existing or proposed park or paddle trail facilities in the vicinity of I-95. NCDPR stated the nearest resource is McMillian's Beach (accessed via McMillan's Beach Road) just west of Exit 19 (Carthage Road). This site is shown as a Potential Future Launch Point in the Lumber River Master Plan. Additional proximate resources include McNeil's Bridge Access Area (located along Kenric Drive) and Stephens Municipal Park (located along Riverside Drive), both of which are designated as Formal Launch Points. As currently proposed, NCDOT Project I-6064 would not require new right of way from or impact the access to any of these resources along the Lumber River.
- NCDPR stated a primary objective of the Lumber River State Park Master Plan was to identify opportunities to improve accessibility of this paddle trail for recreational use. Although most of the Lumber River State Park property is not located in the vicinity of I-95/Lumberton, NCDPR holds management authority over the entire river in North Carolina.



- NCDPR asked about potential changes to the surrounding flood regime as a result of the proposed improvements, particularly upstream from I-95. NCDOT noted extensive project-level hydraulics modeling has been conducted to evaluate hydraulic effects and minimal upstream impacts to the flood regime are anticipated from the highway project. Minimization to the flood regime has been achieved through improving the structure openings at the Lumber River and its major tributaries.
- NCDPR asked about the proposed multimodal accommodations and whether the City of Lumberton had been included in stakeholder involvement opportunities. NV5 responded that coordination efforts have been ongoing with the City and new bicycle/pedestrian facilities are being included in the project in accordance with the Lumberton Comprehensive Transportation Plan (CTP). In the vicinity of the Lumber River crossing, this includes a proposed 10-foot multiuse path along the new bridge carrying Carthage Road across I-95 at Exit 19. The increased height and span length of the proposed new bridge over the Lumber River could also accommodate a future greenway crossing beneath I-95 at this location.

Action Items

- NCDPR will provide FHWA, NCDOT, and NV5 a copy of the completed Lumber River State Park Master Plan.
- A commitment regarding continued coordination between NCDOT, FHWA, and NCDPR will be included in the I-6064 CE document. A draft of this commitment will be circulated to meeting attendees for comment before the CE is finalized.
- Since the Lumber River is also a designated Wild & Scenic River, continued coordination with NPS will be pursued as the project progresses.

CORRECTIONS & OMISSIONS: This summary is the writer's interpretation of the events, discussions, and transactions that took place during the meeting. If there are any additions and/or corrections, please inform Ms. Christy Huff (<u>chuff@ncdot.gov</u>) or Mr. Brian Yamamoto (<u>brian.yamamoto@nv5.com</u>) in writing within 10 days.

cc: File 2019217.01

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MEETING SUMMARY

To: Meeting Participants

From: Brian Yamamoto, NV5

Date: December 22, 2020

Re: Lumber River Bridge Replacement Meeting Summary; Project ID: I-6064, I-95 Widening from Exit 13 (I-74) to Exit 22 (US 301/Fayetteville Road) in Robeson County near Lumberton.

An interagency review meeting was held via teleconference on December 2, 2020. The purpose of the meeting was to review functional bridge design information with National Park Service and Federal Highway Administration representatives and determine appropriate commitments to carry forward in National Environmental Policy Act (NEPA) documentation as the project moves forward into more detailed hydraulic and structural design. The Federal Highway Administration (FHWA) has determined a Categorical Exclusion (CE) is appropriate documentation for the proposed widening project. The CE is proposed to be completed by December 2020 in order to meet the proposed Design Build let date of June 2021. Due to the need for a timely completion of the CE, it is important to identify how coordination will take place to ensure compliance with the Wild and Scenic Rivers Act as details of bridge design and construction methodology are developed in the Design Build process.

MEETING PARTICIPANTS

Chris Anderson	NV5	Christy Huff	NCDOT Division 6
Jennifer Back	NPS	Bob Kopetsky	NCDOT Aesthetics
Anita Barnett	NPS	Colin Mellor	NCDOT OEP
Loretta Barren	FHWA	Nick Mountcastle	NV5
Jeff Duncan	NPS	Brian Yamamoto	NV5

PROJECT DISCUSSION

After introductions, Brian Yamamoto provided a summary of the project background. NCDOT STIP Project I-6064 proposes to widen approximately 9.0 miles of I-95 between Exit 13 and Exit 22 in Lumberton, Robeson County. The project will widen the interstate from a total of four to eight lanes, along with interchange and resiliency improvements. Within the project limits, I-95 crosses the Lumber River which has been designated as Wild and Scenic. The crossing currently consists of dual bridges that need to be replaced to accommodate the proposed highway widening and elevation. A summary of the existing bridge geometrics, proposed replacement concept, and meeting discussion follows:

Existing Bridges over the Lumber River

- I-95 currently crosses the Lumber River using dual structures each approximately 380 feet long.
- The bridge carrying northbound I-95 traffic (770146) is approximately 34 feet wide. The bridge carrying southbound I-95 traffic (770147) is approximately 81 feet wide. The two structures are separated by approximately 15 feet.
- Both bridges have a recent history of flooding causing closure of I-95 for substantial periods of time.
- Each the northbound and southbound bridge consists of 8 spans at 48 feet length.
- Depending on the varying water level in the Lumber River, each bridge typically has 3-4 bents in the river. The bents supporting the northbound lanes are supported by 5 octagonal piles on each bent.



The southbound lanes are supported by four drilled shafts on each bent.

• Drainage from the bridge is currently allowed to drop directly into the Lumber River from the bridge deck.

Proposed Bridge over the Lumber River

- The proposed structure is a single bridge approximately 500 feet long.
- The proposed bridge varies between approximately 162 feet wide and 174 feet wide and will carry eight 12-foot travel lanes, the Carthage Road southbound entrance ramp, a portion of the northbound exit ramp, 13-foot inside shoulders, and 14-foot outside shoulders.
- The proposed structure will be elevated by approximately 12 feet so that I-95 can more quickly return to service following major storm events.
- As shown on the conceptual design, the proposed structure would reduce the number of bents in the Lumber River to two, however, the number and type of piles is not known at this level of functional design. As further hydraulic and structural design continues, the span arrangement and number of bents could change.
- Drainage from the proposed bridge will likely be routed to either end of the bridge, allowing filtration of water before entry into the Lumber River.

Discussion of Conceptual Design and Suggestions for Future Design Consideration

- NPS reminded participants of its mandate under Section 7(a) of the Wild and Scenic Rivers Act to protect and enhance Wild and Scenic rivers and avoid direct and adverse effects on free-flowing river conditions, water quality, and Outstandingly Remarkable Values (ORVs) such as recreation, fish and wildlife, scenery, and botany.
- NPS indicated draining stormwater to one end of the bridge or the other and allowing filtration before entering the Lumber River would improve existing conditions that currently allow stormwater to drain directly from the roadway into the river.
- NPS indicated reducing the piers as shown on the functional design would be a betterment to be considered among other potential impacts of the new bridge and asked if the bents could be removed from the river channel completely. NV5 responded it may or may not be possible to completely span the river channel but revising the span length can be considered during structural design as the project is further developed by a Design Build team.
- NPS observed that the functional design increases the overall bridge length to span more of the area beyond the river's banks and noted this would improve the opportunity for wildlife to pass beneath I-95.
- FHWA noted approval of a Categorical Exclusion (CE) would not be contingent upon completing compliance with Section 7(a) of the Wild and Scenic Rivers Act since much is still unknown about span length, bent locations, piers, and construction methodology, but asked if there were commitments that could be included in the CE to progress the project toward compliance with WSR Act. NPS responded that a commitment to continue coordination with NPS under the WSR should be included in the document and that project construction should not proceed until compliance with Section 7 of the Wild and Scenic Rivers Act is achieved.
- NPS stated that as the project design moves forward engineers should continue to consider improving free flow of the Lumber River, improve and protect water quality, consider structural aesthetics, and protect the ORVs as defined for the Lumber River.
- NPS asked about past public involvement efforts and potential future stakeholder involvement opportunities. NV5 responded a virtual public meeting was held in September 2020 that generated some comments regarding recreational opportunities in the Lumber River. Future stakeholder involvement will be developed in association with the Design Build process moving forward.

Action Items

- The NCDOT and its consultant will develop draft commitment language to be reviewed by FHWA and NPS for inclusion in the Categorical Exclusion.
- Since the Lumber River is a designated Paddle Trail, coordination with the NC State Parks will be pursued and documentation shared with FHWA.



CORRECTIONS & OMISSIONS: This summary is the writer's interpretation of the events, discussions, and transactions that took place during the meeting. If there are any additions and/or corrections, please inform Ms. Christy Huff (<u>chuff@ncdot.gov</u>) or Mr. Brian Yamamoto (<u>brian.yamamoto@nv5.com</u>) in writing within 10 days.

cc: File 2019217.01



Division of Parks and Recreation NC Department of Natural and Cultural Resources

Governor Roy Cooper

Secretary Susi H. Hamilton

Brian Yamamoto, PE, NV5 3300 Regency Parkway, Suite 100 Cary, NC 27518 RE: NCDOT Project I-6064 - Lumber River crossing

December 15, 2020

The Lumber River is a state-managed, federally designated National Wild & Scenic River. It is also a NC Natural & Scenic River and was designated in 1989. As a NC Natural & Scenic River, it is part of Lumber River State Park and classified as a State Trail within the NC State Parks System. The Lumber River State Park Master Plan ensures State and local protection of the River's outstanding resource values and was utilized by the National Park Service in 1998 to prove the River met the four criteria necessary for a state-managed river designation under Section 2(a)(ii) of the National Wild & Scenic Rivers Act.

In accordance with Section 2(a)(ii) of the Federal Wild & Scenic Rivers Act, NC State Parks is the state-level managing authority tasked with protecting the free-flowing conditions and outstanding resource values of the river. North Carolina's Natural & Scenic Rivers Act of 1971 (§ 143B-135-172) protects the natural and scenic conditions of the River and requires evaluation by the General Assembly for any water resources project that may have a "direct and adverse effect" on a state-listed Natural & Scenic River.

Per the State and Federal Acts noted above, NCDOT is the state agency responsible for ensuring compliance with the conditions documented in each Act. One of these conditions includes coordination with the NPS and State Parks to obtain a Section 7 determination for the project. Under the Wild & Scenic Rivers Act regulations, the Section 7 determination is required before the USACE will issue the necessary permits for the project.

As the state-level managing agency, State Parks will coordinate with NPS as well, and with any necessary agencies to assist with natural resource concerns that may arise.

Sincerely,

Christine Gears

Environmental Review Coordinator NC Division of Parks and Recreation Phone: (919) 707-8188

John Fullwood, Interim Director NC Division of Parks and Recreation 1615 MSC - Raleigh, NC 27699-1615 919.707.9300 / ncparks.gov



Division of Parks and Recreation NC Department of Natural and Cultural Resources

Governor Roy Cooper

Secretary Susi H. Hamilton

CC: Liz Hair <u>sarah.e.hair@usace.army.mil</u> Joanne Steenhuis joanne.steenhuis@ncdenr.gov Shannon Deaton <u>shannon.deaton@ncwildlife.org</u> Jeff Duncan jeff_duncan@nps.gov

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United States Department of the Interior

FISH AND WILDLIFE SERVICE Raleigh ES Field Office Post Office Box 33726 Raleigh, North Carolina 27636-3726 December 17, 2020



Gregory W. Price NC Department of Transportation 558 Gillespie Street Fayetteville, NC 28302

Dear Mr. Price:

This letter is in response to your letter of December 16, 2020 which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation that the proposed widening of I-95 from I-74/US 74 (Exit 13) to US 301/Fayetteville Road (Exit 22) in Robeson County (STIP No. I-6064) may affect, but is not likely to adversely affect the federally threatened wood stork (*Mycteria americana*). The following response is provided in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, a survey for wood storks was conducted at the project site on June 23, 2020. No wood storks or nests were observed. Based on the survey results and other available information, the Service concurs with your conclusion that the proposed action may affect, but is not likely to adversely affect the wood stork. We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied. We remind you 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 in this review; (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 this identified action. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Dary Jordan for

Pete Benjamin Field Supervisor

Electronic copy: Liz Hair, USACE, Wilmington, NC Travis Wilson, NCWRC, Creedmoor, NC

NO NATIONAL REGISTER OF HISTORIC PLACES ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES PRESENT FORM



This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.

PROJECT INFORMATION

Project No:	I-6064	County:	Robeson	
WBS No:	49067.1.1	Document:	Federal Cat	egorical Exclusion
F.A. No:		Funding:	State	Federal
Federal Permit	Required?	\boxtimes Yes \square No Pe	ermit Type:	USACE

Project Description: Widen Interstate 95 from Interstate 74 (Exit 13) to US 301 (Exit 22) through Lumberton in Robeson County. The project will widen I-95 from 4- to 6- or 8-lanes. the study area is approximately 16 kilometers (10 miles) long with a variable width. NOTE: This is an update of the June 2020 form. It includes an addendum by Caleb Smith describing the indirect effects of an increased flood zone due to improvements to the I-95 bridge over the Lumber River.

SUMMARY OF ARCHAEOLOGICAL FINDINGS

The North Carolina Department of Transportation (NCDOT) Archaeology Group reviewed the subject project and determined:

- There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects. (Attach any notes or documents as needed.)
 - No subsurface archaeological investigations were required for this project.
 - Subsurface investigations did not reveal the presence of any archaeological resources.
- Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

Brief description of review activities, results of review, and conclusions:

See attached June 2020 archaeological survey report by Melissa McKay/Environmental Services, Inc. and August 2020 addendum by Caleb Smith about possible indirect impacts from an increased flood zone.

SUPPORT DOCUMENTATION

See attached:	Map(s)	Previous Survey Info	Photos	Correspondence
	Other:			
Signed:				
CALEB SMITH	ſ			9/29/2020
NCDOT ARC	CHAEOLOGIS	ST		Date
	"NO NATIONAL RI	EGISTER ELIGIBLE OR LISTED ARCHAEOLO	GICAL SITES PRESENT OR	AFFECTED



North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper Secretary Susi H. Hamilton

October 27, 2020

MEMORANDUM

То:	Shelby Reap, Architectural Historian NCDOT/AE/Historic Architecture Group	<u>slreap@ncdct.gov</u>
From:	Renee Gledhill-Earley Environmental Review Coordinator	Ramona M. Bartos
Re:	Widen I-95 from I-74/US 74 to US 301/Fayett Robeson County, ER 20-0481	eville Road, STIP I-6064, Lumberton

Thank you for your August 22, 2020, letter providing additional information in response to our concurrence and questions on June 22, 2020. We have reviewed the additional information and offer the following comments.

We concur that:

- Tanglewood Historic District (RB0737) is likely eligible under Criterion C for Architecture, and under Criterion A for Community Planning and Development.
- Hilly Branch Baptist Church (RB0725) is eligible under Criterion C.
- Back Swamp Baptist Church (RB0728) is eligible under Criterion C.
- McNeill-Bennett Family Cemetery (RB0733) is likely not eligible under any criterion.

These comments are made in accord with G.S. 121-12(a) and Executive Order XVI. If you have questions regarding them, please 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.

cc: Mary Pope Furr, NCDOT

mfurr@ncdot.gov

Office of Archives and History Deputy Secretary Kevin Cherry



Administration

North Carolina Division

December 3, 2020

310 New Bern Avenue, Suite 410 Raleigh, North Carolina 27601 (919) 856-4346 (919) 747-7030 www.fhwa.dot.gov/ncdiv

> In Reply Refer To: HDA-NC

Renee Gledhill-Earley Environmental Review Coordinator State Historic Preservation Office 109 E Jones St MSC 4617 Raleigh, NC 27699

Re: NCDOT I-6064 Project, Section 106 Effects Findings

Dear Ms. Gledhill-Earley:

The Federal Highway Administration, North Carolina Division (FHWA) is serving as the lead agency for compliance with Section 106 of the National Historic Preservation Act (NHPA) for the North Carolina Department of Transportation (NCDOT) I-6064 project, which proposes improvements to Interstate 95 near Lumberton, NC. The I-6064 project proposes to widen I-95 and elevate the vertical grade of parts of the roadway for about nine miles between I-74 (Exit 13) and US 301/Fayetteville Road (Exit 22) in Lumberton. The proposed project will add two through travel lanes in each direction and increase the total number of lanes on this section of I-95 from four to eight. The project will also modernize interchanges and elevate vulnerable sections of the interstate to enhance resiliency against future rainstorm events. Existing bridges at interchanges, overpasses, and river crossings will be replaced, as necessary, to accommodate the widened and/or elevated roadway.

Previous correspondence between your office and NCDOT established the Area of Potential Effects (APE) for the I-6064 project and identified historic properties within the APE. Identification efforts resulted in three historic properties and one historic district that were determined eligible for National Register of Historic Places (NRHP) within the original APE. In coordination with NCDOT and its qualified consultant (NV5), FHWA has taken into account the effects of its undertaking on historic properties and afforded the North Carolina Historic Preservation Office an opportunity to comment on its findings in a virtual meeting held on December 2, 2020. The following individuals attended the meeting:

- Renee Gledhill-Earley (NC HPO)
- Loretta Barren (FHWA)
- Donnie Brew (FHWA)
- Seth Wilcher (FHWA)
- Chris Anderson (NV5)

- Mary Pope Furr (NCDOT)
- Christy Huff (NCDOT)
- Jamie Lancaster (NCDOT)
- Shelby Reap (NCDOT)
- James Renko (NCDOT)
- Nick Mountcastle (NV5)
- Brian Yamamoto (NV5)

During the meeting, Renee Gledhill-Earley represented the North Carolina HPO and concurred with the following:

Hilly Branch Baptist Church (RB0725)

This historic property no longer falls within a revised APE. No design changes are proposed at the nearby Exit 13 interchange, which was the original impetus for considering potential effects to this historic property.

Back Swamp Baptist Church (RB0728)

This historic property no longer falls within a revised APE. No design changes are proposed at the nearby Exit 13 interchange, which was the original impetus for considering potential effects to this historic property.

Jennings Mill (RB0693)

The proposed design for I-6064 will add sidewalks and likely move a utility pole in the northwest corner of the boundary for this historic property. The property will be affected by acquisition of right-of-way, a temporary construction easement, and a permanent utility easement. There are two trees within the easement. NCDOT, HPO, and FHWA agreed to there will be no adverse effect to this historic property with commitments for tree protection during construction, and FHWA will use the HPO's concurrence on this effects finding to reach a *de minimis* finding under Section 4(f) of USDOT regulations.

** Note: Similar effects were previously determined for the I-5879 project, an intersection improvement in anticipation of I-6064. This previous consultation resulted in a finding of no adverse effect and a de minimis conclusion from FHWA under Section 4(f). **

Tanglewood Historic District (RB0737)

A noise study for I-6064 is not yet complete; however, early indications are that a noise wall will likely be constructed within the NCDOT existing right-of-way adjacent to the Tanglewood Historic District, near the I-95 service road – Capuano Road. No trees will be removed for the construction of the noise wall, and no visual intrusions will be introduced to the historic district. There will be no effect to the Tanglewood Historic District resulting from the noise wall, if it is constructed.

The I-6064 project will raise Roberts Street, which will in turn raise Rowland Avenue. The house located at 401 N. 36th St. is within the boundary for the Tanglewood Historic District, and there will be a temporary construction easement along the parcel line of the property. No construction will impact the fire hydrant located adjacent to the property. Driveway access to the house will be maintained during construction. NCDOT, HPO, and FHWA agreed there is no adverse effect to the Tanglewood Historic District as a result of these construction activities.

The FHWA NC Division office requests your concurrence with the effects findings detailed above, as discussed during the December 2, 2020 virtual meeting. If you have any additional comments or concerns regarding the undertaking within 30 days of receipt of this letter, please contact me at: seth.wilcher@dot.gov. If no response is received within 30 days, we will assume you have no comments or concerns regarding the undertaking and are in agreement with our above determinations, in accordance with 36 CFR 800.5(c)(1).

Sincerely,

Seth Wilcher Preconstruction and Environment Specialist

I concur with the FHWA's effects findings as described in this letter and discussed in the December 2, 2020 virtual meeting. Further, I understand that the finding of no adverse effect will be used in support of a de minimis determination by FHWA for the project under Section 4(f) of USDOT regulations.

Rence Bledkill-Early 12-3-2020

Renee Gledhill-Earley, NC Historic Preservation Office Date

From:	Brian Yamamoto
To:	Duncan, Jeffrey R; Barren, Loretta (FHWA); Back, Jennifer; Barnett, Anita
Cc:	Huff, Christy, Nick Mountcastle
Subject:	RE: [EXTERNAL] I-95 improvements from Exit 13 to Exit 22 in Robeson County near Lumberton - Lumber River Bridge
Date:	Sunday, December 06, 2020 1:18:50 PM

Thanks Jeff,

If I am understanding you correctly, the commitment in the CE documentation will now read something like this:

Division 6, Environmental Coordination and Permitting, Environmental Policy Unit, Aesthetic Engineering Section – Section 7(a) of Wild and Scenic Rivers Act Compliance

The NCDOT will continue coordination with the National Park Service for the proposed replacement of Bridge Numbers 770146 and 770147 carrying I-95 across the Lumber River just south of Exit 19 in accordance with the Wild and Scenic Rivers Act as hydraulic and structural design continue through the development of final Roadway Design Plans. Appropriate measures to preserve and protect the Outstandingly Remarkable Values (ORVs) as defined for the Lumber River will be developed in coordination with the National Park Service for the bridge replacement when more detailed information is available for the bridge design including bent locations, pile types, and construction methodology. NCDOT will provide the Bridge Survey and Hydraulic Design Report, Structure Design Plans, and a Field Analysis performed by a Registered Landscape Architect to document the potential effect of the proposed structure on the Lumber River's Free-Flowing condition and the ORVs on which the segment of the Lumber River within the project limits gained its Scenic designation.

Brian Yamamoto, PE | Senior Project Development Engineer | <u>NV5</u> 3300 Regency Parkway, Suite 100 | Cary, NC 27518 P: 919.858.1865 | C: 919.606.9716 <u>brian.yamamoto@NV5.com</u>

Electronic Communications Disclaimer

From: Duncan, Jeffrey R <Jeff_Duncan@nps.gov>
Sent: Friday, December 4, 2020 2:29 PM
To: Brian Yamamoto <Brian.Yamamoto@nv5.com>; Barren, Loretta (FHWA)
<Loretta.Barren@dot.gov>; Back, Jennifer <Jennifer_Back@nps.gov>; Barnett, Anita
<Anita_Barnett@nps.gov>
Cc: Huff, Christy <chuff@ncdot.gov>; Nick Mountcastle <Nick.Mountcastle@nv5.com>
Subject: Re: [EXTERNAL] I-95 improvements from Exit 13 to Exit 22 in Robeson County near
Lumberton - Lumber River Bridge

Looks fine overall. You might insert the word "compliance" and/or "Section 7(a) Determination" in the title to make it clear that NPS must make a positive S7 finding before construction can commence.

Thanks!! Jeff

Jeffrey R. Duncan, PhD. Regional Aquatic Ecologist Science and Natural Resources Management Fisheries and Aquatic Resources National Park Service, Interior Region 2 - South Atlantic Gulf 100 West Martin Luther King, Jr. Blvd. Suite 215 Chattanooga, TN 37402 Ph: (423) 987-6127

I am a current participant of the NPS GOAL Leadership Academy. Ask me about the program!

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From: Brian Yamamoto <<u>Brian.Yamamoto@nv5.com</u>>

Sent: Thursday, December 3, 2020 4:26 PM

To: Barren, Loretta (FHWA) <<u>Loretta.Barren@dot.gov</u>>; Duncan, Jeffrey R <<u>Jeff_Duncan@nps.gov</u>>; Back, Jennifer <<u>Jennifer_Back@nps.gov</u>>; Barnett, Anita <<u>Anita_Barnett@nps.gov</u>>

Cc: Huff, Christy <<u>chuff@ncdot.gov</u>>; Nick Mountcastle <<u>Nick.Mountcastle@nv5.com</u>>

Subject: [EXTERNAL] I-95 improvements from Exit 13 to Exit 22 in Robeson County near Lumberton - Lumber River Bridge

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Hey all,

Resulting from our coordination meeting yesterday regarding the replacement of the existing bridges that carry I-95 over the Lumber River as a part of the overall project to improve I-95 near Lumberton, we agreed that it would be prudent to commit to further coordination in regards to compliance with Section 7 of the Wild and Scenic Rivers Act in the upcoming Categorical Exclusion documentation for the project. You had asked NCDOT to draft a commitment for your review that would be included in the upcoming CE documentation. We propose the following and submit for your review:

Division 6, Environmental Coordination and Permitting, Environmental Policy Unit, Aesthetic Engineering Section – Section 7 of Wild and Scenic Rivers Act Coordination

The NCDOT will continue coordination with the National Park Service for the proposed replacement of Bridge Numbers 770146 and 770147 carrying I-95 across the Lumber River just south of Exit 19 in accordance with the Wild and Scenic Rivers Act as hydraulic and structural design continue through the development of final Roadway Design Plans. Appropriate measures to preserve and protect the Outstandingly Remarkable Values (ORVs) as defined for the Lumber River will be developed in coordination with the National Park Service for the bridge replacement when more detailed information is available for the bridge design including bent locations, pile types, and construction methodology. NCDOT will provide the Bridge Survey and Hydraulic Design Report, Structure Design Plans, and a Field Analysis performed by a Registered Landscape Architect to document the potential effect of the proposed structure on the Lumber River's Free-Flowing condition and the ORVs on which the segment of the Lumber River within the project limits gained its Scenic designation.

Let me know if this is in line with what you all were thinking after the meeting. Thanks.

Brian Yamamoto, PE | Senior Project Development Engineer | <u>NV5</u> 3300 Regency Parkway, Suite 100 | Cary, NC 27518 P: 919.858.1865 | C: 919.606.9716 <u>brian.yamamoto@NV5.com</u>

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Appendix C

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EIS RELOCATION REPORT

North Carolina Department of Transportation RELOCATION ASSISTANCE PROGRAM

E .																
WBS	WBS ELEMENT:49067.1.1COUNTYRobesonAlt1of1Alt													Alt		
T.I.P.	No.:	-	-6064													
DESCRIPTION OF PROJECT: Improvements to I-95 fro								from I-	74 to	U	S 30/Fay	vettev	ille Rd i	n Lumb	erton	
		E	STIMA		SPLA	CEES						NCON	IE LEVEI	-		
Type o Displa	of cees	0	wners	Tena	nts	Total	Minorities	0-1	5M		15-25M	25	-35M	35-50N	A 50) UP
Reside	ential		0		0	0	0		0		0		0		0	0
Busine	esses		1		0	1	0	\ \	/ALUE	OF	DWELLING		DSS	DWELLIN	G AVAILAE	BLE
Farms	;		0		0	0	0	Owne	rs		Tenar	nts	For	Sale	For F	Rent
Non-P	rofit		0		0	0	0	0-20	м	0	\$ 0-150	0	0-20м	2	\$ 0-150	0
			ANSWE	R ALL Q	UEST	IONS		20-40	м	0	150-250	0	20-40м	21	150-250	0
Yes	No	Exp	blain all	"YES" a	nswe	ers.		40-70	м	0	250-400	0	40-70M	19	250-400	0
	\boxtimes	1.	Will sp	ecial relo	cation	services be	necessary?	70-100	M	0	400-600	0	70-100M	38	400-600	2
	\square	Ζ.	displac	cement?	cnure	ches de alle	cled by	Tot	P al	0	Total	0	100 UP Total	139	Total	18
<u> </u>	_	3.	Will bu	isiness s	ervice	es still be av	ailable	100	A1	U	REMARKS	(Resr	ond by	Number)	Total	20
		0.	after p	roject?									Joina by	itaniiser,		
		4.	Will an	y busine	ess be	e displaced?	lf so,	3. Bu	3. Businesses will remain available as much of the							
			employ	e size, t vees mi	ype, e noritie	es etc	Imper of	project area is Commercial/Residential.								
	\boxtimes	5.	Will re	location	cause	a housing	shortage?	4.Fre	emar	n Ir	nvestme	nts (F	Parcel 4	5), Owr	er Occu	ipied,
I		6.	Source	e for ava	ilable	housing (lis	t).	5 FT & 3 PT Employees, -0- Minority, 17,000 SF Metal								
	\square	7.	Will ad	lditional	housi	ng program	s be	Bldg	Blt in	19	990. Rea	I Esta	ate Firm	l. I Estata	Dublica	tiona
		8.	Should	d Last Re	esort	Housing be		8. INI	ernet.	ew	spaper,	Real	or, Rea	Estate		auons
		9.	Are the	ere large	, disa	bled, elderly	y, etc.	8. As	requ	ire	d by Lav	v and	in acco	ordance	with the	;
		10	familie	s?	ing h	o poodod fo	r project?	Unifo	orm R	elo	ocation A	vct.				
		10.				ulahla?		11. F	Robes	on	County	has F	Public H	lousing.		
		12.	Is it felt	there w	ill be a	adequate D	SS housing	12. B	ased	or	n current	mark	tet, Hou	ising an	d Store	front
\square			housin	ig availa	ble du	uring relocat	ion period?	Busir	ness l	Lo	cations s	should	be ava	ailable.		
	\bowtie	13.	Will the financi	re be a al mean	proble s?	em of housir	ng within	14. N Dubli	1LS, I catio	Ne	wspaper	, Rea ot	iltor, Re	al Esta	te	
\square		14.	Are sui	table bu	siness	s sites availa	able (list		catio	13	a mem	ει.				
I		15.	Numbe	r months	s estir	nated to cor	nplete	Note	DSS	S D	welling <i>i</i>	Availa	ability w	as obta	ined fror	n
			RELOCA	TION?	18 t	o 24 mont	hs	Real	tor.co	m	for Robe	eson (County.			
(Signature) Phil Ward								(Signa	iture		l	i b				
(Typed	Name) I	Phil	Ward			10/	23/20		(Турес	d Na	ame) Chr	is Co	ughlin	10	/27/202	0
Right of Way Agent Date								R	elocation C	coordin	ator		Date			

FRM15-E

Appendix D: Preliminary Screening of Farmland Conversion Impacts

Preliminary Screening of Farmland Conversion Impacts – Corridor Project

- Area in non-urban use. Points awarded = 13 out of 15
 Approximately 83% of the area within 1 mile of the project site is in non-urban use.
- 2. Perimeter in non-urban use. Points awarded = 10 out of 10 Approximately 94% of the project corridor perimeter is in non-urban use.
- Percent of site being farmed. Points awarded = 19 out of 20
 Approximately 90% of the present farm unit (Britt family cropland) is active.
- 4. Protection provided by state and local government. Points awarded = 0 out of 20 No properties within the DCIA are known to be under farmland protection from state or local policies.
- Size of present farm unit compared to average. Points awarded = 6 out of 10
 The present farm unit (~ 255 acres) is 70% of the average farm size in Robeson County (365 acres).
- 6. Creation of non-farmable farmland. Points awarded = 10 out of 10

The only land that is expected to become "non-farmable" as a result of the project includes farmland soils subject to direct impacts based on project slope stakes buffered by 25 feet, equal to 12.5 acres. This area represents approximately 30% of the total area expected to be directly impacted by the project (38.9 acres).

Availability of farm support services. Points awarded = 5 out of 5
 It is assumed all farm support services.

It is assumed all farm support services.

8. On-farm investments. Points awarded = 10 out of 20

The amount of on-farm investments at the present farm unit is considered to be average.

9. Effects of conversion on farm support services. Points awarded = 0 out of 10 Farmland conversion as a result of the proposed project will not adversely affect the availability of farm support services.

10. Compatibility with existing agricultural use. Points awarded = 0 out of 10

The proposed project is fully compatible with existing agricultural use of surrounding farmland.

Conclusion: Total Points = 73 out of 160

NCDOT has completed a screening of farmland in the project area and calculated the total number of points for the site per Part VI of the NRCS CPA-106 Farmland Conversion Impact Rating Form for Corridor Projects.

DocuSign Envelope ID: BAFFA693-C3F1-4A6D-9D7C-C917F6FBF30F Catawba Indian Nation Tribal Historic Preservation Office 1536 Tom Steven Road Rock Hill, South Carolina 29730

> Office 803-328-2427 Fax 803-328-5791



March 19, 2020

Attention: Christy Huff NC Department of Transportation P.O. Box 1150 Fayetteville, NC 28302

Re. THPO #	TCNS #	Project Description
2020 102 142		Proposed widening of I-95 to eight lanes from I-74/US 74 to US
2020-193-142		50 1/Payelleville Road III Lumberton, Robeson Co. 1-0004

Dear Ms. Huff,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Cattle Rogers for

Wenonah G. Haire Tribal Historic Preservation Officer

Replacement of Robeson County Bridge No.'s 146 & 147 I-95 across the Lumber River, part of NCDOT STIP Project No. I-6064 Federal Aid Project No. FA# 0095077

ATTACHMENT B Bridge Survey and Hydraulic Design Report



É.									st			
	391+00	390+00	326+00	328+00	322+00	329+00	322+00	324+00	323+00	325+00	321+00	



INFORMATION TO BE SHOWN ON PLANS

LUMBER RIVER BASIN FEMA DETAILED STUDY

WS EL. Taken @ Upstream Face of Bridge in 2D Model
Design: Discharge 15200 c.f.s. Frequency DESIGN EVENT~100.yr. Elev. 124.8 ft.
Base Flood: Discharge 15200 c.f.s. Frequency DESIGN EVENT~100 yr. Elev. 124.8 ft.
Overtopping: Discharge <u>Overtopping not performed in 2–D model</u> SHLDR ELEV = 125.8 PGL ELEV=127.2 MED. BARRIER ELEV=131.20
ADDITIONAL INFORMATION AND COMPUTATIONS
@ LUMBER RIVER BRIDGE IN 2D SIMULATION @2400 FT UPSTREAM
OF BRIDGE NCDOT DISCHARGE EVENTS DO NOT CORRELATE TO FEMA EVENTS
1) 100 YR DESIGN EVENT POST Q AND WSE DERIVED SIMILAR TO FROM H&H SIMULATION 100-YEAR STORM Q = 15200 CFS Q_{10} = 8150 CFS
HURRICANE MATTHEW Q AND WSE DERIVED USGS EST. 175-YEAR STORM Q = 16500 CFS $Q_{25} = 10700$ CFS POST. OCT. 2016. FROM H&H SIMULATION AT GAUGE 02134170*
HURRICANE FLORENCE Q AND WSE DERIVED USGS EST. 110-YEAR STORM Q = 17000 CFS $Q_{50} = 12800$ CFS POST SEPT 2018 FROM H&H SIMULATION AT GAUGE 02134170*
DESIGN EVENT +1 Q AND WSE DERIVED UPPER BOUND OF DESIGN A) STANDARD DEVIATION POST FROM H&H SIMILATION EVENT WITH 84% Q = 18700 CFS Q_{100} = 14900 CFS
Q AND WSE DERIVED SIMILAR TO Q AND WSE DERIVED SIMILAR TO 0.2% DESIGN EVENT POST FROM H&H SIMULATION 500-YEAR STORM Q = 20700 CFS Q ₅₀₀ = 20200 CFS
"POST" TERMINOLOGY INDICATES FLOOD GATE IN PLACE AT VFW OPENING AND PROPOSED
ROADWAY GEOMETRY ELIMINATING OVERTOPPING OF I-95 SEEN DURING PRE CONDITION
NOTE: EEMA DISCHARGES LISED FOR COMPLIANCE: NODOT DISCHARGES LISED FOR DESIGN *USGS OFR 2018–1172
NOTE NEDOT DISCHARGES TROM 25 MODEL HAN SIMOLERION DATA OSED TO DEVELOT THE
$Y_{0} = Y, [Q_{0}/Q_{1}] [W_{0}/W_{0}]$
$Y_{s} = Y_{2} - Y_{o}$
100 Y
100 = Y = 212 [1228] / 3915] [112 4 / 136 8] = 49.2 FT Y = 23.2 [15158 / 4241] [112 4 / 136 8] = 60.4 FT
$Y_{s} = 49.2 - 20.1 = 29.1 \text{ FT}$ $Y_{s} = 60.4 - 22.1 = 38.3 \text{ FT}$
LOCAL SCOUR (CSU EQUATION) BASED ON POTENTIAL CHANNEL MIGRATION
$Y_{S} = 2.0(K1)(K2)(K3)(a)$ (Y1) (Fr1) Fr1 = V1/((g)(Y1))
<u>100–Year</u> 0.5
$Fr1 = 4.4 / ((32.2) (19.3))^{0.5} = 0.18$ $Fr1 = 5.0 / ((32.2) (20.9))^{0.5} = 0.19$ $0.65 = 0.35 = 0.43$
$Y_s = 2.0(1)(1)(1.1)(8)$ 19.3 0.18 $Y_s = 2.0(1)(1)(1.1)(8)$ 20.9 0.19
$Y_{s} = 11.4 FI$ $Y_{s} = 12.1 FT$
NCDOT DESIGN_FLOW_RATES_AND_WATER_SURFACE_ELEVATIONS_SHOWN_ON_THIS_STRUCTURE

Drainage Area	725 SQUAR	MILES	Source EF	FECTIVE FIS /ST	REAMSTATS
River Basin	LUMBE	R	Character S	AND HILLS /CO	ASTAL PLAIN, RURAL
Stream Class Data on Exist (#0147) END BTS: Debris Potentia	ification (Such as (#0146) RC ting Structure (#01 40146) BTS: RC CAP ON RC CAP ON STEEL PIL al: LowM	Trout, High Qua DECK /STEEL BEAMS (2 47) RC DECK /RC BEA PPC PILES @ 6'-6" (ES, INT BTS: RC CAPS C oderate X Hig	lity Water, etc.) @47'-5", 2@47'-7", 10 MS (1@46'-9", 2@47'- CENTERS ON DRILLED SHAFT P Waterway Op gh	C; @47'-4", 1@47'-5", 1@ -6", 1@47'-4", 1@47'- IERS Total Waterwa ening Below 10	SW 247'-6", 1@47'-8" SIMPLE); LENGTH = 3 4", 2@47'-6", 1@46'-9"); LENGTH = 378 ay Opening <u>3191</u> s.f. Oyr. WS EL. <u>3191</u> s.f.
Data on Struc	tures Up and Do	wn Stream			
U/S: CATON	RD., NC72, NCDC	T STRUCTURE NO	D. 770043; 361′ R	C DECK ON P	PC GIRDERS, MAX SPAN 83'
D/S: SR1500, V Design Control Gage Station I Max. Discharge <u>Historical Flood</u> Hurricane Matther Date 10/2016 El Hurricane Florence Date 09/2018 El Hurricane Florence Date 10/2016 El Hurricane Slope Channel Slope Manning's n: L	V. 5TH ST., NCDO Elev. 02134170 No. (10,000 ft dow measured alo e Hurricane Florence *15, P.9, d Information: w (NEAR RS 364713, ev. 125.3 ft. Est. I (NEAR RS 370117, ev. 125.7 ft. Est. I w (@ RS 363457, BI ev. 126 ft. Est. I ev. 122.2 ft. Est. I r Info. : General 0.0003 ft/ft S eft O.B. 0.032 - 0.1 tatus DETAIL	DT STRUCTURE 77 125.0 ft. Nostream ng GIS stream C 17,100* c.f.s. 500cfs GAUGE READING OF THE "FLOOD FREQ US OF BRIDGE) Freq. 175 yr. Sour US OF BRIDGE) Freq. 110 yr. Sour RIDGE SECTION 4) Freq. 110 yr. Sour N/A ft. Contource EFFECTIVE 5. Channel 0.035 - 0. ED (EFF: DEC. 6, 2)	0175'; 268' RC I NCDOT I-6064 P DESIGN EVENT P (EXISTING ROAD) Period of Reco L) Date 09/20 + WEIR FLOW ON UENCY ANALYSIS FOI USGS SURVEYED rce HURRICANE MATT CITY of Lumberto Roul Valenti, City of Lumberto Roul Valenti, Norre MODEL Norre 065 Right O.B. 0.0	DECK ON I-BEA ROFILE PERFORMA RE-CONSTRUCTIC WAY GEOMETRY Y rds 07/2000 18. Free VER L-95 AND VFW USGS STATION 02 HIGH WATER MARK FRC HIGH WATER MARK FRC HIGH WATER MARK FRC HIGH WATER MARK FRC Sugage 02134170, winch Street. ft. Local 6' (ad Water Surface 32 0.15. Source Floodwa	MS, MAX SPAN 47'-9" NCE REPORT, TABLE 1, WITH VFW FLOODGATE CLOSED - CURRENT
Flood Study 10	00yr. Discharge <u>14</u>	.900 c.f.s. WS	With Elev.: Floodway.	123.1 ft.	Without Floodway <u>122.8</u> ft. 360721
Hydrological <i>N</i> Hydraulic Desi	AS DESC Aethod HYDRAUL ELEV gn Method PROF FROM	DES RIBED IN NCDOT IC ANALYSIS INTER ATIONS CALCULATE ILE PERFORMANCE A REPORT DUE TO	I-6064 HYDROLO STATE 95, LUMBE D FROM TABLE REPORT (MAY VA ROUNDING)	GIC AND RTON, NC 7 OF RY SLIGHTLY	
Floods Evaluat	red: Freq.	Q (c.f.s)	Elev. (ft.)	Backwater (ft.)	Bridge Opening Velocity (f.p.s.)
ridge Face 100 D Model) YR DESIGN EVENT P	OST 15200	124.8	*	2.1
	MATTHEW POST	16500	125.6	*	2.2
	FLORENCE POST	17000	125.8	*	2.2
	DESIGN EVENT +1 STD DEV POST	18700	126.5	*	
	0.2% DESIGN EVENT POST	20700	126.7	*	2.6
*NATURAL /	0.2% DESIGN EVENT POST WODEL NOT DEV	20700 ELOPED FOR THI	126.7	*	2.6
*NATURAL / Naterway Ope	0.2% DESIGN EVENT POST WODEL NOT DEV ning Provided Be	20700 ELOPED FOR THI low:Design W.S. E	126.7 IS PROJECT Iev. 5954s.f.,1	** 00yr W.S. Elev	2.6 5954
*NATURAL / Naterway Ope Average Chanr Computed Sco	0.2% DESIGN EVENT POST MODEL NOT DEV ning Provided Be nel Velocity (Desig	20700 ELOPED FOR THI low:Design W.S. E gn)2.1f.p.s	126.7 IS PROJECT Ilev. 5954 s.f., 1 s. Average Over	* 00yr W.S. Elev bank Velocity (D 1 (100YR) + Lo	2.6 5954

	BRIDGE	SURVE	Y &	HYDRAULIC	DES	IGN	REPORT
		N. C. D	EPART/ DIVISI H`	MENT OF TRANS ION OF HIGHW YDRAULICS UNIT RALEIGH, N. C.	PORTAT AYS	ION	
064	Pr	oiect No	49067	11	Proi	Statio	a _l_ 356+15

I.D. No. I–6064	Project No. <u>49067.1.1</u>	Proj. Station $-L = .356 \pm 15$
County Robeson	Bridge Over Lumber River	Bridge Inv. No.0146 /0147
On Highway <u>I-95</u>	Between NC 72 Ca	ton Rd and SR-1536 Carthage Rd
Recommended Structure	63″. Modified. Bulb. Tee(2@120	0, 1.@90' AND. 2. @85') WITH. 4' CAPS
Recommended Width of	Roadway 174'-0"	Skew <u>60</u> °
Recommended Location	is (Up, (At) Down) Stream from E	xisting Crossing. AT EXISTING
Latitude 34.63	229 [°] Long	itude <u>-79,02957</u> °
Statewide Tier 🛛	Regional Tier 🛛 🗌	Sub-Regional Tier 🛛
Bench Mark is BM #13	5 NORTHING 320120 FT EASTING	1989990 FT BL REV1 STATION 274+51.00 201,
RIGHT, RR SPIKE IN B	ASE OF 15" PINE	Elev. 117.97 ft. Datum: NAVD88
Tomporany Crossing NC	NE	



POPESSION
SEAL
RUES R. SUIT
rles n.co ł'00'

Replacement of Robeson County Bridge No.'s 146 & 147 I-95 across the Lumber River, part of NCDOT STIP Project No. I-6064 Federal Aid Project No. FA# 0095077

ATTACHMENT C 2D Hydraulic Model Summary

Preliminary Hydraulic Model Water Surface Elevations (feet) – Design Event (100year); Hurricane Matthew; and Hurricane Florence

Design Event	At I-95 Lumber Bridge	Proposed minus Existing	near I-95 Bridge ¹	Proposed minus Existing	near 5th Street Bridge ²	Proposed minus Existing
Upstream				(near)		
Existing	125.0	-	125.1	-	119.9	-
Proposed 500' opening	124.8	-0.2	124.9	-0.2	120.1	0.2
Proposed 1000' opening	124.5	-0.5	124.6	-0.5	120.2	0.3
Downstream						
Existing	124.4	-	124.1	-	119.4	-
Proposed 500' opening	124.6	0.2	124.4	0.2	119.6	0.2
Proposed 1000' opening	124.4	0.0	124.3	0.2	119.8	0.4

Matthew	At I-95 Lumber Bridge	Proposed minus Existing	near I-95 Bridge ¹	Proposed minus Existing	near 5th Street Bridge ²	Proposed minus Existing
Upstream						
Existing	125.6	-	125.7	-	120.4	-
Proposed 500' opening	125.6	-0.1	125.6	-0.1	120.7	0.3
Proposed 1000' opening	125.3	-0.4	125.3	-0.4	120.9	0.5
Downstream						
Existing	125.0	-	124.7	-	120.0	-
Proposed 500' opening	125.3	0.4	125.1	0.4	120.3	0.3
Proposed 1000' opening	125.2	0.2	125.1	0.4	120.4	0.4

Florence	At I-95 Lumber Bridge	Proposed minus Existing	near I-95 Bridge ¹	Proposed minus Existing	near 5th Street Bridge ²	Proposed minus Existing
Upstream						
Existing	125.8	-	125.9	-	120.5	-
Proposed 500' opening	125.8	0.0	125.9	0.0	120.9	0.4
Proposed 1000' opening	125.5	-0.3	125.6	-0.4	121.1	0.6
Downstream						
Existing	125.1	-	124.9	-	120.1	-
Proposed 500' opening	125.6	0.5	125.3	0.5	120.5	0.3
Proposed 1000' opening	125.4	0.3	125.4	0.5	120.6	0.5

¹ upstream value taken approximately 200' upstream of bridge, downstream taken 120' downstream

² upstream value taken approximately 100' upstream of bridge, downstream taken 250' downstream

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<u>Proposed 500' Bridge Opening. Preliminary Hydraulic Model – 100 year event flow vectors</u> (green squares represent water surface elevation locations listed in the table above)

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Replacement of Robeson County Bridge No.'s 146 & 147 I-95 across the Lumber River, part of NCDOT STIP Project No. I-6064 Federal Aid Project No. FA# 0095077

ATTACHMENT D Lumber River Paddle Exceedance

In response to request to evaluate the percent of time that the water surface elevations in the Lumber River under the I-95 crossing over the Lumber River would provide a headspace of 6 feet and 8 feet below the low chord of the existing and proposed bridge at I-95, respectively, a simple duration analysis of the daily gage height values from the USGS gage 02134170 Lumber River at Lumberton, NC was performed. The information and data used for the analysis are described below:

Data	Type/Value	Source	
WSEL	Time series 2001-2021 ^a	USGS National Water Information System (NWIS) (<u>USGS NWIS Surface-Water Daily</u> <u>Statistics</u>)	
I-95 Bridge Low Chord elevation	Existing Bridge: 119' NAVD88 Proposed Bridge: 129' NAVD88	NCDOT	
Average difference between WSEL at USGS 02134170 (u/s face of 5 th street bridge) and I95 crossing	2.5 feet	Review of FEMA flood raster	
Gage Height Datum at USGS 02134170	97.49' NAVD88	USGS NWIS	

^aComplete daily statistics (including daily maximum, minimum, and mean) for gage height at USGS 02134170 are available for period 10/01/2004 – 09/30/2019. This period was deemed sufficient for this preliminary analysis as it included the 3 largest events in the period (in descending order of magnitude: 9/17/2018, 10/10/2016, and 09/11/2004, representing Hurricanes Florence, Matthew, and Frances, respectively)

An offset of 2.5 feet was used to estimate the water surface at the I-95 crossing based on the gage reading. This value was approximated based on the 4% annual chance water surface elevation raster available from North Carolina Emergency Management and anecdotal data, specifically that the water surface at the bridge on the weekend of 2/20/21 was within half a foot of the low chord of the bridge. This would equate to a water surface of 118.5' while the gage reading showed 115.9'.

The daily maximum, minimum, and mean gage heights for USGS 02134170 were retrieved from the USGS NWIS database. Review of the data showed that a complete set of daily statistics were available for the 2005 thru 2019 water years (water year comprises the annual hydrologic cycle that begins in October and runs through September and is denoted by the calendar year in which it ends). As such this period was selected for analysis. There were 54 missing or partial record days within the period. The daily maximum, minimum, and mean values were estimated for 8 of the partial or missing days that included 4 days in October 2016 immediately after Hurricane Matthew, 1 day in June 2017, and 3 days in October 2018, 3 weeks after Hurricane Florence. It is important to note the maximum gage heights for these events were determined from high water marks at or near the USGS 02134170 gage structure. Gage height was not estimated for the 46 remaining missing days that occurred during periods of lower

gage height record, so that a total of 5,432 days between October 2004 and September 2019 were used for this analysis.

The daily maximum gage height data were converted to daily maximum WSELs in NAVD88 by adding the gage height datum to each value. The daily maximum WSELs for the analysis period were then ranked in descending order and percentiles were assigned to each data point in order to determine the duration, or the percent of the total period, for which a given daily maximum WSEL was exceeded. The daily maximum WSELs were compared to the WSEL of the specified headspace of 6 feet and 8 feet below the low chords of the existing and proposed I-95 bridges. The elevation required to provide the specified headspace of 6 feet and 8 feet was 113 feet NAVD88 and 111 feet NAVD88, respectively, for the existing bridge and 123 feet NAVD88 and 121 feet NAVD88, respectively, for the proposed bridge. The results of the analysis are shown in the table and presented graphically below.

Bridge Configuration	Low Chord Elevation (feet NAVD 88)	Elevation for 6' Headspace (feet NAVD 88)	Percent Time Exceeded	Elevation for 8' Headspace (feet NAVD 88)	Percent Time Exceeded
Existing	119	113	8.2%	111	25.4%
Proposed	129	123	0.0%	121	0.2%



Replacement of Robeson County Bridge No.'s 146 & 147 I-95 across the Lumber River, part of NCDOT STIP Project No. I-6064 Federal Aid Project No. FA# 0095077

ATTACHMENT E NCDOT Pre-Bid Plans





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							1.30
							120
							110
							100
							90
190	200	210	220	230	240	250	260

Replacement of Robeson County Bridge No.'s 146 & 147 I-95 across the Lumber River, part of NCDOT STIP Project No. I-6064 Federal Aid Project No. FA# 0095077

ATTACHMENT F NCDOT Post-Bid Plans




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ATTACHMENT G Boater Safety Signage



ATTACHMENT H Concept Signage

Project I-6064

Preliminary signage concepts.

River name and I-95 Southbound and I-95 Northbound to be painted on the upstream and downstream faces (respectively) of the I-95 Bridge over the Lumber River.



The Wild and Scenic River insignia will also be painted upstream and downstream.



ATTACHMENT I Typical Planting Species

NCDOT Roadside Environmental Unit I-6064 - Plant Material for Live Stakes and Bareroot Seedlings

Type 1: Live Stakes

Black Willow	Salix nigra
Buttonbush	Cephalanthus occidentalis

Type 2: Bareroot Seedlings

Baldcypress	Taxodium distichum
Overcup Oak	Quercus lyrata
Swamp Blackgum (Tupelo)	Nyssa sylvatica var. biflora
Water Tupelo	Nyssa aquatica
Overcup Oak	Quercus lyrata

ATTACHMENT J Appendix C Evaluation of Direct and Adverse Effects

I-95 Lumber River Bridge – Robeson County

This document was prepared to support NCDOT's coordination with the National Parks Service (NPS) and the North Carolina Division of Parks and Recreation (NCDPR) under the Wild and Scenic Rivers Act. It is also a supplement to NCDOT's Section 404 Permit application for the replacement of I-95 Lumber River Bridge in Robeson County, part of project I-6064. A site visit was conducted on November 5th, 2020 and March 15, 2022, to assess the hydraulics and aesthetics of the bridge site as required by the National Park Service. The project is located at the upstream end of a section of the Lumber River classified as Recreational under Section 7 of the Wild and Scenic Rivers Act.

A) Section 7 Evaluation of Direct and Adverse Effects:

1. Define the Proposed Activity.

The I-6064 project will widen I-95 and elevate the vertical grade of parts of the roadway for about 9 miles between I-74 (Exit 13) and US 301/Fayetteville Road (Exit 22) in Lumberton. This section of I-95 includes the crossing of the Lumber River (Figure 1). The purpose of this project is to rehabilitate the existing I-95 pavement, widen I-95 to eight lanes, and improve interchanges from NC 74 (Exit 13) to south of US 301 (Exit 22). Improvements will also be made to increase the resiliency of the roadway and bridges to future rainstorm events. Roadway designs elevate the roadway to accommodate the 100-yr storm event for this area with an added 1.5' of freeboard. The Lumber River bridges, dual parallel structures, are south of Exit 19 and are scheduled to be replaced. The existing northbound lane bridge is 380' in length with a 33'-4" width. The existing southbound lane bridge is 378' in length with an 80'-6" width. There is approximately 15' between the two structures. The replacement bridge will be 500' in length and 177' 3" in width. The new structure will include eight 12' travel lanes, 13' wide inside shoulders, a median barrier, a 12' wide south bound acceleration lane, and a 12' wide northbound deceleration lane and 14' wide outside shoulders. The low chord of the new structure will be approximately 10' higher than the existing structure. Approximately 37,000 cubic yards (CY) of roadway embankment will be removed during bridge construction to improve the hydraulic opening.

2. Describe How the Proposed Activity Will Directly Alter Within-Channel Conditions.

The proposed bridge replacement occurs in a similar alignment to the existing bridges. A single bridge structure will replace the presence of two bridges and will be approximately 120' longer and 45' wider. New support piers will be constructed slightly within but generally along the edge of the existing channel. The existing bridges each have eight interior bents with a combined seventy-two concrete piles. Two of the interior bents on each existing bridge are located within the channel. The old structural piles will be removed from the waterway increasing the channel cross section area. The removal of the piles will be completed in accordance with permit requirements. The proposed structure will have four interior bents, each supported by twenty-four 36" steel pipe piles. It will essentially span the waterway with only a few piles within the

I-95 Lumber River Bridge – Robeson County

waterway. The minimization of piles should improve river navigation, minimize turbidity, and proportionally improve flow.



Figure A- Vicinity Map. Red outline shows the greater I-6064 project

3. Describe How the Proposed Activity Will Directly Alter Riparian and/or Floodplain Conditions.

Construction will raise the bridge low chord elevation by 10' and move the end bents further away from the channel, approximately 125' further to the north-side and 40' further to the south-side. Interior bents will be set within the flood plain. Approximately 37,000 CY of existing roadway embankment (predominantly along the north bank), presently located in the floodplain, will be removed. Bridge end bent slopes will be covered in riprap. The riprap will improve bank stabilization, assist in the alignment of the flood plain under the bridge, and deter scouring. The proposed activity should increase and improve riparian and floodplain areas.

I-95 Lumber River Bridge – Robeson County

4. Describe How the Proposed Activity Will Directly Alter Upland Conditions.

The bridge replacement, due to its raised elevation and expansion to the north and south, will require excavation of upland area to construct new end bents. The excavation area is within the footprint of the existing road and fill slopes. A specialized sheet pile retaining wall with lightweight fill and deadman tiebacks are specifically proposed to keep the roadway fill footprint out of the channel downstream of the bridge, where the river meanders sharply back toward the roadway. The bridge end-slope protection will confine any additional impact to adjoining riparian and upland areas. Some upland alteration will occur associated with widening of the I-95 roadway and improvements to the interchange northeast of the bridge site. These activities will occur within NCDOT right of way and/or already disturbed parcels.

5. Evaluate and Describe How Changes in On-Site Conditions Can/Will Alter Existing Hydrologic or Biologic Processes.

The channel approach to the bridge is at a right angle and meanders north once beyond the bridge. Some signs of scour are evident under existing conditions on the south-side of the channel. Direct storm water runoff from the bridge flows off the existing bridge deck into the water, on to the stream bank, and floodplain. With the construction of the bridge, channel conditions should improve. Alignment of the channel through the bridge will be stabilized, improve flow, and match the downstream cross section conditions, with exceptional riparian buffers, that will equally handle the flood flow. Scour at the bridge will be mitigated by increasing the hydraulic cross section and bank stabilization. Storm water flow off the bridge and nearby roadway areas will be directed to each end of the bridge and dissipated with hydrologic dispersion and energy diffusion structures before being discharged across the floodplain and into the river. The construction process will remove existing discarded concrete block, deterring any remnants leaching into the waterway. Improved water quality conditions at the bridge site should in turn benefit biological activity in the immediate area.

6. Estimate the Magnitude and Spatial Extent of Potential Off-Site Changes.

Extreme caution will need to be observed wherever possible during construction to retain the existing tree line, both inside and outside the right-of-way, but adjoining the bridge and river. Overhead utilities parallel the bridge on both the east and west sides. Bridge construction requires the relocation of these utilities. It is currently proposed that the overhead utility lines be replaced underground using directional boring methods.

7. Define the Time Scale Over Which Steps 3-6 are Likely to Occur.

Bridge construction at the Lumber River is currently scheduled to begin in September 2023 and to be completed by December 2025. Phase I (Sept. 2023 – Nov. 2024) will entail moving

I-95 Lumber River Bridge – Robeson County

northbound traffic onto the southbound bridge; top-down removal of the existing northbound bridge; and construction of the new structure. Phase II (Dec. 2024 -Dec. 2025) will entail moving all traffic to the new northbound structure; top-down removal of the existing southbound bridge; and completion of the final structure and traffic pattern. Protective erosion control methods will be in place and monitored closely during construction. Storm water will be directed off the bridge decking and through stormwater treatment and dispersed onto the flood plain.

All activities will be completed following stringent permitted conditions.

8. Compare Project Analyses to Management Goals.

To the maximum extent practicable, the river will remain open to paddlers during construction. Signage and buoys will warn and direct paddlers through the construction zone. Portage may be required during some construction periods. For safety, paddle traffic on the river may need to be halted for brief periods. Post construction, no adverse effects to the Lumber River State Park or its management are anticipated.

9. Make the Section 7 Determination.

Direct impacts of the bridge replacement should improve the environmental conditions for the river and its recreation opportunities. Improved flow and increased cross sectional river area at the bridge site will facilitate greater recreational access and safety. The North Carolina Department of Transportation, in application of strict environmental standards, would anticipate improved water quality.



Figure B. I-95 crossing the Lumber River. Looking downstream. River in flood.

I-95 Lumber River Bridge – Robeson County

B) Evaluation of Impacts to the Intrinsic Qualities:

1. Wild/Natural.

This section of the Lumber River, although well protected, is exposed to developed property as it passes through the Lumberton area. Wild and natural intrinsic qualities lie upstream and downstream of the bridge. Turns in the river and the convergence of vegetation creates a narrowed visual corridor as you approach the bridge. Boggy conditions support communities of bald cypress and river birch. Managed and/or private properties adjoin the area and support minimal access. There is little or no sign of foot traffic or fishing in this immediate area. Minimal human activity preserves much of the wild scenic character and very little litter was observed. The harsh horizontal lines of the bridge, and it's mass, intrude upon the character of the area. Overhead utilities parallel both sides of the bridge. A utility easement regulates and maintains vegetation to a minimum pushing the parallel tree lines away from the structure. The bridge replacement at this location will neither hinder nor greatly impact 'natural' conditions

Improved river flow and conditional treatment of the flood plain, riverbank, and storm water runoff will have a positive environmental impact on the river. The natural setting where the bridge exists will not be altered. No trees or any major vegetation will be removed. Low impact construction activity shall not influence or impact wildlife.



Figure C. Lumber River looking upstream from the left channel bank

I-95 Lumber River Bridge – Robeson County

2. Recreational.

Recreational activity in the area includes hiking, canoeing, and fishing. Amended channel conditions and increased structure height will provide greater movement under the bridge for canoeing. Hiking and fishing activities, further upstream and downstream, will not impacted by the bridge replacement.



Figure D. Downstream face of I-95 NB Bridge from left channel bank

3. Scenic.

Scenic qualities of the area are visible upstream and downstream from the bridge. Visual access of the bridge is mainly limited to the upstream approach. Turns in the river and the convergence of vegetation creates a visual corridor limited by sight line. Canoe access is observed to be downstream adjacent to the Lumberton City park and greenway. Limited visibility from this upstream approach is created by both the function of time and the river alignment. The existing bridge(s) have numerous piers and they are placed at a sharper angle then the stream. As you approach the bridge, successive piers are visible under the bridge. This in combination with the river to bridge clearance of only 8' transmits a sense of obstruction and mass. Passing under the bridge gives a profound sense of enclosure. The removal of interior bents from the river and raising the bridge elevation will improve visibility under the bridge. As you approach the bridge from upstream, minimal glimpses of vegetation, as well as the river's course, are limited. This

I-95 Lumber River Bridge – Robeson County

will change dramatically with the new bridge. The reduction in number of bridge bents in the river and higher bridge structure will give greater visibility to the landscape beyond. The existing bridge is primarily composed of cast concrete beams and piers. It has weathered over time and its deeper grey color dampens the typical light concrete hue.

The new bridge will highly reflect today's general construction methods. Pile supports, end bents, and bridge decking will look/feel sturdy, structural, and sterile. This is far from the natural influence of the river, but it will feel less intrusive due to its height, visibility of the background landscape elements, and fewer piers. The removal of overhead utility lines will also slightly improve the site aesthetic.

The scenic impact of the construction project, although adding minimally to the wild and scenic classification of the river, is an improvement upon the existing conditions of the bridge.



Figure E. Looking south between I-95 Bridges



Sylven Kyle Cooper, PLA NCDOT- Roadside Environmental Unit October 8, 2021

ATTACHMENT K Structure Plans







 DRAWN BY :
 B. J. MANTEI
 Date :
 1-12-22

 CHECKED BY :
 N. D'AIUTO
 DATE :
 1-12-22

 DESIGN E.O.R.:
 N. D'AIUTO
 DATE :
 2-22-22



NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING THIS BRIDGE HAS BEEN DESIGN IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THIS BRIDGE IS LOCATED IN SEISMIC ZONE 2.

PROJECT NO. 1-6064/1-5879 ROBESON COUNTY STATION: 356+15.00 -L-SHEET 2 OF 6 STATE OF NORTH CAROLINA DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED PRELIMINARY GENERAL DRAWING FOR BRIDGE OVER LUMBER RIVER ON I-95 BETWEEN SR 1536 (CARTHAGE RD) & NC 72 (CATON RD) **REVIEW PLANS** DO NOT USE FOR CONSTRUCTION SHEET NO. S-02 REVISIONS NO, BY: DATE: NO. BY: DATE: total sheets 06

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● BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS.

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86'-0"

(CLEAR ROADWAY)

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-2'-0" CONCRETE MEDIAN BARRIER

88′-7[|]/2″

86'-0"

(CLEAR ROADWAY)

12'-0"

LANE

STAY-IN-PLACE -METAL FORMS (TYP.)

177'-3" (OUT TO OUT)

174'-0" CLEAR ROADWAY

1'-7¹/2" (TYP.EACH SIDE)

DRAWN BY : _____J. N. AUSTIN ___ DATE : 1-12-22

CHECKED BY : N. D'AIUTO DATE : 1-12-22 DESIGN E.O.R.: N. D'AIUTO DATE : 2-22-22

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▲ - TEMPORARY PORTABLE CONCRETE BARRIER (TRAFFIC CONTROL PAY ITEM)

PHASE I REMOVALS

NOTES

SEE TRAFFIC CONTROL PLANS FOR LOCATION OF PORTABLE CONCRETE BARRIER.

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- - TEMPORARY ANCHORED PORTABLE CONCRETE BARRIER
- ▲ TEMPORARY PORTABLE CONCRETE BARRIER
- PHASE II REMOVALS

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