

**Edgecombe County
Bridge No. 28 on NC 42
over the Tar River
Federal Aid Project No. BRSTP-0042(19)
W.B.S. No. 40137.1.1
T.I.P. No. B-4932**

OCTOBER 2016

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

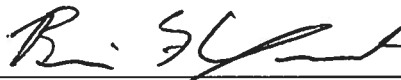
AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

10-25-16


DATE



Brian Yamamoto, PE, Group Supervisor
Project Development & Environmental Analysis Unit

10-27-16

DATE

for 

John F. Sullivan, III, Division Administrator
Federal Highway Administration

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Documentation Prepared By:

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10/25/16
DATE

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10/25/16

For the North Carolina Department of Transportation

10/25/16
DATE

Robert Deaton
Robert Deaton
Project Development Engineer

PROJECT COMMITMENTS:

**Edgecombe County
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Roadway Design Unit, Structures Management Unit, Division 4

Bridge No. 28 is located along a designated bicycle route; therefore, 4-foot minimum offsets, between the outside of the travel lane and the bridge rail parapet, are included in the design. Additionally, the structure will provide 42 inch F-shape bridge railing, as appropriate for bicycle and pedestrian use.

All Design Groups/Division 4 Resident Construction Engineer

The Tar River has been designated class C;NSW waters of the State by NCDWR and an Inland Primary Nursery Area by NCWRC. As such, NCDOT's *Best Management practices for Protection of Surface Waters* (March 1997) and *Design Standards for Sensitive Watersheds* will be incorporated throughout design and construction of the project.

All Design Groups/Division 4 Resident Construction Engineer

The NCWRC has identified this portion of the Tar River as an Inland Primary Nursery Area (PNA). NCDOT will follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from **February 15 to September 30** for the Tar River.

Project Development and Environmental Analysis Unit – Natural Environment Section

The NCDOT Natural Environment Section will monitor the potential listing of the Atlantic Pigtoe (no later than April 2017) and Green Floater (schedule unknown) to avoid potential project delays. Additional coordination with USFWS and a Section 7 Conference will be required, if either species is officially proposed for listing prior to Construction. NCDOT will need to demonstrate avoidance and minimization efforts throughout the project planning and design phase.

Hydraulics Unit

The NCDOT's Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Roadway Design Unit, Project Development and Environmental Analysis Unit

Impact to one FEMA buyout property is anticipated to result from this project. Impacts will be limited to minor right-of-way acquisition (approximately 0.01 acres) and permanent fill required to raise the grade of NC 42. Due to its proximity to NC 42 the parcel would likely be impacted

Categorical Exclusion

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by all alternatives discussed in this document, therefore, no avoidance alternative is practicable. NCDOT will coordinate with the North Carolina Department of Public Safety - Emergency Management Department and FEMA to request appropriate approvals prior to construction.

Division 4 Construction

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Division 4 Construction

Access to the NCWRC Old Sparta Boating Access Area should be maintained at all times, if possible; however, if a closure is required during construction it must be coordinated with NCWRC.

Geotechnical Unit

Preliminary site assessments will be conducted for potentially contaminated sites within the proposed right of way prior to right of way acquisition.

Division 4 Construction, Project Development and Environmental Analysis Unit – Human Environment Section – Archaeology Group

Site 0019TRR/Old Sparta Vessel has been determined eligible for listing in the National Register of Historic Places. As such, impacts to the site must be avoided during construction. The site will be defined, visually marked and the contractors informed that they are not to enter the area with any equipment or personnel.

Project Development and Environmental Analysis Unit – Human Environment Section – Archaeology Group

Per NCHPO recommendations, the cemetery – comprised of the Rosa Tompkins gravesite and the burials believed to be in its vicinity – will be delineated to ascertain both its size and probable number of interments, followed by the cemetery's removal and relocation in accordance with NC General Statute 65.

Division 4 Construction

After project completion, the contract administrator for construction must submit the actual amount of tree clearing reported in tenths of acres. This information should be submitted at: <https://connect.ncdot.gov/site/construction/biosurveys/Lists/Northern%20Long%20Eared%20Bat/AllItems.aspx>

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INTRODUCTION: The proposed project will replace Edgecombe County Bridge No. 28 on NC 42 over the Tar River. The project is included in the current 2016 – 2025 North Carolina State Transportation Improvement Program (STIP) as B-4932. The location of the project is shown in **Figure 1** (Vicinity Map).

From this evaluation, the North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) anticipate significant impacts to the environment will not occur due to this proposed project; therefore, the project is classified as a Federal Categorical Exclusion (CE). However, federal funding will be limited to planning and environmental studies only. Right of Way and Construction will be funded entirely through the North Carolina Highway Trust Fund - Bridge Replacement Program.

I. PURPOSE AND NEED STATEMENT

NCDOT Bridge Management Unit records indicate Bridge No. 28 has a sufficiency rating of 46.13 out of a possible 100 for a new structure. The current (2016) traffic forecast indicates an average daily traffic volume of 2,370 VPD and is anticipated to grow to 3,100 VPD in the design year (2035). Based on current and future traffic volumes, the bridge is functionally obsolete (and therefore deficient) due to a deck geometry appraisal of 2 out of 9, according to FHWA Standards. This deck geometry appraisal is based on a curb to curb width of 24 feet and a 2016 average daily traffic volume of 2,370 vehicles per day (VPD).

The substandard deck width, bridge railing and approach guardrail is becoming increasingly unacceptable and replacement of the bridge will result in safer traffic operations. Many of the bridge components, such as the rocker joints and the 13 concrete spans, continue to become deteriorated due to use and above average truck traffic (22 percent truck-tractor semi-trailer (TT-ST) and 10 percent dual-axel trucks (Duals)). Many of the concrete spans have deep cracking exposing rebar in some cases. Repairs have been made in most locations, however, further repairs will continue to be costly and only a short term solution for maintenance purposes. However, continued maintenance or rehabilitation will not address the inadequate deck width. Replacement of the bridge will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located on NC 42 in southern Edgecombe County approximately 4.5 miles east of Pinetops and 7 miles south of Tarboro (see **Figure 1**). The area in the vicinity of the bridge is a mixture of forest land, agricultural land, and scattered residences.

NC 42 is classified as a major collector in the Statewide Functional Classification System. This section of NC 42 is part of the Mountains to Sea Trail (NC Bike Route 2). However, no bicycle traffic was observed during the field visits.

In the vicinity of the bridge, NC 42 is flat on all approaches with a paved roadway width of approximately 25 feet. The alignment is a tangent throughout the project limits. The roadway is situated approximately 34.0 feet above the creek bed. The existing right of way is maintained at 60 feet.

Bridge No. 28 is a thirteen-span structure that consists of a reinforced concrete deck on steel I-beam girders, with an asphalt-wearing surface. The end bents consist of reinforced concrete caps on steel piles with concrete bulkheads. The interior bents consist of reinforced concrete caps on steel piles and reinforced concrete columns. The four bents within the Tar River have concrete piles, not steel piles. The existing bridge was constructed in 1952. The overall length of the structure is 606 feet. The clear roadway width, on the bridge, is 24.0 feet. The posted weight limit on this bridge is 29 tons for single vehicles and 29 tons for TT-ST's.

A fiber CATV cable and a direct buried telephone cable are located along the north shoulder of NC 42 throughout the entire project limits. Both cables are aerial as they traverse the Tar River. The fiber CATV cable is owned by Time Warner and the direct buried telephone cable is owned by Embarq.

Aerial power lines are located throughout the project limits along the south shoulder of NC 42. There is evidence of a water line east of the bridge but no further evidence could be found west of or in the project limits. Edgecombe County records indicate that an 8 inch water line is present along NC 42 at the Tar River. The owner of the aerial power line and water line is Edgecombe County.

A United States Geological Survey Reference Mark "Gaging Station" will be destroyed as a result of replacing bridge structure No. 28.

The current traffic volume (2016) of 2,370 VPD is expected to increase to 3,100 VPD by the year 2035. The projected volume includes 22 percent TT-ST's and 10 percent Duals. The posted speed limit is 45 miles per hour (mph) traveling west and 55 mph traveling east.

There were three accidents reported in the vicinity of Bridge No. 28 during a recent five-year period. None of the accidents were associated with the alignment or geometry of the bridge or its approach roadway.

A North Carolina Wildlife Resource Commission (NCWRC) Boat Access Area, to the Tar River, is located just west of the project. NCDOT will maintain access to the Boat Access Area during the period of construction, if possible.

III. ALTERNATIVES

A. Preferred Alternative

Bridge No. 28 will be replaced along a new location alignment (38' offset from existing center line), located northwest of the existing bridge (see **Figure 2A and 2B**). The existing bridge will be utilized to maintain traffic during construction and will be removed once the new bridge is completed. Permanent improvements to the approach roadways will be required for a distance of approximately 970 feet to the west and 1020 feet to the east of the new structure.

The permanent replacement structure will be a bridge with a total length of 610 feet and a minimum clear deck width of 34 feet. The bridge length is based on final design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately 6 feet above the existing structure. This increased grade is primarily due to the depth of girders required to minimize the number of bents located within the Tar River.

Since this section of NC 42 is part of NC Bike Route 2 the bridge will include two 12-foot lanes with 4-foot (westbound) and 6-foot (eastbound) minimum offsets, between the outside of the travel lane and the bridge rail parapet, on the bridge structure. Additionally, the structure will provide 42 inch F-shape bridge railing, as appropriate for bicycle and pedestrian use.

Improvements to the approach roadway will extend approximately 970 feet from the west end of the new bridge and 1020 feet from the east end of the new bridge. The approaches will be widened to include a 28-foot pavement width providing two 12-foot lanes and 2-foot paved shoulders; beyond the paved shoulders, 6-foot grass shoulders will be provided on each side (9-foot grass shoulders where guardrail is included). The roadway is designed as a major collector with a 60 mile per hour design speed. No design exceptions have been made.

The driveway access to the NCWRC Old Sparta Boating Access Area will be relocated approximately 300 feet to the east of its existing location. This relocation will allow for increased sight distance between the end of the new structure and the driveway. Additionally, the new alignment of this driveway will reduce the existing steep grade and utilize a more appropriate maximum grade (6.5%). The relocated driveway will include an 18-foot pavement width, providing two 9-foot lanes, and 2-foot grass shoulders. The existing 11-foot concrete driveway will be removed. NCDOT will coordinate with NCWRC if it is necessary to close access to the Old Sparta Boating Access Area at any time during construction.

The existing bridge structure will serve as the onsite detour. Although the cost and environmental impacts are higher than a replace in-place structure with offsite detour, concerns regarding additional time traveled by the average road user warrant the maintenance of traffic onsite.

NCDOT Division 4 concurs that this is the preferred alternative.

B. Alternatives Eliminated from Further Consideration

Alternatives were discussed at an alternative selection meeting held September 3, 2015. The following is a summary of the alternatives which were discussed and eliminated at this meeting. Meeting minutes can be found in **Appendix A**.

Alternate 1- Offsite Detour (Replace in-place road closure)

Alternate 1 involves replacement of the structure along the existing roadway alignment. Traffic would be detoured offsite (see **Figure 1**) during the construction period.

NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The shortest offsite detour for this project would include SR 1601, US 258, US 64 and NC 33. The majority of traffic on NC 42 is assumed to be through traffic. The detour for the average road user would result in approximately 15 minutes of additional travel time (13.7 miles of additional travel), with up to a 12 month construction duration expected.

It was determined that when impacts of the offsite detour (additional traveling time for the average daily commuter) are considered in combination with the replace in-place alignments potential impact on the historic Old Sparta Vessel (see Section VI.A.2), the total impact of Alternative 1 is unacceptable, resulting in elimination from further consideration.

Alternate 2 - On Site Detour (on southern side)

Alternate 2 involves replacement of the structure along the existing roadway alignment. A temporary detour structure located southeast of the existing bridge would serve as an on-site detour during construction.

It was determined that Alternative 2 will have the largest impact on the historic Old Sparta Vessel site, existing utilities, and the NCWRC property (public access boat ramp) in the southeast quadrant of the study area, resulting in elimination from further consideration.

Alternate 3 - On Site Detour (on northern side)

Alternate 3 involves replacement of the structure along the existing roadway alignment. A temporary detour structure located northwest of the existing bridge would serve as an on-site detour.

It was determined that Alternative 3, could still have potential impacts to the Old Sparta Vessel, due to the need for temporary work bridges, and does not minimize impacts by relocating the bridge upstream. Construction of an onsite detour would require temporary fill be placed in the existing stream bed (located in the northwest quadrant) and the stream relocated. The team noted

that while the fill slopes for the on-site detour are temporary, the impact to the stream would be permanent and approximately the same as impacts associated with the new location (on northern side) alternative. For these reasons, Alternative 3 was dropped from further consideration.

IV. ESTIMATED COSTS

The estimated costs for the preferred alternative, based on 2016 prices, are detailed in **Table 1** below:

Table 1: Project Cost Analysis

Cost Estimates	Alternative 4 (Preferred)
Structure	\$2,344,300
Roadway Approaches	\$1,230,810
Detour Structure and Approaches	-0-
Structure Removal	\$145,440
Utility Construction (Water Line)	\$227,000
Misc. & Mob. (Structures & Util.)	\$271,700
Misc. & Mob. (Roadway)	\$430,750
Total Contract Cost	\$4,650,000
Eng. & Contingencies	\$750,000
Total Construction Cost	\$5,400,000
Residential Relocation	-0-
Graves	\$80,000
Land, Improvements and Damages	\$22,500
Acquisition	\$30,000
Total Right of Way Cost	\$132,500
Total Utility Relocation Cost	\$279,000
Total Project Cost	\$5,811,500

V. NATURAL ENVIRONMENT

The following is a brief description of the environmental resources located within the project study area.

A. Physical Characteristics

1. Soils

Based on information from the Edgecombe County Soil Survey, there are five soil types within the study area (**Table 2**).

Table 2: Soils in the study area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Congaree (Shellbluff) silt loam	Cn	Well Drained	Hydric*
Johns fine sandy loam	Jo	Moderately well drained	Hydric*
Pactolus loamy sand	Pa	Moderately well drained	Hydric*
Tarboro Loamy sand	TaB	Somewhat excessively drained	Non Hydric
Wehadkee silt loam	Wh	Poorly drained	Hydric

*Soils which are primarily nonhydric, but which contain hydric inclusions

2. Water Resources

Water resources in the study area are part of the Tar-Pamlico river basin (U.S. Geological Survey [USGS] Hydrologic Unit 03020103). Three streams were identified in the study area (**Table 3**). The location of each water resource is shown in **Figure 2A and 2B**. The physical characteristics of each water resource in the study area are provided in **Table 4**.

Table 3: Water resources in the study area

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification
Tar River	Tar River	28-(80)	C ; NSW
UT to Tar River	SA	28-(80)	C ; NSW
UT to Tar River	SB	28-(80)	C ; NSW

Table 4: Physical characteristics of water resources in the study area

Map ID	Bank Height (ft)	Bankful Width (ft)	Water Depth (in)	Channel Substrate	Velocity	Clarity
Tar River	17	235	72	Sand, Gravel	Moderate	Turbid
SA	1	5	6	Sand, Silt, Gravel	Slow	Clear
SB	1	3	4	Sand, Silt	Slow	Slightly Turbid

No waters classified as High Quality Waters (HQW), Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), or Outstanding Resource Waters (ORW) occur within 1.0 mile of study area.

No waters listed on the North Carolina 2014 Final 303(d) list of impaired waters for sedimentation occur within 1.0 mile of the study area.

No waters in the study area are designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic River.

There are two benthic monitoring stations within 1.0 mile of the study area. One is located on the southwest side of Bridge 28. The most recent published data was collected in 1992 and the site was rated as “good”. The other is located approximately 0.5 miles northwest on Town Creek; data from this station was also last published in 1992, however, it was not rated (NR).

3. Biotic Resources

Terrestrial Communities

Communities found within the study area were Coastal Plain Bottomland Hardwoods, Mesic Mixed Hardwoods, Mesic Pine Flatwoods, Pine Plantation, and Maintained/Disturbed. **Table 5** includes coverage of each community type within the study area.

Table 5: Coverage of terrestrial communities in the study area

Community	Coverage (ac.)
Maintained-Disturbed	7.84
Coastal Plain Bottomland Hardwoods	5.40
Mesic Mixed Hardwood (Coastal Plain Subtype)	4.52
Mesic Pine Flatwoods	0.50
Pine Plantation	0.40
Total	18.66

Aquatic Communities

Aquatic communities in the study area consist of those found in the Tar River and the UT's to the Tar River (those species actually observed are indicated with *). These communities could support largemouth bass, eastern mosquitofish, bluespotted sunfish, bluegill, pumpkinseed, golden shiner, yellow bullhead, and creek chubsucker. They can support other aquatic animals such as, various frogs, yellow-bellied slider*, southern dusky salamander, crayfish, and various benthic macroinvertebrates.

B. Jurisdictional Topics

The following sections provide an inventory of resource areas and species and an assessment of possible impacts for waters of the United States and rare and protected species. Waters of the United States and rare and protected species are of particular significance when assessing impacts because of federal and state mandates that regulate their protection.

1. Clean Water Act / Waters of the U.S.

Streams

Three jurisdictional streams were identified in the study area (**Table 6**). The locations of these streams are shown on **Figure 2A and 2B**. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation.

Table 6: Jurisdictional characteristics of water resources in the study area

Map ID	Length (ft)	Estimated Impacts (ft)	Classification	Compensatory Mitigation Required	River Basin Buffer
Tar River	366	0	Perennial	Yes	Subject
SA	673	195	Perennial	Yes	Subject
SB	264	78	Intermittent	Undetermined	Subject
Total	1,303	273			

Wetlands

Eleven jurisdictional wetlands were identified within the study area (see **Figure 2A and 2B**). Wetland classification and quality rating data are presented in **Table 7**. All wetlands in the study area are within the Tar-Pamlico River basin (USGS Hydrologic Unit 03020103).

Table 7: Jurisdictional Characteristics of Wetlands

Map ID	Area (ac.)	Estimated Impacts* (ac.)	NCWAM Classification	Hydrologic Classification	NCDWR Wetland Rating
WA	0.08	0	Bottomland Hardwood Forest	Riparian	32
WB	0.11	0.05	Bottomland Hardwood Forest	Riparian	51
WC	0.28	0.04	Bottomland Hardwood Forest	Riparian	51
WD	0.20	0.02	Bottomland Hardwood Forest	Riparian	51
WE	0.22	0.02	Bottomland Hardwood Forest	Riparian	51
WF	0.08	0.02	Bottomland Hardwood Forest	Riparian	17
WG	0.20	0	Bottomland Hardwood Forest	Riparian	51
WH	0.15	0.04	Headwater Forest	Riparian	39
WI	0.10	0	Headwater Forest	Riparian	39
WJ	0.04	0	Bottomland Hardwood Forest	Riparian	32
WK	0.02	0	Bottomland Hardwood Forest	Riparian	32
Total	1.48	0.19*	*Estimated impacts are calculated using a 25-foot buffer and are rounded up to the nearest .01 acre		

N.C. River Basin Buffer Rules

Streamside riparian zones within the study area are protected under provisions of the Tar-Pamlico Buffer Rules administered by NCDWR. **Table 6** indicates which streams are subject to buffer rule protection. Protected stream buffers are shown on **Figure 2A and 2B**, estimated impacts are shown in **Table 8** below.

Table 8: Tar River Buffer Zone Impacts

Buffer Zone	Estimated Impact (ac.)
Zone 1	0.45
Zone 2	0.31

2. Permits

The proposed project has been designated as a Categorical Exclusion (CE) for the purposes of NEPA documentation. As a result, a Nationwide Permit 23 will likely be applicable. Other permits that may apply include a NWP No. 33 for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction or rehabilitation. The USACE holds the final discretion as to what permit will be required to authorize project construction.

In addition to the 404 permit, other required authorizations include the corresponding Section 401 Water Quality Certification (WQC) from the NCDWR. A NCDWR Section 401 Water Quality General Certification for a Categorical Exclusion may be required prior to the issuance of a Section 404 Permit. Other required 401 certifications may include a GC 3688 for temporary construction access and dewatering.

3. Construction Moratoria

The NCWRC has identified this portion of the Tar River as an Inland Primary Nursery Area (PNA), as per their letter dated May 11, 2009. NCDOT will follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from **February 15 to September 30** for the Tar River.

4. Rivers and Harbors Act Section 10 Navigable Waters

This section of the Tar River has been designated by the USACE as a Navigable Water under Section 10 of the Rivers and Harbors Act. Work in, over, or under navigable waters of the United States requires authorization from the USACE. The USACE authorizes activities by issuing individual and general permits (Nationwide Permits). It is anticipated that this activity will be authorized under a Nationwide Permit as outlined in Section V.B.2; however, the USACE holds the final discretion as to what permit will be required to authorize project construction

5. Federally Protected Species

As of December 26, 2012 the USFWS lists two federally protected species for Edgecombe County (see **Table 9**). A brief description of each species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area.

Table 9: Federally Protected Species

Common Name	Scientific Name	Status	Habitat Present	Biological Conclusion
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	No	No Effect
Tar River spiny mussel	<i>Elliptio steinstansana</i>	E	Yes	MA-NLAA

E – Endangered

MA-NLAA – May Affect – Not Likely to Adversely Affect

Red cockaded woodpecker

Habitat Description: The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine, for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, and which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 miles.

Biological Conclusion: No Effect

Suitable habitat for the red cockaded woodpecker does not exist in the study area. The pine plantation was observed to be substantially young enough to be excluded as habitat and did not require coring. The mesic pine flatwoods community consisted of Loblolly Pine and Water Oak within the canopy, and a moderate understory of Water Oak and Sweetgum. Although trees were not cored and were potentially of sufficient age, the community was determined to be unsuitable forage habitat due to a moderate understory of hardwood species. A review of NCNHP records, updated October 2015, indicates there are no known RCW occurrences within 1.0 mile of the study area.

Tar River spiny mussel

Habitat Description: The Tar River spiny mussel (TSM) is endemic to the Tar and Neuse River drainage basins in North Carolina. This mussel requires a stream with fast flowing, well oxygenated, circumneutral pH water. The bottom should be composed of unconsolidated gravel and coarse sand. The water needs to be relatively silt-free, and stream banks should be stable, typically with many roots from adjacent riparian trees and shrubs.

Biological Conclusion: May Affect – Not Likely to Adversely Affect

Field surveys were conducted by the NCDOT Biological Surveys Group on October 16, 2013. All areas of appropriate habitat were searched from approximately 1,312 feet (400 meters) downstream of the bridge crossing to approximately 328 feet (100 meters) upstream of the crossing for a distance of approximately 1,640 feet (500 meters), concentrating on the stable habitats preferred by TSM. While TSM was not found during this effort, a diverse freshwater mussel fauna is present in the project survey area. Additionally, NCNHP records, last updated October 2015, indicate an element occurrence of the species within the project survey area.

Northern long-eared bat

The US Fish and Wildlife Service have developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is “May Affect, Likely to Adversely Affect”. The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Edgecombe County, where TIP B-4932 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020.

VI. HUMAN ENVIRONMENT

A. Section 106 Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation’s Regulations for Compliance with Section 106, codified at Title 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and afford the Advisory Council a reasonable opportunity to comment on such undertakings.

1. Historic Architecture

In a memorandum dated January 26, 2009, the North Carolina Historic Preservation Office (NCHPO) determined that this project as it is proposed will not affect any historic structures. A copy of this memorandum is included in **Appendix A**.

2. Archaeology

In a memorandum dated January 26, 2009, the NCHPO recommended that an archaeological survey be conducted and that all unassessed sites be evaluated in regard to their National Register eligibility (see **Appendix A**).

As a result of this survey, two (2) previously unrecorded archaeological sites (31ED372 and 31ED373) were discovered and two (2) previously recorded sites (0019TRR/Old Sparta Vessel and 31ED62/62) were revisited. Sites 31ED62/62, 31ED372 and 31ED373 are recommended as ineligible for listing on the National Register of Historic Places (NRHP). Site 0019TRR/Old Sparta Vessel was recommended as eligible for the NRHP under Criterion A based on its strong association with events that made a significant contribution to the broad patterns of local and regional history and criterion D for the resources ability to yield information significant to historic, scientific, or scholarly research. Avoidance of this resource was recommended.

NCDOT reported its findings to the NCHPO in a manuscript dated May 20, 2010. The NCHPO concurred with the above findings in a memorandum dated June 18, 2010 and made the following recommendation for avoidance of site 0019TRR/Old Sparta Vessel:

- “We also concur with the recommendation that the vessel be avoided during construction. To accomplish this, the site should be defined, visually marked, and the contractors informed that they are not to enter the area with any equipment or personnel.”
- “The most effective way to avoid the wreck with new construction would be to position the new bridge north (upstream) of the old one. In the event that the bridge must run along the same footprint as the old one, extreme care will be needed on the part of the contractor to avoid the upstream portion of the wreck during construction.”
- “The removal of the old bridge structure requires special care. Temporary alteration of the river bottom topography by the removal of the pilings immediately upstream of the wreck may cause erosion of the supporting sediment beneath the wreck, possibly damaging the wreck’s structure and integrity.”
- “We concur that in the event the wreck cannot be avoided additional data recovery and possible recovery of all or part of the vessel will be warranted.”

A full copy of the memorandum dated June 18, 2010 can be found in **Appendix A**.

Additionally, one cemetery (site 31ED62/62) was delineated within the study area. The site contains the remains of one identified gravesite, that of Rosa Tompkins, and is believed to contain at least two more, this ‘graveyard’ component of the site is likewise ineligible for the National Register of Historic Places. Given the preferred alternative of a new location alignment, on the northwest side, impacts to this site are unavoidable. Per NCHPO recommendations, the cemetery – comprised of the Rosa Tompkins gravesite and the burials believed to be in its vicinity – will be delineated to ascertain both its size and probable number of interments, followed by the cemetery’s removal and relocation in accordance with NC General Statute 65.

B. Community Impacts

No adverse impact on families or communities is anticipated. Right-of-way acquisition will be limited, with a total of 10 parcels being impacted and approximately 2.4 acres of right-of-way being acquired. No relocatees are expected with implementation of the preferred alternative. However, it is anticipated that up to 8 grave sites may be relocated due to the proposed improvements.

No adverse effect on public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area. NCDOT has coordinated with the NCWRC to ensure the project will have no adverse effect to the Old Sparta Boating Access Area. NCWRC has reviewed the proposed improvements (as shown in **Figure 2B**) and noted no issues with the proposed driveway realignment.

The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. Prime farmland soils (if drained and/or infrequently flooded) are located approximately 350 feet northwest of the bridge and 100 feet north of NC 42. The nearest area of prime farmland soil located along NC 42 is 650 feet southwest of the bridge and is undeveloped.

There are soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will involve the direct conversion of farmland acreage within these classifications. A preliminary screening with the Form AD 1006 resulted in a score of 37 points out of 160. Since this project received a total point value of less than 60 points, this site falls below the NRCS minimal criteria and will not be evaluated further for farmland impacts. No other alternatives than those discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland. The project will not have a significant impact to farmlands.

C. Environmental Justice

The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

D. Noise & Air Quality

This project is an air quality neutral project in accordance with 40 CFR 93.126. It is not required to be included in the regional emissions analysis (if applicable) and project level CO or PM2.5 analyses are not required. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. Therefore, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently, this effort is exempt from analysis for MSATs. Any burning of vegetation shall be performed in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality compliance with 15 NCAC 2D.0520.

Noise levels may increase during project construction; however, these impacts are not expected to be substantial considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours. The transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise.

This project has been determined to be a Type III Noise Project and therefore, no traffic noise analysis is required to meet the requirements of 23 CFR 772.

VII. GENERAL ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of the current North Carolina Department of Transportation standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966.

An examination of local, state, and federal regulatory records by the GeoEnvironmental Section revealed one potential underground storage tank (UST) as Recognized Environmental Concerns (REC) within the project limits. The site is described in **Table 10** and its location is shown in **Figure 2A**. RECs are most commonly underground storage tanks, dry cleaning solvents, landfills and hazardous waste disposal areas. The Geotechnical Section anticipates low monetary and scheduling impacts resulting from impacting this site. No hazardous waste sites, landfills or other geoenvironmental concerns were identified within the project limits.

Table 10: Known and Potential GeoEnvironmental Impact Sites

Property Location	Property Owner	UST Owner	Facility ID#
Vacant Lot 3115 NC 42 East McClesfield, NC 27852	Ollen M Johnson 2833 NC 42 East McClesfield, NC 27852	N/A	N/A
This facility is currently a vacant lot. The facility is located on the north side of NC 42 approximately 600 feet from the bridge over Tar River. The facility appears to have operated as a gas station at one time. A former pump island was observed on the property. According to the UST Section there are no registered USTs associated with this facility. No Groundwater Incidents have been assigned to this facility. A grave site was observed on the west side of the property approximately 60feet from the edge of pavement on NC 42. This site is anticipated to present low geoenvironmental impacts on the project.			

Edgecombe County is a participant in the National Flood Insurance Program. There are no practical alternatives to crossing the floodplain area. Any shift in alignment will result in an impact area of about the same magnitude. The proposed project is not anticipated to increase the level or extent of upstream flood potential.

The NCDOT's Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT's Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway

embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Impact to one FEMA buyout property is anticipated to result from this project. Impacts will be limited to minor right-of-way acquisition (approximately 0.01 acres) and permanent fill required to raise the grade of NC 42. Due to its proximity to NC 42 the parcel would likely be impacted by all alternatives discussed in this document, therefore, no avoidance alternative is practicable. NCDOT will coordinate with the North Carolina Department of Public Safety - Emergency Management Department and FEMA to request appropriate approvals prior to construction.

This project lies within a depth limited non-tidally influenced zone of the United States Coast Guard Stream Coordination Map; therefore, under 23 CFR 650.805 this project meets the criteria for projects which FHWA has programmatically determined that a Coast Guard Permit is not needed for this crossing.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of the project development: N.C. Department of Environment & Natural Resources (now N.C. Department of Environmental Quality), Fish & Wildlife Service (USFWS), N.C. Wildlife Resource Commission (NCWRC), Federal Highway Administration (FHWA), North Carolina State Historic Preservation Office (NCSHPO), U.S. Army Corps of Engineers, N.C. Division of Parks & Recreation, Edgecombe County Planning Department, Edgecombe County Schools, and Edgecombe County EMS.

In a letter dated April 22, 2009, the N.C. Division of Water Quality (now Division of Water Resources) noted the following project specific comments:

Comment: “Tar River is a class C; NSW water of the State. DWR is very concerned with sediment and erosion impacts that could result from these projects. DWR recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these waters. DWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the NC DWR *Stormwater Best Management Practices*.”

Response: NCDOT’s *Best Management practices for Protection of Surface Waters* (March 1997) will be followed throughout the design and construction of the project. Additionally, *Design Standards for Sensitive Watersheds* will be incorporated throughout design and construction of the project.

Comment: “This project is within the Tar-Pamlico River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0259.”

Response: Riparian buffer zone impacts are documented in section V.B.1 of this report and buffer zones are shown in Figure 2. Impacts to riparian buffer zones have been minimized to the greatest extent possible.

At the Alternative Selection Meeting (September 3, 2015) Mr. Gary Jordan from the **U.S. Fish & Wildlife Service** gave an update on the potential listing of additional endangered species that are known to occur within the project study area (Atlantic pigtoe and Green floater). These species were found during the mussel surveys completed, in November 2013. Mr. Jordan noted that the current schedule for the potential listing of the Atlantic pigtoe would result in the species being proposed for listing no later than April 2017, followed by the official listing in April 2018. The potential listing of the Green floater will follow the same process; however, the schedule was unknown.

Mr. Jordan recommended that given the project schedule (Right of Way FY 2017 and Construction FY 2018); NCDOT should plan for a future Section 7 Consultation to avoid project delays. The Section 7 consultation will require that NCDOT demonstrate avoidance and minimization efforts throughout the project planning and design phase. Once a species is officially proposed, NCDOT may request a Section 7 Conference with USFWS. USFWS would then be able to provide a Conference Opinion, which would be converted into a Biological Opinion following the official listing of the species. (A copy of the full meeting minutes can be found in **Appendix A**)

Response: The project schedule has changed since this meeting was held in September 2015. The current schedule is for Right of Way Acquisition to begin in December 2016, followed by Construction in June 2017. The NCDOT Natural Environment Section will monitor the potential listing of the Atlantic pigtoe and Green floater to avoid potential project delays. Additional coordination with USFWS and a future Section 7 Consultation will likely be required.

IX. PUBLIC INVOLVEMENT

A landowner notification letter was sent by the Project Development and Environmental Analysis Unit - Natural Environment Section to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

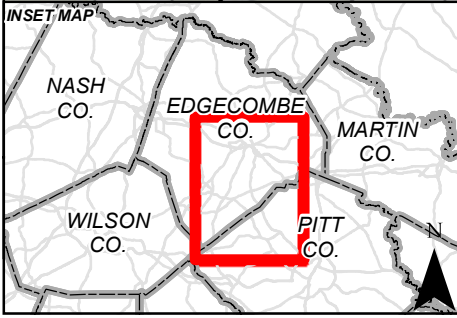
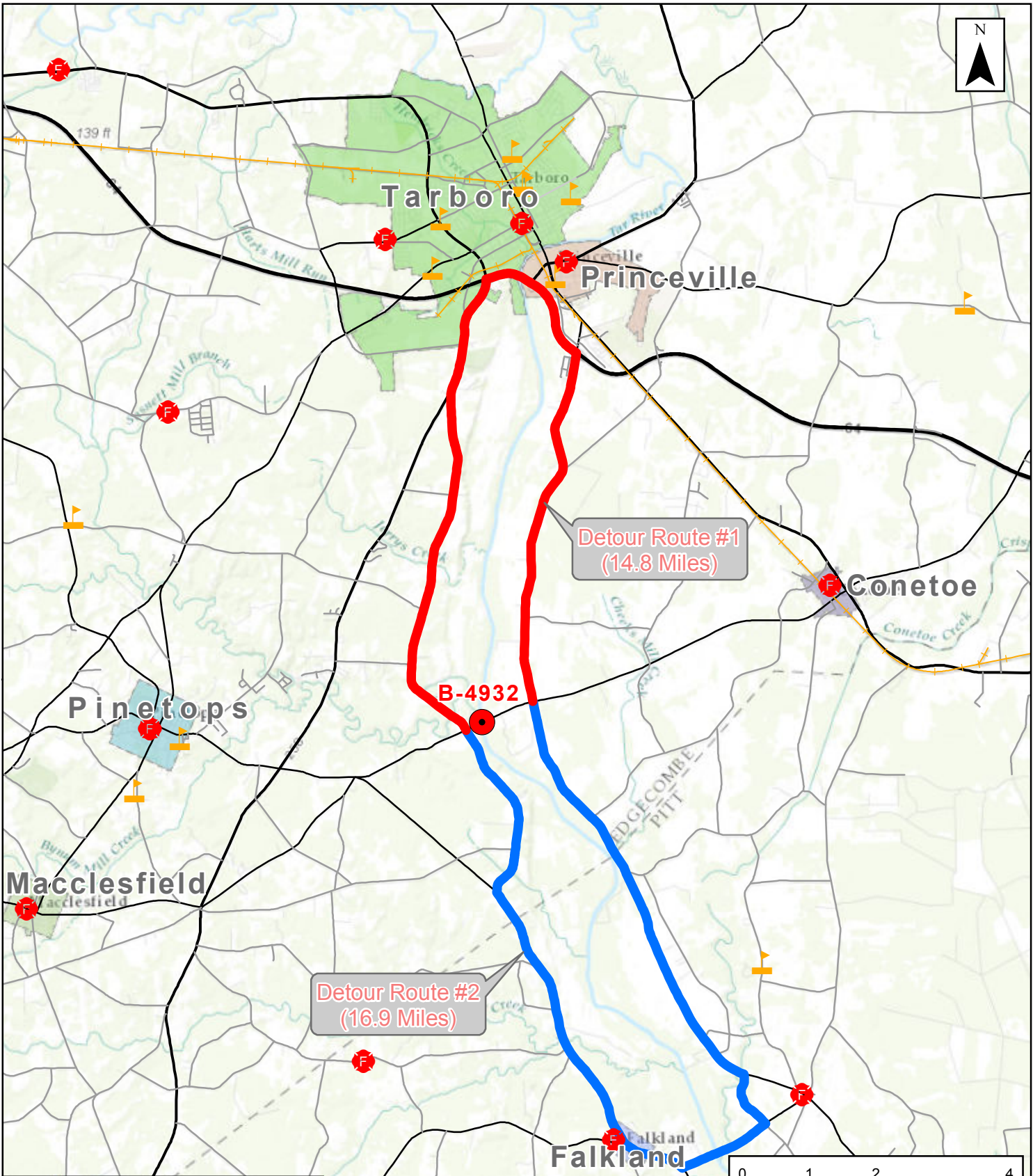
Based on the lack of responses to the landowner notification letter, a Public Meeting was determined unnecessary.

An additional newsletter will be sent to residents and property owners in the general project area. The newsletter will discuss the proposed design, project schedule and potential impacts to traffic operations during construction.

There is not substantial controversy on social, economic, or environmental grounds concerning the project.

X. CONCLUSION

On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.



LEGEND

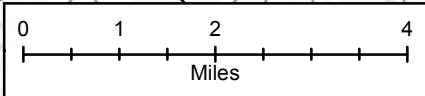
- Fire Station
- Interstate
- US Highway
- Railroad
- Streams
- NC Highway
- State Road
- Local Route

NOT TO SCALE

North Carolina Department of Transportation, Project Development & Environmental Analysis Unit

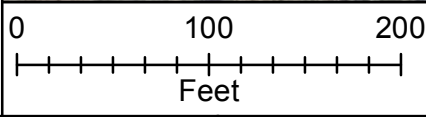
Vicinity & Detour Map
 Replace Bridge No. 28 on NC 42 over the Tar River Edgecombe County, North Carolina
TIP Project B-4932

October 2016 **FIGURE 1**





Legend			
	Project Study Area		Final Roadway
	Proposed Alignment		Paved Shoulder
	Fill Slope		New Bridge
	Transition Slope		Approach Slab
	Delineated Streams		Removal of Existing Pavement
	Delineated Wetlands		Tar River
	Buffer Zone 1		Cemetery
	Buffer Zone 2		Potential UST
	FEMA Buyout		
	Old Sparta Vessel		



Proposed Design	
B-4932 Replace Bridge No. 28 on NC 42 over Tar River Edgecombe County, North Carolina	
	North Carolina Department of Transportation, Project Development & Environmental Analysis Unit
October 2016	FIGURE 2A



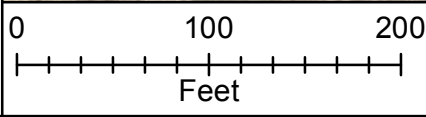
MATCHLINE - 2A
MATCHLINE - 2B



NC WRC OLD SPARTA
BOAT ACCESS AREA

42

Legend			
	Project Study Area		Final Roadway
	Proposed Alignment		Paved Shoulder
	Fill Slope		New Bridge
	Transition Slope		Approach Slab
	Delineated Streams		Removal of Existing Pavement
	Delineated Wetlands		Tar River
	Buffer Zone 1		Buffer Zone 2
	FEMA Buyout		Potential UST
	Old Sparta Vessel		
	Cemetery		



Proposed Design	
B-4932 Replace Bridge No. 28 on NC 42 over Tar River Edgecombe County, North Carolina	
	North Carolina Department of Transportation, Project Development & Environmental Analysis Unit
	October 2016
FIGURE 2B	

Appendix A



North Carolina Department of Cultural Resources
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

January 26, 2009

MEMORANDUM

TO: Hank Schwab, Project Engineer
Project Development, Bridge Unit
NCDOT Division of Highways

FROM: Peter Sandbeck

SUBJECT: Bridge 28 on NC 42 over the Tar River, B-4932, Edgecombe County, ER 08-2590

Thank you for sending information on the proposed bridge replacement.

Our files find two archaeological sites in the project area: 31ED62, a prehistoric site on the southwest side of the bridge represented by lithics and ceramics; and 0019TRR, the submerged remains of a steamboat. It is situated on the downstream side of the bridge, west side of the river, and parallel to the river bank. It has been reported in, "Enigma of the Old Sparta Vessel, the Phase II Pre-disturbance Archaeological Survey of a Tar River Steamboat," by Bradley A. Rogers, Theresa R. Hicks, and Elizabeth Wyllie of the Program in Maritime Studies at East Carolina University. While 0019TRR is considered eligible for the Register, 31ED62 has not been assessed to evaluate its significance for the National Register of Historic Places.

We, therefore, recommend an archaeological survey of the proposed replacement to include the relocation and evaluation of 31ED62. Potential effects on unknown resources must be assessed prior to the initiation of construction activities. Care should be taken to avoid any effects to 0019TRR. If this is not possible, appropriate mitigation will be needed.

Rodgers, et al. recommended full excavation of the steamboat, and suggest it may be accomplished in the summer or fall of 2009. This plan, however, is dependent upon finances and a place and means for conservation. If such are found, and dependent upon the DOT's schedule, it is possible that 0019TRR may have been excavated prior to Bridge 28's replacement. Please keep us closely updated on the progress of plans for this bridge.

Because the area under the bridge has been well examined, no new investigation there is warranted. If, however, a new alignment should put the replacement at least 250 m to the north, we recommend underwater investigation as well as terrestrial. In this area is the remnant of the former bridge, which likely dates to the 19th century.

Two copies of the resulting archaeological survey report, as well as one copy of the appropriate site forms, should be forwarded to us for review and comment as soon as they are available and well in advance of any construction activities.

We have determined that the project as proposed will not have an effect on any historic structures.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Matt Wilkerson, NCDOT
Mary Pope Furr, NCDOT



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 20, 2010

Mr. Peter Sandbeck
Deputy SHPO
Historic Preservation Office
Dept. of Cultural Resources
4617 Mail Service Center
Raleigh, North Carolina 27699-46517

Dear Mr. Sandbeck:

Subject: Archaeological Survey and Evaluation: Replacement of Bridge No. 28 on NC42 over the Tar River, Edgecombe County, B-4932, Federal Aid Project No. BRSTP-0042(19), State Project No. 40137.1.1, ER 08-2590.

Enclosed are two copies of the final report prepared by our staff after completing the archaeological evaluation of the referenced project. This work was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the guidelines issued by the Advisory Council on Historic Preservation. The survey identified two archaeological sites and revisited two previously recorded sites.

0019TRR/Old Sparta Vessel consists of the submerged wooden remains of a large watercraft lying immediately proximal to the west bank of the Tar River within the project APE. This resource is recommended eligible for the NRHP under criterion A based on its strong association with events that made a significant contribution to the broad patterns of local and regional history and under criterion D for the resources ability to yield information significant to historic, scientific, or scholarly research. Avoidance of this resource is recommended.

31ED62/62** is a surface/subsurface, prehistoric-historic archaeological site situated within the uplands of the two western project quadrants. Definitive components identified at the site include Middle Archaic, Woodland, and 19-20th century historic. The site possesses an insignificant range of characteristics relative to regional research questions, is unlikely to contain intact sub-plowzone patterned artifact distributions or significant cultural features within the construction footprint, and lacks attributes essential in establishing site integrity. As such, the portion of 31ED62/62** delineated and defined by the survey is considered ineligible for listing on the NRHP under criterion D. The cemetery section of the archaeological site within the northwest project quadrant containing the Rosa Tompkins gravesite and any additional unmarked gravesites should be preserved by avoidance. If construction is scheduled to occur in proximity to the cemetery, monitoring to insure the integrity of the gravesites is advocated. If avoidance is not possible, we request that the Office of State Archaeology make the determination as to how the relocation and removal of the gravesite(s) be treated, i.e. by following either NC General Statute 70, Article 3 or NC General Statute 65.

31ED372 is a low density, subsurface lithic scatter of undetermined age and cultural affiliation. The site is situated approximately 200ft. south of NC42 within the southwest project quadrant, and therefore, is unlikely to be affected by the construction effort as proposed. The site is unlikely to contain intact cultural features, deposits, or undisturbed patterned artifact concentrations. As such, the site is recommended not eligible for listing on the NRHP under criterion D. No further archaeological work is advocated for this resource.

31ED373 is a subsurface prehistoric site containing a Woodland period ceramic-lithic component. This diminutive site located within the northeast quadrant lacks attributes essential for establishing integrity, preservation, uniqueness, and relevance. 31ED373 is recommended not eligible for listing on the NRHP under criterion D. No further work is advocated for this archaeological resource.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
HUMAN ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC, 27699-1598

TELEPHONE: 919-431-2000
FAX: 919-431-2001

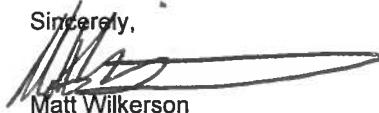
WEBSITE: WWW.NCDOT.ORG

LOCATION:
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH -
ENVIRONMENTAL RESOURCE CENTER
4701-116 ATLANTIC AVENUE
RALEIGH NC, 27604

The report concludes that the project, as proposed, will impact one NRHP eligible archaeological/underwater site within the APE and one historic cemetery within the northwest quadrant.

Any questions regarding the report findings should be directed to Scott Halvorsen at (919) 431-1590.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Wilkerson', written over a horizontal line.

Matt Wilkerson
Archaeology Supervisor
Human Environment Unit

MW/sh

Enclosures (2 copies of the report)

cc: Brenna Poole, NCDOT project engineer
Ron Lucas, FHWA



North Carolina Department of Cultural Resources
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

June 18, 2010

MEMORANDUM

TO: Matt Wilkerson
Office of Human Environment
NCDOT Division of Highways

FROM: Peter Sandbeck *P.S. for Peter Sandbeck*

SUBJECT: Archaeological Survey and Evaluation, Bridge 28 on NC 42 over the Tar River, B-4932, Edgecombe County, ER 08-2590

Thank you for your letter of May 20, 2010, forwarding copies of the final report by Scott Halvorsen for the above project.

During the course of the survey, Mr. Halvorsen revisited two sites, 0019TRR/Old Sparta Vessel and 31ED62&62**, and recorded two sites, 31ED372 and 31ED373.

The following properties are determined not eligible for listing in the National Register of Historic Places:

Sites 31ED372 and 31ED373; lack attributes necessary for establishing integrity, preservation, uniqueness, and relevance

We concur with the recommendations for no further work at 31ED372 and 31ED373.

The portion of 31ED62&62** as delineated and defined by the survey does not provide information pertinent to regional research questions, is unlikely to contain intact subsurface features, and lacks integrity

No further archaeological investigation is recommended at that portion of 31ED62&62** as delineated and defined by the present survey. While 31ED62&62** contains the remains of one identified gravesite, that of Rosa Tompkins, and is believed to contain at least two more, this 'graveyard' component of the site (situated within its northwest quadrant) is likewise ineligible for the National Register of Historic Places. However, it must be protected.

We agree with the report's recommendation for its preservation by avoidance. Should avoidance be impossible, we recommend delineation of the cemetery—comprised of the Rosa Tompkins gravesite and the burials believed to be in its vicinity—to ascertain both its size and probable number of interments, followed by the cemetery's removal and relocation in accordance with NC General Statute 65.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following property is eligible for the National Register of Historic Places under the criteria cited:

0019TRR/Old Sparta Vessel under criteria A and D; A for its association with events making a significant contribution to the broad patterns of local and regional history; D for its ability to yield information significant to historic, scientific, or scholarly research

We also concur with the recommendation that the vessel be avoided during construction. To accomplish this, the site should be defined, visually marked, and the contractors informed that they are not to enter the area with any equipment or personnel. Placing sand on the wreck may actually endanger the integrity of the structure and is not recommended.

The most effective way to avoid the wreck with new construction would be to position the new bridge north (upstream) of the old one. In the event that the bridge must run along the same footprint as the old one, extreme care will be needed on the part of the contractor to avoid the upstream portion of the wreck during construction.

The removal of the old bridge structure requires special care. Temporary alteration of the river bottom topography by the removal of the pilings immediately upstream of the wreck may cause erosion of the supporting sediment beneath the wreck, possibly damaging the wreck's structure and integrity.

We concur that in the event the wreck cannot be avoided additional data recovery and possible recovery of all or part of the vessel will be warranted.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Scott Halvorsen, NCDOT



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

RECEIVED
Division of Highways

APR 30 2009

Preconstruction
Project Development and
Environmental Analysis Branch
Dee Freeman
Secretary

Beverly Eaves Perdue
Governor

April 22, 2009

MEMORANDUM

TO: Hank Schwab, Bridge Planning Engineer, NCDOT PDEA

FROM: Rob Ridings, NC DWQ Transportation Permitting Unit *RR*

SUBJECT: **Scoping Review of NCDOT's Division 4 Proposed Bridge Replacement Projects: B-5126, B-4679 (Wilson County), B-4557, B-4561, B-4773, B-4936 (Johnston County), B-4743, B-4932 (Edgecombe County), B-4761 (Halifax County), B-4843, B-5104 (Wayne County), B-5108, B-4939, B-4938 (Nash County).**

In reply to your correspondence dated April 15, 2009 (received April 20, 2009) in which you requested comments for the above referenced projects, the NC Division of Water Quality offers the following comments:

Project-Specific Comments

B-5126 & B-4679, Bridges 65 & 66 over UT Wiggins Mill Reservoir [27-86-(5.8)], Wilson County

1. Wiggins Mill Reservoir is class WS-IV; CA; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from these projects. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Wiggins Mill Reservoir. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*.

Review of these projects reveals the presence of surface waters classified as Water Supply Critical Area in the project study areas. Given the potential for impacts to these resources during the project implementation, the DWQ requests that DOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. This would apply for any area that drains to streams having WS CA(Water Supply Critical Area) classifications.

Should the bridge project be located within the Critical Area of a Water Supply the NCDOT will be required to design, construct, and maintain hazardous spill catch basins in the project area. The number of catch basins installed shall be determined by the design of the bridge, so that runoff would enter said basin(s) rather than flowing directly into the stream, and in consultation with the DWQ.

2. These projects are within the Neuse River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0233.

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 | FAX: 919-733-6893
Internet: <http://h2o.enr.state.nc.us/ncwetlands/>

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B-5104, Bridge 98 over Sleepy Creek [27-67-(2)], Wayne County
B-4843, Bridge 15 over West Bear Creek [27-72-2], Wayne County
B-4773, Bridge 222 over Little Creek [27-57-19], Johnston County
B-4936, Bridges 41 & 39 over Mill Creek [27-52-(1)], Johnston County
B-4561, Bridge 147 over Swift Creek [27-43-(8)], Johnston County
B-4557, Bridge 113 over McCullens Branch [27-45-5], Johnston County

1. Sleepy Creek, West Bear Creek, Little Creek, Mill Creek, Swift Creek and McCullens Branch are class C; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from these projects. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these waters. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*.

2. These projects are within the Neuse River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0233.

B-4938, Bridge 25 over Little Sapony Creek [28-55-6-(0.6)], Nash County
B-4939, Bridge 156 over Pigbasket Creek [28-68-3-(2)], Nash County
B-5108, Bridge 26 over Sapony Creek [28-55-(1)], Nash County
B-4761, Bridge 29 over Little Fishing Creek [28-79-25], Halifax County
B-4932, Bridge 28 over Tar River [28-(80)], Edgecombe County
B-4743, Bridge 63 over Corn Creek [28-83-2.5], Edgecombe County

1. Little Sapony Creek, Pigbasket Creek, Sapony Creek, Little Fishing Creek, Tar River and Corn Creek are class C; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from these projects. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these waters. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*.

2. These projects are within the Tar-Pamlico River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0259.

General Comments Regarding Bridge Replacement Projects

1. DWQ is very concerned with sediment and erosion impacts that could result from these projects. NC DOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
2. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3687/Nationwide Permit No. 6 for Survey Activities.
3. If a bridge is being replaced with a hydraulic conveyance other than another bridge, DWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).
4. If the old bridge is removed, no discharge of bridge material into surface waters is allowed unless otherwise authorized by the US ACOE. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.
5. Whenever possible, the DWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the stream banks and do not require stream channel realignment. The horizontal and

vertical clearances provided by bridges allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.

6. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NC DWQ *Stormwater Best Management Practices*.
7. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
8. Bridge supports (bents) shall not be placed in the stream when possible.
9. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
10. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
11. All work in or adjacent to stream waters shall be conducted in a dry work area unless otherwise approved by NC DWQ. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
12. Heavy equipment shall be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
13. In most cases, the DWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour shall be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills shall be removed and restored to the natural ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas. \
14. Any anticipated dewatering or access structures necessary for construction of bridges should be addressed in the CE. It is understood that final designs are not determined at the time the CE is developed. However, the CE should discuss the potential for dewatering and access measures necessary due to bridge construction.

General Comments if Replacing the Bridge with a Culvert

1. Placement of culverts and other structures in waters, streams, and wetlands shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

2. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
3. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures shall be properly designed, sized and installed.
3. Any anticipated bank stabilization associated with culvert installations or extensions should be addressed in the Categorical Exclusion (CE) document. It is understood that final designs are not determined at the time the CE is developed. However, the CE should discuss the potential for bank stabilization necessary due to culvert installation.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Rob Ridings at 919-733-9817.

cc: William Wescott, US Army Corps of Engineers, Washington Field Office
Chad Coggins, Division 4 Environmental Officer
File Copy

Potter, Matthew

From: Wilson, Travis W. <travis.wilson@ncwildlife.org>
Sent: Tuesday, September 13, 2016 2:42 PM
To: Potter, Matthew
Cc: Deaton, Robert W
Subject: RE: B-4932 Tar River Bridge Replacement

WRC does not have any issues with NCDOT's proposed re-design for the access road to OLD Sparta Boating Access Area. Please note that if NCDOT determines it will be necessary at any time to close access to this BAA during construction it will need to be coordinated with WRC. Do you have an updated project schedule?

Travis W. Wilson

Eastern Region Highway Project Coordinator
Habitat Conservation Program

NC Wildlife Resources Commission

1718 Hwy 56 West
Creedmoor, NC 27522
Phone: 919-707-0370
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Travis.Wilson@ncwildlife.org

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From: Potter, Matthew [<mailto:Matthew.Potter@aecom.com>]
Sent: Wednesday, September 07, 2016 5:04 PM
To: Wilson, Travis W. <travis.wilson@ncwildlife.org>
Cc: Deaton, Robert W <rdeaton@ncdot.gov>
Subject: B-4932 Tar River Bridge Replacement

Hi Travis,

I hope you are doing well. I'm working on wrapping up the Environmental Document for TIP Project B-4932 (Replacement of Bridge No. 28 on NC 42 over the Tar River) and wanted to make sure you are ok with what NCDOT has proposed for WRC's Old Sparta Boating Access Area. The designs have changed a little since the last time we met with you on this project and now NCDOT is proposing a realignment of the boat access driveway. My understanding is that the realignment is to provide better sight distance from the end of the bridge to the driveway and to reduce the steep grade of the driveway. Anyway, just wanted to make sure you had seen it and to see if WRC has any issues with this proposed realignment.

Thanks,
Matthew

Matthew Potter, P.E.

PROJECT MANAGER / TRANSPORTATION PLANNING / NEPA
AECOM TRANSPORTATION

Memorandum

To: Meeting Attendees Pages: 4

CC: B-4932 File

Subject: Alternative Selection Meeting Minutes
Proposed Replacement of Bridge No. 28 on NC 42 Over the Tar River
STIP Project B-4932

From: Matthew Potter

Date: October 20, 2015

An alternative selection meeting for TIP Project B-4932 was held on September 3, 2015 at 10:00 AM in the Roadway Design Conference Room at the NCDOT Century Center.

Meeting Objective

The purpose of the meeting was for NCDOT and external agencies to weigh in on the proposed project and to select a preferred alternative for TIP project B-4932.

The following people attended the meeting:

Gary Jordan	USFWS
Travis Wilson	NCWRC
Wendi Johnson	NCDOT – Division 4
Wade Harper	NCDOT – Division 4
Rekha Patel	NCDOT – Roadway Design
Tatia White	NCDOT – Roadway Design
Piotr Stojda	NCDOT – Roadway Design
Leah Starnes	NCDOT – Roadway Design
Bob Deaton	NCDOT – PDEA
Brian Yamamoto	NCDOT – PDEA
Emily Murray	NCDOT – Structure Design
Greg Dickey	NCDOT – Structure Design
Paul Atkinson	NCDOT – Hydraulics
Mark Staley	NCDOT – Roadside Environmental
Tyler Stanton	NCDOT – NES
Matthew Potter	AECOM
Ron Lucas	FHWA (Via Briefing/Review meeting on September 16, 2015)

Project Description

Matthew Potter gave a brief overview of the proposed project. TIP Project B-4932 proposes to replace bridge number 28 on NC 42 over the Tar River. The existing bridge was built in 1952 and is 606 feet long. The proposed replacement bridge is a 625 feet long bridge, and provides a minimum 30 feet clear deck width. The bridge will include two 12-foot lanes and 3 foot offsets. The bridge length and design aspects are subject to change as final designs are developed. After the project overview the team reviewed the alternative selection meeting packet (see Attached) to discuss study alternatives, environmental resources and potential impacts.

Project Discussion

Potential Listing of Additional Endangered Species

Mr. Jordan (USFWS) gave an update on the potential listing of additional endangered species that are known to occur within the project study area (Atlantic Pigtoe and Green Floater). These species were found during the mussel surveys completed, in November 2013. Mr. Jordan noted that the current schedule for the potential listing of the Atlantic Pigtoe would result in the species being proposed for listing no later than April 2017, followed by the official listing in April 2018. The potential listing of the Green Floater will follow the same process; however, the schedule is unknown at this time.

Mr. Jordan recommended that given the project schedule (Right of Way FY 2017 and Construction FY 2018), NCDOT should plan for a future Section 7 Consultation to avoid project delays. The Section 7 consultation will require that NCDOT demonstrate avoidance and minimization efforts throughout the project planning and design phase. Once a species is officially proposed, NCDOT may request a Section 7 Conference with USFWS. USFWS would then be able to provide a Conference Opinion, which would be converted into a Biological Opinion following the official listing of the species.

Human and Natural Environment Resources

Mr. Potter gave a brief overview of the environmental resources in the project study area. The project falls within the Tar-Pamlico River Basin and is subject to the Tar-Pamlico Buffer Rules. Two small wetlands (WA and WB) and two streams (Tar River and UT to Tar River) are located in the project study area. The NCWRC has identified this portion of the Tar River as an Inland Primary Nursery Area (PNA), requiring an in-water work moratorium from February 15 to September 30 of any given year. In addition to the natural resources, one historic resource was identified (Old Sparta Vessel) on the south side of the existing bridge. SHPO has concurred with the finding that the Old Sparta Vessel is eligible for listing on the National Register of Historic Places, and recommends that the site be avoided by constructing a new bridge north of the existing alignment. One cemetery was also found in the northwest quadrant of the study area. However, the cemetery was determined to be ineligible for listing on the National Register of Historic Places, by SHPO.

Alternatives

Alternative 1 – Offsite Detour (Replace in-place road closure)

The team discussed the possibility of utilizing an offsite detour with a replace in-place alignment. The shortest offsite detour would result in approximately 15 minutes of additional travel time (13.7 miles of additional travel) for the average user. Mrs. Johnson noted that the 18 month construction duration shown in the packet is high and advised that 12 month construction duration would be more accurate. She advised that the construction duration could possibly be shortened further, with a compressed construction schedule; however, when impacts of the offsite detour (burden on the traveling public) are considered in combination with the replace in-place alignments potential impact on the Old Sparta Vessel, the Division feels that the total impact of Alternative 1 is unacceptable.

Alternative 2 – On-site Detour (On Southern Side)

The team briefly discussed the possibility of utilizing an on-site detour located on the southern side of the existing bridge. This alternative would have the largest impact on the historic Old Sparta Vessel site, existing utilities and NCWRC property (public access boat ramp) located in the southeast quadrant of the study area. For these reasons the team agreed that Alternative 2 be dropped from further consideration.

Alternative 3 – On-site Detour (On Northern Side)

Alternative 3 would utilize an on-site detour located on the northern side of the existing structure with a replace in-place alignment. Mrs. Johnson noted that the construction duration for this alternative would be substantially longer (than an offsite detour alternative) due to the construction of two separate bridges. It was estimated that the construction duration would be approximately 2 years. The team again discussed the potential for impacts to the historic Old Sparta Vessel. The on-site detour would not impact the site; however, the replace in-place alignment could have potential impacts and does not minimize impacts by relocating the bridge upstream (as recommended by SHPO). The team also discussed the impact that an on-site detour would have on the stream located in the northwest quadrant of the project study area. Construction of the on-site detour would require temporary fill be placed in the existing stream bed and the stream relocated. The team noted that while the fill slopes for the on-site detour are temporary, the impact to the stream would be permanent and approximately the same as impacts associated with Alternative 4 below (New Location (On Northern Side)).

Alternative 4 – New Location (On Northern Side)

Alternative 4 would replace the existing bridge with a new structure on a new location alignment located north of the existing bridge. The existing bridge would be utilized to maintain traffic during construction and be removed once the new bridge is completed. This alternative would minimize any potential impact on the Old Sparta Vessel as well as the NCWRC property. However, the alternative would impact the stream located in the northwest quadrant of the project study area, as mentioned in the Alternative 3 discussion. Mrs. Johnson stated that this is the Divisions preferred alternative, because it best minimizes impacts to the Old Sparta Vessel and allows traffic to be maintained during construction.

Alternative Selection

Alternative 4 (with modifications to minimize impacts) was proposed at the preferred alternative by NCDOT. The team discussed possible minimization efforts that could be implemented with Alternative 4, to minimize impacts on the stream and buffer zones located in the northwest quadrant. Based on this discussion, the alignment of Alternative 4 will be revised to move the proposed structure closer to the existing bridge (the current alignment of Alternative 4 proposed a 60 foot offset from the existing center line). The design team will also evaluate the possible inclusion of a retaining wall or reinforced slopes to further minimize impacts at this location.

Based on the discussion of alternatives and the additional minimization efforts, the team agreed with the selection of Alternative 4 (with modifications to minimize impacts) as the recommended alternative to be carried forward.



FHWA Concurrence

Due to a scheduling conflict FHWA was unable to attend the Alternative Selection Meeting on September 3, 2015; however, Matthew Potter met with Ron Lucas on September 16, 2015 to provide a review of the pertinent discussions and recommendations from the September 3, 2015 meeting. Based on the discussion of alternatives and additional minimization efforts, previously outlined in this document, FHWA concurred with the selection of Alternative 4 as the recommended alternative to be carried forward.

The above minutes is AECOM's understanding of the meeting's proceedings. If you have any questions or additions to these minutes, please either call or email Matthew Potter at (919) 256-6300 or Matthew.Potter@aecom.com.