

**Rockingham County
Bridge No. 131 on US 220 NBL
over Norfolk Southern Railroad
Federal Aid Project No. BRNHS-0220(67)
W.B.S. No. 46066.1.1
T.I.P. No. B-5352**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

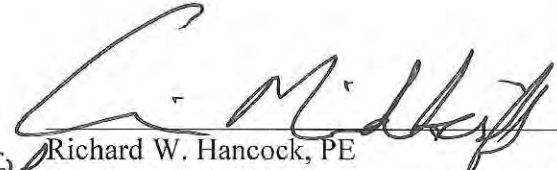
FEDERAL HIGHWAY ADMINISTRATION

AND

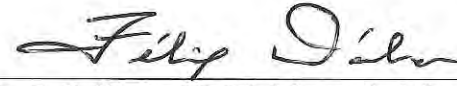
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

11/19/15
DATE

FOR 
Richard W. Hancock, PE
Manager, Project Development & Environmental Analysis Unit

11/19/15
DATE

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

**Rockingham County
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November 2015



Documentation Prepared By:
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11/17/2015
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For the North Carolina Department of Transportation

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11/17/15
DATE

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11/18/15
DATE

PROJECT COMMITMENTS

Rockingham County
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All standard procedures and measures, including NCDOT's Best Management Practices for Protection of Surface Waters, Guidelines for Best Management Practices for Bridge Demolition and Removal, will be implemented, as applicable, to avoid or minimize environmental impacts. The following special commitments have been agreed to by NCDOT:

Commitments Developed through Project Development and Design

Project Development and Environmental Analysis Unit – Natural Environment Section

- The US Fish and Wildlife Service (USFWS) has 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 Rockingham County, where B-5352 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020.

Roadway Design, Structure Design - Railroad

- During final design, all utility providers and railroad operators will be coordinated with to ensure that the proposed design and construction of the project will not substantially disrupt service.

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INTRODUCTION: Bridge No. 131 is included in the current 2016-2025 North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP). The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal “Categorical Exclusion.”

I. PURPOSE AND NEED STATEMENT

NCDOT Bridge Management Unit records indicate Bridge No. 131 has a sufficiency rating of 14.1 out of a possible 100 for a new structure. The bridge is considered structurally deficient and functionally obsolete according to Federal Highway Administration (FHWA) standards.

Components of both the concrete superstructure and substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The bridge is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located on US 220 approximately four miles northeast of downtown Mayodan, three miles southwest of downtown Stoneville, and six miles south of the Virginia state border (see Figure 1). Land uses surrounding the project include a vacant industrial site, forests, Mayo River State Park, and residences.

US 220 is classified as a Rural Freeway (Future Interstate) in the Statewide Functional Classification System. It is a National Highway System route. US 220 is the future I-73/I-74 corridor.

In the vicinity of the bridge, US 220 is a four-lane divided highway with a 26-foot grassed median, two 12-foot travel lanes in each direction and paved shoulders that vary between 4 and 10 feet with shoulder berm and gutter present in some areas. The roadway grade is in a sag vertical curve through the project area. The existing bridge is on a tangent. The roadway is situated approximately 22 feet 7 inches above the existing Norfolk Southern Railroad.

Bridge No. 131 is a three-span structure that consists of an asphalt overlay on a concrete cast-in-place deck on steel girders supported by concrete bents and piers. The existing bridge was constructed in 1968. The overall length of the structure is 121 feet. The clear roadway width is 28.0 feet. This bridge does not have a posted weight limit. Bridge No. 131 carries 2 lanes of northbound traffic across the railroad. A separate bridge structure carries southbound traffic.

There are no utilities attached to the existing structure. Energy United has three power distribution poles with lines running parallel on the west side of US 220. The lines are approximately 80 to 90 feet from the edge of the bridge. There are also aerial and buried Sprint Telephone lines and buried Century Link fiber optic.

The current traffic volume of 16,400 vehicles per day (VPD) is expected to increase to 30,100 VPD by the year 2040. The projected volume includes 14 percent truck-tractor semi-trailer (TTST) and 9 percent dual-tired (DT) vehicles. The posted speed limit is 60 miles per hour in the project area. See the appendix for the traffic forecast diagram.

There were two crashes reported in the vicinity of Bridge No. 131 during a recent three-year period (December 1, 2008 to November 30, 2011). Neither of the two accidents were associated with the alignment or geometry of the bridge or its approach roadway.

The existing bridge does not have any bicycle or pedestrian accommodations and there is no indication of pedestrian usage on or near the bridge. Neither permanent nor temporary bicycle/pedestrian facilities have been included for this project.

III. ALTERNATIVES

A. Preferred Alternative

Bridge No. 131 will be replaced on the existing alignment while traffic will be detoured onsite using existing US 220 southbound lanes and bridge structure west of Bridge No. 131 (see Figure 2).

The permanent replacement structure will be a bridge approximately 143 feet long providing a minimum 42-foot clear deck width. The bridge will include two 12-foot lanes, 6-foot inside shoulder, and 12' outside shoulder. The roadway grade of the new structure will provide a minimum vertical clearance of 23 feet above existing and future railroad tracks.

The approach roadway will extend approximately 750 feet from the south end of the new bridge and 200 feet from the north end of the new bridge. The approaches will include a 24-foot pavement width providing two 12-foot lanes with 12-foot shoulders (10-foot paved and 2-foot grass). Where guardrail is included outside shoulders will be increased to 17 feet (14-foot paved and 3-foot grass). The roadway will be designed as a Rural Freeway (Future Interstate) using Statewide Tier Guidelines with a 65 mile per hour design speed.

The total length of the onsite detour alignment is 1,550 feet. The detour alignment will utilize the existing US 220 southbound bridge that accommodates two 12-foot lanes of traffic. During construction, each direction will utilize one travel lane. Although the cost of the on-site detour is slightly higher than an off-site detour (due to adding pavement to the grassed median), the 8-mile offsite detour would substantially impact school buses, county-wide emergency responders, and vehicular traffic utilizing US 220. Given the use of US 220 by school buses, emergency responders, and commuters, the delay created by the detour is undesirable. NCDOT Division 7 concurs that the preferred alternative is an onsite detour.

B. Alternatives Eliminated from Further Consideration

The “Do-Nothing” alternative would eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by US 220.

“Rehabilitation” of the existing bridge is not practical due to its age and deteriorated condition. Bridge No. 131 has a sufficiency rating of 14.1 out of a possible 100 for a new structure, and the bridge is considered structurally deficient and functionally obsolete. Bridge No. 131 is approaching the end of its useful life.

Staged Construction is not possible with replacement of this bridge because the structure of the existing two-lane bridge does not provide opportunity to replace in-place only one lane at a time.

An Offsite Detour alternative was eliminated due to the length of the offsite detour and the associated impacts on school bus, emergency responders, and vehicular traffic.

IV. ESTIMATED COSTS

The estimated functional design costs, based on 2012 prices, are listed in Table 1:

Table 1. Project Cost Estimates

	Onsite Detour (Preferred)
Structure	\$905,100
Roadway Approaches	\$514,725
Detour Structure and Approaches	\$157,822
Structure Removal	\$60,180
Misc. & Mob.	\$344,545
Eng. & Contingencies	\$333,000
Total Construction Cost	\$2,350,000
Right-of-way Costs	\$0
Right-of-way Utility Costs	\$0
Total Project Cost	\$2,350,000

V. NATURAL ENVIRONMENT

Natural resources in the project study area were reviewed in the field in March 2012 and documented in a Natural Resources Technical Report (NRTR) (June 2012), incorporated by reference. An NRTR Addendum was prepared in August 2015. This section includes a summary of the existing conditions, as well as the potential environmental impacts of the alternatives. A full version of the NRTR and NRTR Addendum can be viewed at the Project Development & Environmental Analysis Unit located at Century Center Bldg. A, 1000 Birch Ridge Drive, Raleigh, NC. The study area referenced in this section combines the original NRTR study area and the additional area studied in the NRTR addendum.

Physical Characteristics

Water Resources

Water resources in the study area are part of the Roanoke River Basin [United States Geological Survey (USGS) Hydrologic Unit 03010103]. Two streams were identified in the study area – unnamed tributary (UT) to UT to Mayo River near Stoneville and UT to Mayo River near Stoneville [NC Division of Water Resources (NCDWR) Index Number 22-30-9].

Table 2. Water Resources

Stream Name	Map ID	Best Usage Class.	Bank Height (ft)	Bankfull Width (ft)	Water Depth (in)	Channel Substrate	Flow	Clarity
UT to UT to Mayo River near Stoneville	SA	WS-IV	1-2	8	<6	Gravel, Cobble	Slow	Clear
UT to Mayo River near Stoneville*	SB	WS-IV	-	-	-	-	-	-

*Stream SB is culverted through the project study area

Biotic Resources

Terrestrial communities in the study area can be classified as Maintained/Disturbed and Mesic Mixed Hardwood Forest. Detailed descriptions of these community types and species observed in the study area can be found in the NRTR and NRTR Addendum.

Table 3. Terrestrial Communities

Community	Coverage (acres)
Maintained/Disturbed	7.2
Mesic Mixed Hardwood Forest	2.9
Total	10.1

Jurisdictional Topics

Surface Waters and Wetlands

Two jurisdictional streams were identified within the project study area. NCDWR and US Army Corps of Engineers (USACE) stream identification forms are contained in the NRTR and NRTR Addendum. The physical characteristics and water quality designation of these streams are detailed above. These streams have been designated as warm water streams for the purposes of stream mitigation.

Table 4. Stream Summary

Map ID	Length (ft)	Classification	Compensatory Mitigation Required	River Basin Buffer
SA	233	Intermittent	Yes	Not Subject
SB	0*	Perennial	No*	Not Subject
Total	233			

*Since the stream is culverted, there is no above-ground stream in the study area that hasn't already been impacted.

No jurisdictional wetlands were identified within the study area.

Permits

The proposed project has been designated as a Categorical Exclusion (CE) for the purposes of the National Environmental Policy Act (NEPA) documentation. As a result of limited environmental impacts, a Nationwide Permit (NWP) 23 will likely be applicable. A NWP 33 may also apply 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. If a Section 404 permit is required, then a Section 401 Water Quality Certification (WQC) from the NCDWR will be needed.

Federally Protected Species

As of March 25, 2015, the US Fish and Wildlife Service (USFWS) lists three federally protected species for Rockingham County. A brief description of these species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area. Habitat requirements for each species are based on the current best available information as per referenced literature and/or USFWS.

Table 5. Federally Protected Species

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Percina rex</i>	Roanoke logperch	E	No	No Effect
<i>Pleurobema collina</i>	James spinymussel	E	No	No Effect
<i>Echinacea laevigata</i>	Smooth coneflower	E	Yes	No Effect

E=Endangered

Roanoke logperch

Habitat Description: In North Carolina, the logperch is known from the upper Roanoke River basin. The fish typically inhabits warm, usually clear, small to medium-sized rivers. These waterways have a moderate to low gradient, and fish usually inhabit riffles and runs, with silt-free sandy to boulder-strewn bottoms. Young are usually found in slow runs and pools with clean sandy bottoms. In winter, logperch may be more tolerant of silty substrates, and may also inhabit pools. Spawning occurs in April or May in deep runs over gravel and small cobble. Males are associated with shallow riffles during the reproductive period; females are common in deep runs over gravel and small cobble, where they spawn. The upper Roanoke River population is threatened by urbanization, industrial development, water supply and flood control projects, and agricultural runoff in the upper basin.

Biological Conclusion: **No Effect.** A thorough description of the habitat assessment and survey results for the Roanoke logperch is included in the NRTR and NRTR Addendum, along with the rationale for the biological conclusion. A copy of the fish and mussel survey report is also attached to this document.

James spinymussel

Habitat Description: The James spinymussel was once found throughout the main stem of the James River and all of its major tributaries upstream of Richmond, VA. The species has experienced a precipitous decline over the past two decades and now exists only in small, headwater tributaries of the upper James River basin in Virginia and West Virginia and the upper Roanoke River drainage of Virginia and North Carolina. The James spinymussel is found in waters with slow to moderate current and relatively hard water on sand and mixed sand-gravel substrates that are free from silt.

Biological Conclusion: **No Effect.** A thorough description of the habitat assessment and survey results for the James spinymussel is included in the NRTR, along with the rationale for the biological conclusion. A copy of the fish and mussel survey report is also attached to this document.

Smooth coneflower

Habitat Description: Smooth coneflower, a perennial herb, is typically found in meadows, open woodlands, the ecotonal regions between meadows and woodlands, cedar barrens, dry limestone bluffs, clear cuts, and roadside and utility right-of-way. In North Carolina, the species normally grows in magnesium- and calcium- rich soils associated with gabbro and diabase parent material, and typically occurs in Iredell, Misenheimer, and Picture soil series. It grows best where there is abundant sunlight, little competition in the herbaceous layer, and periodic disturbances (e.g. regular fire regime, well-timed mowing, careful clearing) that prevents encroachment of shade-producing woody shrubs and trees. On sites where woody succession is held in check, it is characterized by a number of species with prairie affinities.

Biological Conclusion: **No Effect.** Suitable habitat for smooth coneflower is present in the study area along the roadside shoulders and maintained/disturbed areas. A plant-by-plant survey was conducted by qualified biologists throughout areas of suitable habitat on June

13, 2012 and August 17, 2015. No individual plants were found. A review of North Carolina Heritage Program (NCNHP) records, updated August 2015, indicates no known occurrences within 1.0 mile of the study area.

Northern long-eared bat

The USFWS designated the northern long-eared bat (NLEB) (*Myotis septentrionalis*) as a threatened species effective May 4, 2015.

The USFWS has 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 NLEB 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 Rockingham County, where B-5352 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020.

Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

A desktop-GIS assessment of the project study area, as well as the area within a 1.13-mile radius (1.0 mile plus 660 feet) of the project limits, was performed on April 16, 2012 using 2010 color aerials. No water bodies large enough and sufficiently open to be considered potential feeding sources were identified within this search radius. Since there was no foraging habitat within the review area, a survey of the project study area and the area within 660 feet of the project limits was not conducted. Additionally, a review of the NCNHP database in October 2015 revealed no known occurrences of this species within 1.0 mile of the project study area. Due to the lack of habitat, known occurrences, and minimal impact anticipated for this project, it has been determined that this project will not affect this species.

VI. HUMAN ENVIRONMENT

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.

Historic Architecture

NCDOT – Human Environment Section, under the provisions of a Programmatic Agreement with FHWA, NCDOT, Historic Preservation Office (HPO), Office of State Archaeology (OSA) and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined that no historic properties are located within the project’s area of potential effect and that no surveys are required (see form dated January 5, 2012 in the Appendix).

Archaeology

NCDOT – Human Environment Section, under the provisions of a Programmatic Agreement with FHWA, NCDOT, HPO, OSA and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined that no prehistoric or historic properties are located within the project’s area of potential effects and that no surveys are required (see form dated February 3, 2012 in the Appendix).

Community Impacts

No adverse impact on families or communities is anticipated. Right-of-way acquisition will be limited. No relocations will result from implementation of the proposed alternative.

There are no public facilities in the project area, and therefore no effect on public facilities or services is expected. The project is not expected to affect social, economic, or religious opportunities in the area.

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. There are soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will directly affect farmland acreage within these classifications. A preliminary screening with the AD 1006 form resulted in a score of 49 points out of 160. A preliminary score of less than 60 cannot result in a notable impact on protected farmland soils.

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

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 PM_{2.5} 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 mobile source air toxics (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 environment with the use of the current NCDOT standards and specifications.

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

An examination of local, state, and federal regulatory records by the GeoEnvironmental Section revealed no sites with a Recognized Environmental Concern (REC) within the project limits. RECs are most commonly underground storage tanks, dry cleaning solvents, landfills and hazardous waste disposal areas.

Rockingham County is a participant in the National Flood Insurance Program. The current land use around the project limit is predominantly urban. The effective FEMA floodplain mapping indicates that no regulated streams will be involved with this project.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of the project development: FHWA, USACE, USFWS, U.S. Environmental Protection Agency (EPA), NCWRC, Rockingham County Schools, and Rockingham County.

The only project specific comment received was from Rockingham County Schools, which stated, “We have several buses using this area to go to and from Stoneville area. This will have a great impact if the bridge is closed and we cannot go thru this area.”

Response: An on-site detour is being proposed.

IX. PUBLIC INVOLVEMENT

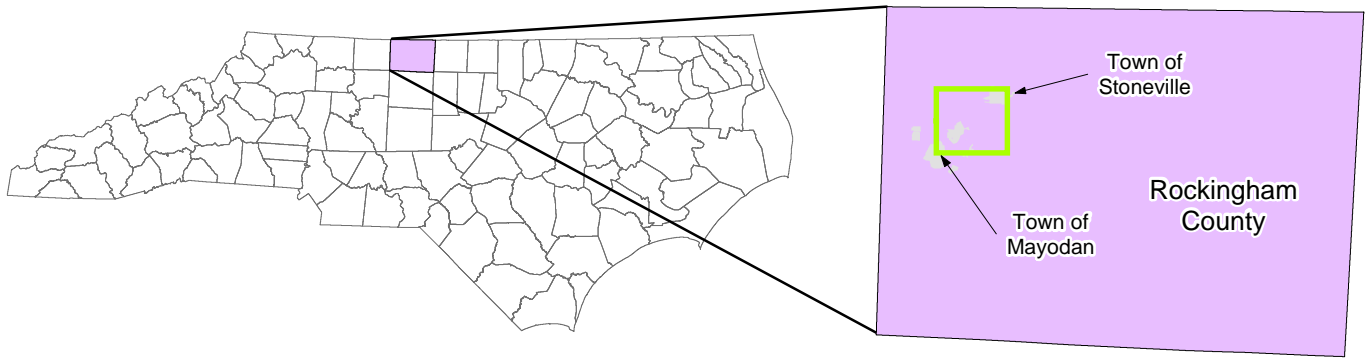
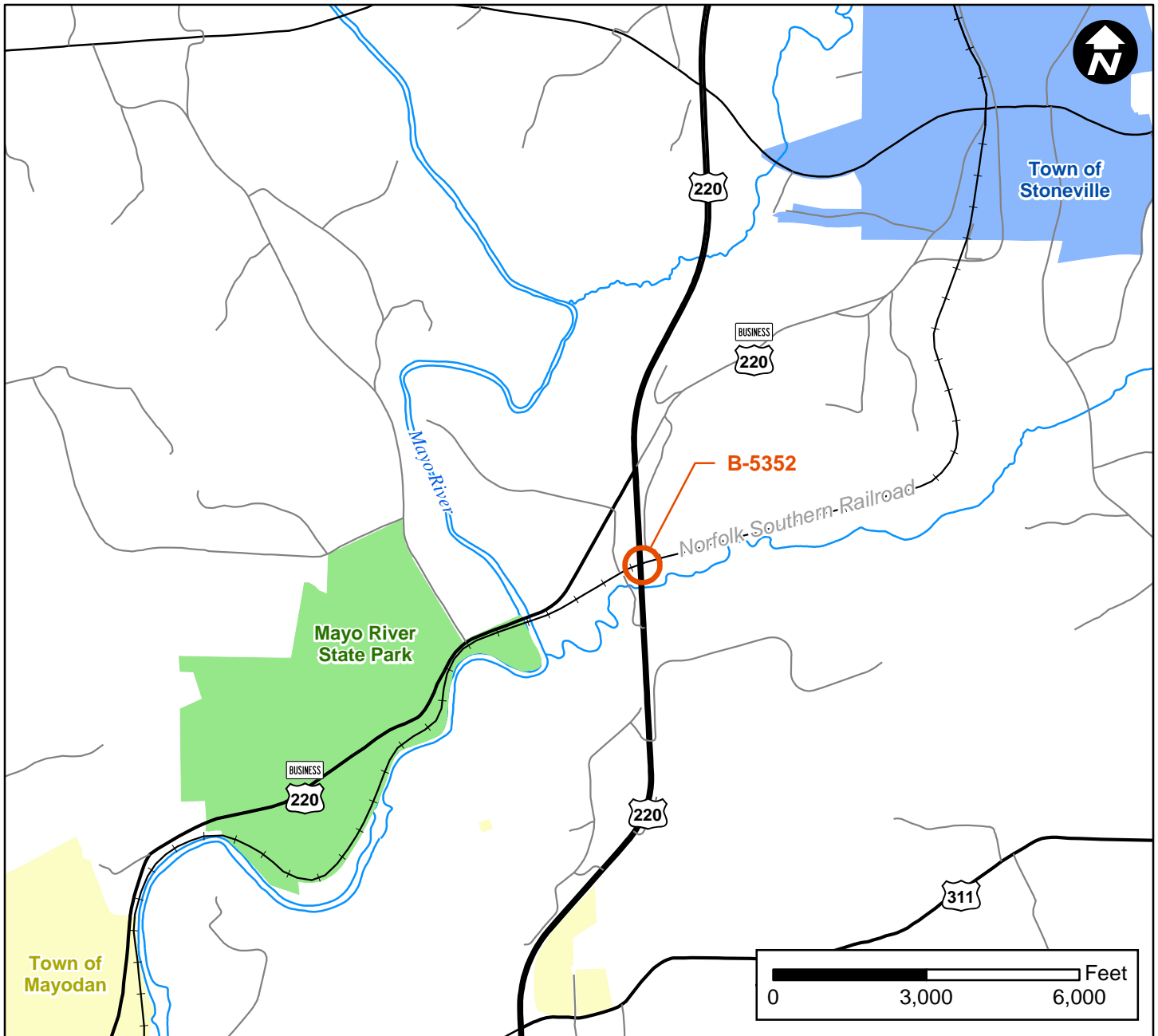
A letter was sent by the Project Development and Environmental Analysis Unit to all property owners affected directly by this project on February 23, 2012. Property owners were invited to comment. No comments have been received to date.

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.

Figures



- Project B-5352
- Rockingham County

Figure 1
Project Vicinity
 NCDOT Project B-5352
 Federal Project No. BRNHS-0220(67)
 W.B.S. No. 46066.1.1
 Bridge No. 131 on US 220 NB over Norfolk Southern Railroad



Temporary On-Site Detour



- Proposed Detour Route
- Prop EOT
- Prop Roadway Bridge
- Jurisdictional Streams

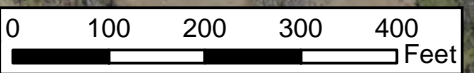


Figure 2
Roadway Design
 NCDOT Project B-5352
 Federal Project No. BRNHS-0220(67)
 W.B.S. No. 46066.1.1
 Bridge No. 131 on US 220 NB over Norfolk Southern Railroad



US 220 End of Bridge
Looking North



US 220 Approach Roadway
Looking North



US 220 Bridge Structure
Looking North



US 220 Bridge Substructure Over Norfolk
Southern Railroad



US 220 Bridge Structure
Looking South



US 220 Approach Roadway
Looking North



Figure 3
Photos

NCDOT Project B-5352
Federal Project No. BRNHS-0220(67)
W.B.S. No. 46066.1.1

Bridge No. 131 on US 220 NB over Norfolk Southern Railroad

Appendix

11-12-0038

NO SURVEY REQUIRED FORM**PROJECT INFORMATION**

Project No: B-5352 County: Rockingham
 WBS No: 46066.1.1 Document: PCE
 F.A. No: BRNHS-0220(67) Funding: State Federal

Federal (USACE) Permit Required? Yes No Permit Type: UNKNOWN

Project Description:

Replace Bridge No. 131 on US 220 over Norfolk Southern Railroad

SUMMARY OF CULTURAL RESOURCES REVIEW*Brief description of review activities, results of review, and conclusions:*

Review of HPO quad maps, relevant background reports, historic designations roster, and indexes was undertaken on January 5, 2012. Based on this review, there were no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects. Rockingham County GIS mapping including aerial photography and tax information revealed one structures within the APE greater than 50 years old. This circa 1961 textile plant does not meet the minimum criteria to be eligible for National Register listing.

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

HPOWEB GIS Service, USGS topographic mapping, and Rockingham County GIS tax data provide reliable information regarding the structures in the APE. These combined utilities are considered valid for the purposes of determining the likelihood of historic resources being present.

SUPPORT DOCUMENTATION

See attached: Maps, photos

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL**NO SURVEY REQUIRED**


 NCDOT Cultural Resources Specialist


 Date

11-12-0038

NO SURVEY REQUIRED FORM**PROJECT INFORMATION**

Project No.	B-5352	County:	Rockingham
WBS No.	46066.1.1	Document:	PCE
F.A. No.	BRNHS-0020(67)	Funding:	<input type="checkbox"/> State <input checked="" type="checkbox"/> Federal
Federal (USACE) Permit Required?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type:	
Project Description: Replace Bridge 131 on US 220 Northbound over Norfolk-Southern Railroad. No design plans provided. Area of Potential Effects (A.P.E.) is 457 meters (1,500 ft.) long and 18 meters (60 ft.) wide. Project is Federally-funded; no information about Federal permits or easements provided.			

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions: Review included examination of topographic map, aerial photograph, soil survey, and listings of previously recorded sites, previous archaeological surveys, and previous environmental reviews at the Office of State Archaeology. Topographic map (Mayodan, N.C.) shows the bridge is located on a ridge toe overlooking a tributary of the Mayodan River. The A.P.E. includes ridgetoes on both sides of the tributary. The northeast quadrant appears to be disturbed by development. The southeast quadrant is undeveloped. The soil survey shows the soils in the A.P.E. are sloped (Stoneville loam) and/or eroded (Mayodan sandy clay loam). There are no previously recorded archaeological sites within the A.P.E., the A.P.E. has not been previously surveyed for archaeological sites, and it has not been part of any projects that have been through environmental review.

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE: The review indicates the A.P.E. has a low to moderate potential for prehistoric archaeological sites. The A.P.E. is located on a ridgetoe overlooking a small stream. The soils in the A.P.E. are sloped and/or eroded. Part of the A.P.E. is probably disturbed by development. The proposed bridge replacement has little potential to impact any archaeological sites.

SUPPORT DOCUMENTATION

Map(s), Previous Survey Info, Photos, Correspondence, Notes

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL

NO SURVEY REQUIRED Archaeology

Historic Architecture

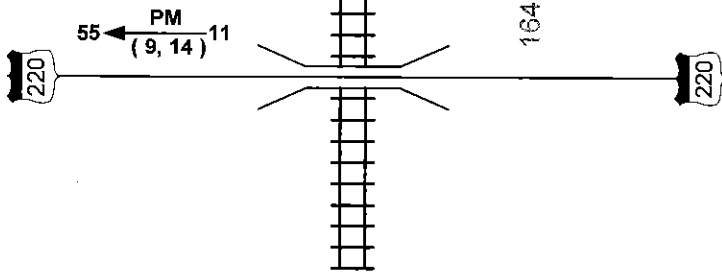
Caleb Smith



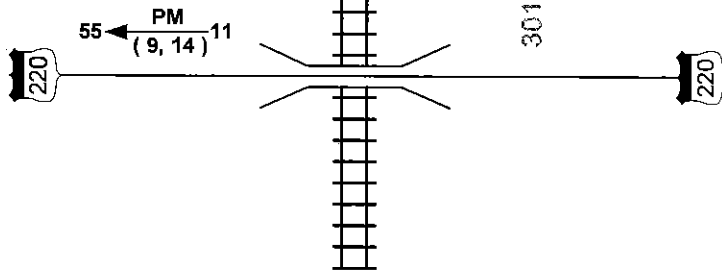
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NCDOT Cultural Resources Specialist

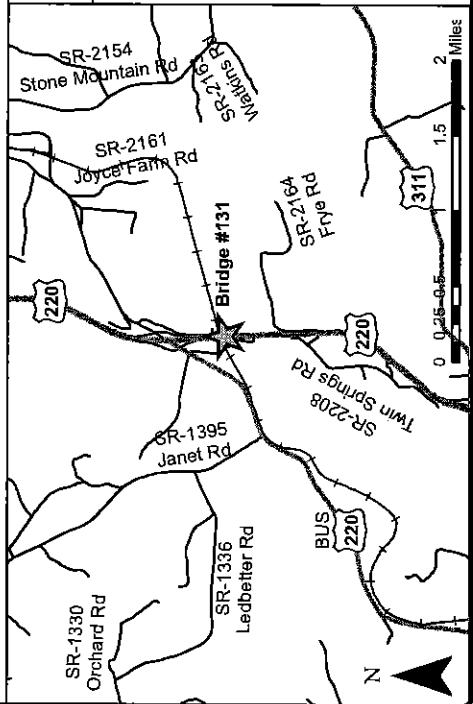
Date



2012 No Build



2040 Build



2012/2040		AVERAGE ANNUAL DAILY TRAFFIC	
LEGEND	### No. of Vehicles Per Day in 100s	TIP: B-5352	WBS: 46066.1.1
1- Less than 50 vpd	Movement Prohibited	COUNTY: Rockingham	DIVISION: 7
X	K $\begin{matrix} \text{PM} \\ \text{(d,t)} \end{matrix} \rightarrow \text{D}$	DATE: January 24, 2012	
	K Design Hour Factor (%)	PREPARED BY: Bryan D. Johnson	
	PM PM Peak Period		
	D Peak Hour Directional Split (%)		
	\uparrow Indicates Direction of D		
	(d, t) Duals, TT-STs (%)		
		LOCATION: Bridge #131 on US 220 over Norfolk Southern Railroad	
		PROJECT: Replace Bridge #131	

Sheet 1 of 1



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

June 1, 2012

Memorandum to: Jim Mason, Environmental Specialist
Natural Environment Section, Project Management Group

From: Neil Medlin, Environmental Program Supervisor
Natural Environment Section, Biological Surveys Group

Subject: Federally protected aquatic species survey report for proposed replacement of bridge No. 131 over Norfolk Southern Railroad on US 220 Bypass in Rockingham County, NC. TIP B-5352, WBS 46066.1.1

The North Carolina Department of Transportation proposes to replace bridge No. 131 over Norfolk Southern Railroad on US 220 Bypass in Rockingham County, NC. While the proposed bridge replacement is not over a stream, the study area includes US 220 Bypass's crossing of an Unnamed Tributary (UT) to the Mayo River. The UT Mayo River and the Mayo River are located in the Roanoke River Basin.

The Roanoke logperch (*Percinia rex*) and James spiny mussel (*Pleurobema collina*) are listed by the United States Fish and Wildlife Service (USFWS) as potentially occurring in Rockingham County. Therefore, surveys of the study area were conducted to document the presence/absence of these species. Roanoke logperch occupies medium to large warm-water streams and rivers of moderate gradient with relatively silt-free substrata. Habitat use by the species varies with age, spawning condition, and seasonal temperature. During different phases of life history and season, every major riverine habitat is exploited by the logperch.

The James spiny mussel was once found throughout the main stem of the James River and all of its major tributaries upstream of Richmond, VA. The species has experienced a precipitous decline over the past two decades and now exists only in small, headwater tributaries of the upper James River basin in Virginia and West Virginia and the upper Roanoke River drainage of Virginia and North Carolina. The James spiny mussel is found in waters with slow to moderate current and relatively hard water on sand and mixed sand-gravel substrates that are free from silt.

Prior to conducting in-stream surveys, a review of the North Carolina Natural Heritage Program (NHP) database was conducted (April 23, 2012) to determine if there were any

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records of rare fish or mussels within the proposed project study area or receiving waters. This review indicated that there are no known occurrences of the federally protected Roanoke logperch or James spiny mussel within the project study area. However, there are records of the Roanoke logperch and James spiny mussel in the Mayo River. The Roanoke logperch record is in the Mayo River below the dam in Mayodan. This record is approximately 3.5 stream miles below the project study area on the UT Mayo River. Records for the James spiny mussel in the Mayo River exist above and below the UT's confluence with the river. The upstream record is a total of 3.7 stream miles from the project study area and the downstream record is a total of 2.3 stream miles from the study area. The project study area on the UT Mayo River is approximately 3/4 mile upstream from the UT's confluence with the Mayo River.

NCDOT biologists Neil Medlin (Permit Number 12-ES00030), Heather Wallace, and Jared Gray along with North Carolina Wildlife Resources Commission biologists Tyler Black and Michael Young conducted a fish survey at the project site on May 17, 2012. The survey was conducted using Smith-Root model LR-24 backpack electrofishing units and dip nets. The stream was sampled with two biologists operating the electrofishing units while two other biologists collected the stunned fish with dip nets. All stunned fish were collected and temporarily placed in a five (5) gallon bucket carried by the other biologist. Fish surveys were conducted from a point approximately 500 meters downstream of the SR 2258 (Pheasant Road) crossing to the bridge on SR 2258 and totaled 4,186 shocking seconds. The fish survey on UT Mayo River was conducted from SR 2258 and not US 220 Bypass due to ease of access, a shorter distance to the known Roanoke logperch records and parking and safety considerations. A mussel survey was conducted simultaneously with fish shocking, using visual methods.

Within in the area surveyed, UT Mayo River was three (3) to six (6) meters wide, and had generally unstable banks up to three (3) meters in height. On the day of the site visit, the overall water depth was shallow; with 85% of the stream reach less than two (2) feet in depth. The flow regimes in the creek included pool, slack, riffle, and run areas. The substrate for the survey reach was composed of silt, sand, clay, gravel, cobble, and bedrock, with sand being the dominant type and clay subdominant. The instream habitat available in UT Mayo River was unsuitable for Roanoke logperch and James spiny mussel. The riparian buffer was wide and the surrounding land use primarily forested in the area of the stream surveyed, but narrow upstream in the area of the US 220 Bypass crossing.

All fish species that were collected during the survey are summarized in Table 1, below. No Roanoke logperch were observed during the site visit on May 17, 2012. In addition, no freshwater mussels were observed during 0.5 person-hours of search time.

Table 1. Fish species and number of individuals collected at the SR 2258 crossing over UT Mayo River, Rockingham County, May 17, 2012.

<u>Common Name</u>	<u>Species Name</u>	<u>Number of Individuals</u>
Rosyside dace	<i>Clinostomus funduloides</i>	3
Bluehead chub	<i>Nocomis leptocephalus</i>	96
Satinfin shiner	<i>Cyprinella analostana</i>	20
Redlip shiner	<i>Notropis chiliticus</i>	12
White shiner	<i>Luxilus albeolus</i>	23
Rosefin shiner	<i>Lythrurus matutinus</i>	170
Crescent shiner	<i>Luxilus cerasinus</i>	65
Swallowtail shiner	<i>Notropis procne</i>	122
Mountain redbelly dace	<i>Phoxinus oreas</i>	6
Creek chub	<i>Semotilus atromaculatus</i>	18
White sucker	<i>Catostomus commersoni</i>	23
Golden redhorse	<i>Moxostoma erythrurum</i>	8
Redbreast sunfish	<i>Lepomis auritus</i>	132
Bluegill	<i>Lepomis macrochirus</i>	17
Pumpkinseed	<i>Lepomis gibbosus</i>	5
Largemouth bass	<i>Micropterus salmoides</i>	4
Fantail darter	<i>Etheostoma flabellare</i>	39

In addition to the current NCDOT mussel survey in UT Mayo River, NCDOT biologists conducted a mussel survey on June 1, 2006 in UT Mayo River below SR 2258 for the potential replacement of that bridge. No evidence of freshwater mussels was observed during that earlier survey.

As a result of the May 17, 2012 NCDOT fish and mussel surveys, results from the 2006 NCDOT mussel survey, and a review of GIS and NHP data, it appears that the Roanoke logperch and James spinymussel do not occur in the UT Mayo River. The UT Mayo River is the only stream in the project study area that could have potentially provided habitat for these two species. Given this information, the replacement of bridge No. 131 on US 220 Bypass of the Norfolk Southern Railroad will have **No Effect** on the Roanoke logperch or the James spinymussel.

References:

NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlingtonon, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed 4/23/2012)

NC Natural Heritage Program. 2011. North Carolina Natural Heritage Program database (Accessed 4/23/12). Raleigh, NC.

[NCWRC] North Carolina Wildlife Resources Commission. North Carolina Mussel Atlas: http://www.ncwildlife.org/pg07_WildlifeSpeciesCon/pg7b1a1.htm. (Accessed 4/23/2012)

File: B-5352, 46066.1.1

Walter, Tracy A

From: Woods, Frankie <fwoods@rock.k12.nc.us>
Sent: Thursday, April 12, 2012 1:53 PM
To: Walter, Tracy A
Subject: Bridge

I have information about the impact that the bridges listed below will have on our bus routes.

Bridge B5352 We have several buses using this area to go to and from the Stoneville area . This will have a great impact if the bridge is closed and we can not go thru this area.

B5343 ok only 1 stop

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God is the source of every good gift I have.

Rockingham County Schools
TIMS Coordinator
Frankie Woods
511 Harrington Hwy
Eden, N.C.27288
336-627-2604 OFFICE
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