Jackson County
Bridge No. 136 on SR 1163
over Pine Creek
Federal Aid Project No. BRZ-1163(10)
W.B.S. No. 46119.1.1
T.I.P. No. B-5404

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

5/29/14
DATE

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

6-3-14
DATE

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

Jackson County
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CATEGORICAL EXCLUSION

Documentation Prepared in
Project Development and Environmental Analysis Unit By:

5-29-14
DATE

Natalie Lockhart
Natalie Lockhart
Project Planning Engineer
Bridge Project Development Section

5-29-14
DATE

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NORTH CAROLINA PROFESSIONAL SEAL 022552 ENGINEER JOHN L. WILLIAMS

PROJECT COMMITMENTS:

Jackson County
Bridge No. 136 on SR 1163
Over Pine Creek
Federal Aid Project No. BRZ-1163(10)
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All Design Groups/Division Resident Construction Engineer – Trout Issues
NCWRC has identified Big Pine Creek as supporting a trout population. Therefore a moratorium on all in water work will be in place from October 15 to April 15 of any given year.

NES, Roadside Environmental, Division – Trout Designation – DSSW
DWQ has designated this stream as trout and therefore Design Standards in Sensitive Watersheds will be incorporated.

Structure Design – TVA Permit
The proposed project is located in the Tennessee Valley Authority's (TVA) Land Management District. The project will require approval under Section 26a of the TVA Act.

Hydraulic Unit – FEMA Coordination
The 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).

Division Construction-FEMA
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.

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INTRODUCTION: Bridge No. 136 is included in the latest approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program. 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. 136 has a sufficiency rating of 10.14 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to a structural evaluation of 3 out of 9 and also considered functionally obsolete because of a deck geometry 2 out of 9 according to Federal Highway Administration (FHWA) standards.

Bridge No. 136 has a fifty-one year old timber substructure which has a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few members are damaged or prematurely deteriorated. However, past a certain degree of deterioration, timber structures become impractical to maintain and upon eligibility are programmed for replacement. Bridge No. 136 is approaching the end of its useful life.

Bridge No. 136 carries 900 vehicles per day with 1600 vehicles per day projected for the year 2040. The posted weight limit on the bridge is 13 tons for single vehicles and 17 tons for truck-tractor semi-trailers. The substandard deck width, bridge railing and approach guardrail is becoming increasingly unacceptable and replacement of the bridge will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located in southwest Jackson County just west of Lake Glenville (see Figure 1). Development in the area is rural with active agricultural uses.

SR 1163 is classified as a minor collector in the Statewide Functional Classification System and it is not a National Highway System Route.

In the vicinity of the bridge, SR 1163 has a 20-foot pavement width with 2-foot grass shoulders (see Figures 3). 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 7 feet above the creek bed.

Bridge No. 136 is a single span bridge. It consists of a timber deck, caps, and piles. The bridge has vertical timber abutments, wooden rails, and steel girders. The existing bridge (see Figure 3) was constructed in 1963. The overall length of the structure is 35 feet. The clear roadway width is 20 feet. The posted weight limit on this bridge is 13 tons for single vehicles and 17 tons for TTST's.

There are no utilities attached to the existing structure, but aerial power lines that cross the east approach to a residence in the southeast quadrant. Power transmission does not occur near the bridge or stream vicinity ending beyond the east and west approaches. There are buried telephone cables along the south shoulder that goes aerial over the creek before returning underground. Utility impacts are anticipated to be low.

The current traffic volume of 900 vehicles per day (VPD) is expected to increase to 1600 VPD by the year 2040. The projected volume includes one percent truck-tractor semi-trailer (TTST) and six percent dual-tired vehicles (DT). The posted speed limit is 35 miles per hour in the project area. One school bus crosses the bridge daily on their morning and afternoon routes.

There were two accidents reported in the vicinity of Bridge No. 136 during a recent three-year period. One crash involved vehicle sideswiping mirrors and the other crash involved a vehicle crossing the centerline, hitting the bridge rail and overturning.

This section of SR 1163 is not part of a designated bicycle route nor is it listed in the T.I.P. as needing incidental bicycle accommodations. Sidewalks do not exist on the existing bridge and there is no indication of pedestrian usage on or near the bridge. Neither permanent nor temporary bicycle or pedestrian accommodations are required for this project.

III. ALTERNATIVES

A. Project Description

The replacement structure will consist of a bridge approximately 70-foot long. The bridge length is based on preliminary design information and is set by hydraulic requirements. The bridge will be of sufficient width to provide for two 10-foot lanes with 3-foot offsets on each side. The roadway grade of the new structure will be approximately the same as the existing grade.

The existing roadway will remain a 20-foot pavement width to provide two 10-foot lanes. Three-foot shoulders will be provided on each side in accordance with the current NCDOT Design Policy (The shoulder will include three additional feet where guardrail is required). This roadway will be designed as a minor collector using Sub-Regional Tier guidelines with a design speed of 60 miles per hour (55 mph Statutory).

B. Reasonable and Feasible Alternatives

Two alternatives for replacing Bridge No. 136 that were studied in detail are described below.

Alternate 1(Preferred)

Alternate 1 involves replacement of the structure along a new location with the existing structure as the detour. Improvements to the approach roadways will be required for a distance of approximately 506 feet to the west and 1033 feet to the east of the new structure (see Figure 2A).

Alternate 2

Alternate 2 involves replacement of the structure along the existing roadway alignment. A temporary detour structure located north of the existing bridge would serve as an on-site detour. The detour is approximately 760 feet long with a 60 foot bridge that includes two ten foot lanes with 3 foot offsets on each side. Improvements to the approach roadways will be required for a distance of approximately 381 feet to the west and 660 feet to the east of the structure (see Figure 2B).

C. Alternatives Eliminated From Further Consideration

The "do-nothing" alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1163.

"Rehabilitation" of the old bridge is not practical due to its age and deteriorated condition. Rehabilitation of a timber structure is generally practical only when a few members are damaged or prematurely deteriorated.

Staged Construction is not feasible for this bridge because the 20-foot deck width and beam configuration will not support removal of a portion and maintenance of traffic on the remaining portion.

An offsite detour was not available.

D. Preferred Alternative

Bridge No. 136 will be replaced on a new location as shown by Alternative 1 in Figure 2A. Alternative 1 costs less than Alternative 2.

NCDOT Division 14 concurs with the selection of Alternative 1 as the preferred alternative.

IV. ESTIMATED COSTS

The estimated costs, based on 2013 prices, are as follows:

	Alternative 1 Preferred	Alternative 2
Structure	$ 185,000	$ 172,000
Roadway Approaches	255,000	349,000
Detour Structure and Approaches	- 0 -	101,000
Structure Removal	17,000	17,000
Misc. & Mob.	140,000	169,000
Eng. & Contingencies	103,000	142,000
Total Construction Cost	$700,000	$ 950,000
Right-of-way Costs	55,000	48,000
Right-of-way Utility Costs	8,000	8,000
Total Project Cost	$763,000	$ 1,006,000

V. NATURAL ENVIRONMENT

Physical Characteristics

Water Resources

Water resources in the study area are part of the Little Tennessee River basin [U.S. Geological Survey (USGS) Hydrologic Unit 06010203]. Four streams were identified in the study area (Table 1). The physical characteristics of these streams are provided in Table 2.

Table 1. Water resources in the study area.

Stream Name	Map ID	NCDWQ Index Number	Best Usage Classification
Pine Creek	Pine Creek	2-79-23-6	WS-III-Tr
UT to Pine Creek	SB	2-79-23-6	WS-III-Tr
UT to Pine Creek	SC	2-79-23-6	WS-III-Tr
UT to Pine Creek	SD	2-79-23-6	WS-III-Tr

Table 2. Physical characteristics of water resources in the study area.

Map ID	Bank Height (ft)	Bankfull Width (ft)	Water Depth (in)	Channel Substrate	Velocity	Clarity
Pine Creek	4	12-15	6-10	Sand, gravel	Moderate	Clear
SB	1.5	1.5	1-3	Sand, gravel, clay	Moderate	Clear
SC	1	2	2-3	Sand, silt	Moderate	Clear
SD	1	1	1-2	Sand	Low	Clear

Two jurisdictional ponds are located in the study area in the southeast quadrant. Approximately 0.07 acre of Pond A is located within the study area, with the rest of the pond falling outside of the study area. Pond B is located entirely within the study area and is approximately 0.02 acre.

There are no designated High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. The North Carolina 2012 Final 303(d) list of impaired waters does not list any streams within 1.0 mile of the project study area. The North Carolina Wildlife Resources Commission (NCWRC) has identified Pine Creek as trout water.

There are no benthic or fish monitoring stations within 1.0 mile of the project study area.

Biotic Resources

Table 3. Coverage of terrestrial communities in the study area.

Community	Coverage (ac.)
Maintained/ Disturbed	6.8
Acid Cove Forest	2.1
Total	**8.9**

Jurisdictional Topics

Surface Waters and Wetlands

Seven jurisdictional wetlands were identified within the study area. Wetland classification and quality rating data are presented in Table 4. All wetlands in the study area are within the Little Tennessee River basin (USGS Hydrologic Unit 06010203). USACE wetland delineation forms and NCDWQ wetland rating forms for each site are included in Appendix C. Wetlands with similar characteristics were grouped on the same Wetland Data Form. Two ponds are located within the project study area.

Table 4. Jurisdictional characteristics of wetlands in the study area.

Map ID	NCWAM Classification	Hydrologic Classification	NCDWQ Wetland Rating	Area (ac.)
WA	Mountain Bog	Riparian	50	0.27
WB	Mountain Bog	Riparian	20	0.02
WC	Bottomland Hardwood Forest	Riparian	38	0.007
WD	Bottomland Hardwood Forest	Non-riparian	20	0.01
WE	Mountain Bog	Riparian	37	0.26
WF	Mountain Bog	Riparian	37	0.25
WG	Headwater Forest	Riparian	20	0.002
			Total	**0.819**

Permits

The proposed project has been designated as a Categorical Exclusion (CE) for the purposes of National Environmental Policy Act (NEPA) documentation. As a result, a Nationwide Permit (NWP) 23 will likely be applicable. A NWP No. 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 NCDWQ will be needed.

Federally Protected Species

As of September 22, 2010, the United States Fish and Wildlife (USFWS) lists seven federally protected species for Jackson County. A brief description of each 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 from referenced literature and/or USFWS.

Table 5. Federally protected species listed for Jackson County

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Glyptemys muhlenbergii	Bog turtle	T(S/A)	Yes	Not Required
Glaucomys sabrinus coloratus	Carolina northern flying squirrel	E	No	No Effect
Myotis sodalis	Indian bat	E	Yes	No Effect
Alasmidonta raveneliana	Appalachian elktoe	E	Yes	No Effect
Isotria medeoloides	Small whorled pogonia	T	Yes	No Effect
Helonias bullata	Swamp pink	T	No	No Effect
Gymnoderma lineare	Rock gnome lichen	E	No	No Effect

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

Bog Turtle
Biological Conclusion: **Not Required**
Species listed as threatened due to similarity of appearance do not require Section 7 consultation with the USFWS. A review of NCNHP records, updated November 2010, indicates no known bog turtle occurrence within 1.0 mile of the project.

Indiana bat
Biological Conclusion: **No Effect**
An inspection of the underside of the bridge was performed and no evidence of bats was detected. There is a minimal degree of human disturbance under the bridge. No bird nests were observed under the bridge. There were no caves or mines detected in the area. A review of NCNHP records (May 2011) indicates that the closest known occurrences of Indiana bats is approximately 15 miles north of the project site in Jackson County and 20 miles northeast of the project site in Haywood County. Crevices suitable for roosting not present, and bats in North Carolina are rarely found roosting in or under bridges with a wooden structure. No roosting habitat was found within the project area.

Appalachian elktoe
Biological Conclusion: **No Effect**
Prior to conducting in-stream surveys, a review of the North Carolina Natural Heritage Program database was conducted (May 5, 2011) to determine if there were any records of rare mussels within the proposed project study area or receiving waters. This review indicated that there are no known occurrences of the federally protected Appalachian elktoe in Pine Creek or any of its tributaries. Records for this species exist from the Tuckaseegee River, more than 20 miles downstream from the study area. Thorpe Lake (drained by the Tuckaseegee River) also lies between the study area and the known occurrence of Appalachian Elktoe. This reservoir would serve as a barrier to passage of any host fish that may be carrying glochidia of mussels.

Small whorled pogonia
Biological Conclusion: **No Effect**
Habitat for small whorled pogonia in the form of a deciduous forests or coniferous forests with an open canopy, open shrub layer and sparse herb layer is present. Surveys for the small whorled pogonia were conducted June 7, 2011 and no specimens were found. A search of the NHP database, updated November 2010, found no occurrence of small whorled pogonia within 1.0 mile of the project. It can be concluded that the project will have no impact on the small whorled pogonia.

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 March 8, 2011 using aerial photography. No water bodies large enough or sufficiently open to be considered potential feeding sources were identified. 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 on March 8, 2011 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 Unit, 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 surveys are required (see form dated June 6, 2011).

Archaeology

NCDOT – Human Environment Section, under the provisions of a Programmatic Agreement (PA) with FHWA, NCDOT, HPO, OSA, and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined that an archaeological survey was required (see form dated March 29, 2011). Subsurface investigations were conducted on April 5, 2011, the results of which did not reveal the presence of any archaeological resources within the Area of Potential Effects (APE). Therefore, a finding of "No Prehistoric or Historic Properties Present/Affected" (in regards to Archaeology) was presented (see form dated April 8, 2011).

Community Impacts

No adverse impact on families or communities is anticipated. Right-of-way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

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.

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. All construction will take place along existing alignment. 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. An AD 1006 form resulted in a score of 75. As is required by the Farmland Protection Policy Act, the Form NRCS-AD-1006 (for point projects) has been completed according to FHWA guidelines. Since this project received 94 points in Parts III and VI, it was submitted to NRCS for review. After NRCS review, the project received a point total of 174, which exceeds the 160 point rating and therefore constitutes a significant impact to farmland. Alternatives exceeding a point total of 160 are those most suitable for protection under FPPA. No other alternatives other than those already 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 disproportionately high and adverse human health and environmental effect on any minority or low-income population.

Noise & Air Quality

The project is located in Jackson County, which has been determined to comply with the National Air Quality Standards. The proposed project is located in an attainment area;

therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

This project will not result in any meaningful changes in traffic volume, 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. As such 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 MSAT's.

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.

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 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.

Jackson 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 Federal Highways Administration has determined that a U.S. Coast Guard Permit is not required for this project.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, NC Department of Environment & Natural Resources, U.S.

Fish & Wildlife Service, N.C Wildlife Resource Commission, Tennessee Valley Authority, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, & Jackson County.

The **N.C. Wildlife Resource Commission** and **U.S. Fish & Wildlife Service** in standardized letters provided a request that they prefer any replacement structure to be a spanning structure.

> **Response**: NCDOT will be replacing the existing structure with a new bridge.

The **Division of Water Quality** stated that Pine Creek is WS-III-TR waters of the State. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. Should NC Wildlife Resource Commission (NCWRC) identify these waters as naturally reproducing trout waters. NCDOT will be required to observe the NCWRC-recommended moratoria for trout. NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" throughout design and construction of the project

> **Response:** NCDOT will adhere to Design Standards in Sensitive Watersheds throughout design and construction of this project.

The **Army Corps of Engineers**, the **Tennessee Valley Authority**, and **N.C. Division of Parks & Recreation** had no special concerns for this project.

IX. PUBLIC INVOLVEMENT

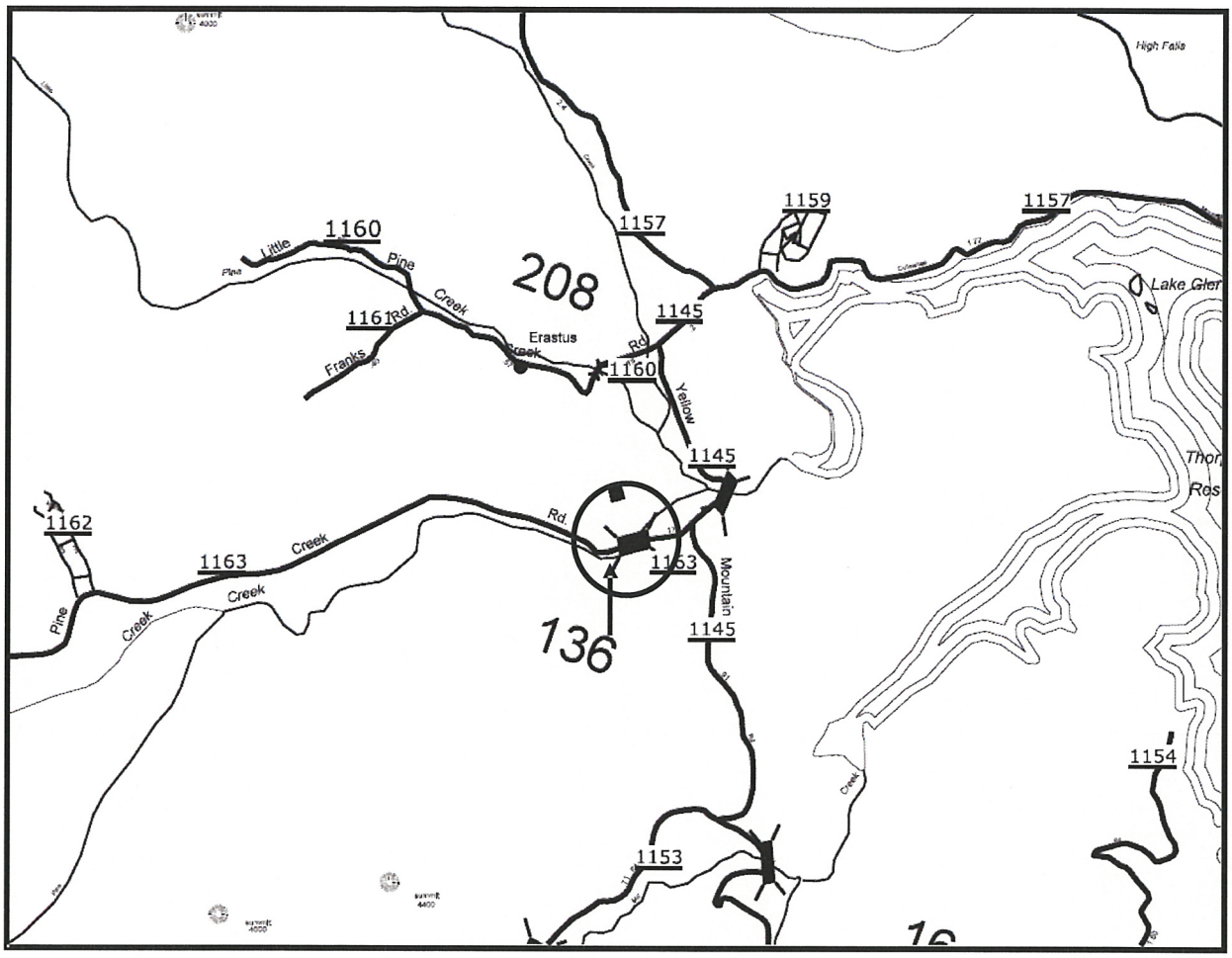
A newsletter has been sent to all those living along SR 1163. No comments have been received to date.

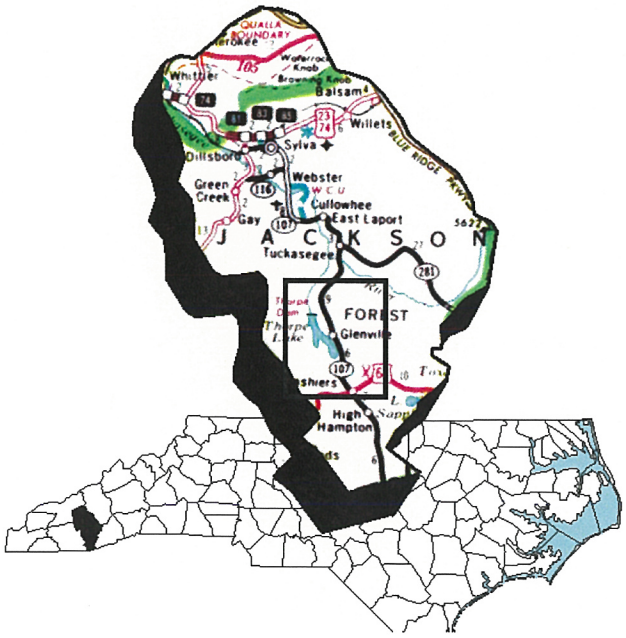
Based on the lack of responses to the newsletter, a Citizen's Informational Workshop was determined unnecessary.

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.





NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH

JACKSON COUNTY
REPLACE BRIDGE NO. 136 ON SR 1163
OVER PINE CREEK
B-5404

Figure 1

By: J.TORTORELLA

ALTERNATE 1 (PREFERRED) :NEW LOCATION
REPLACEMENT OF BRIDGE No. 136
ON SR 1163 (PINE CREEK RD.)
OVER BIG PINE CREEK

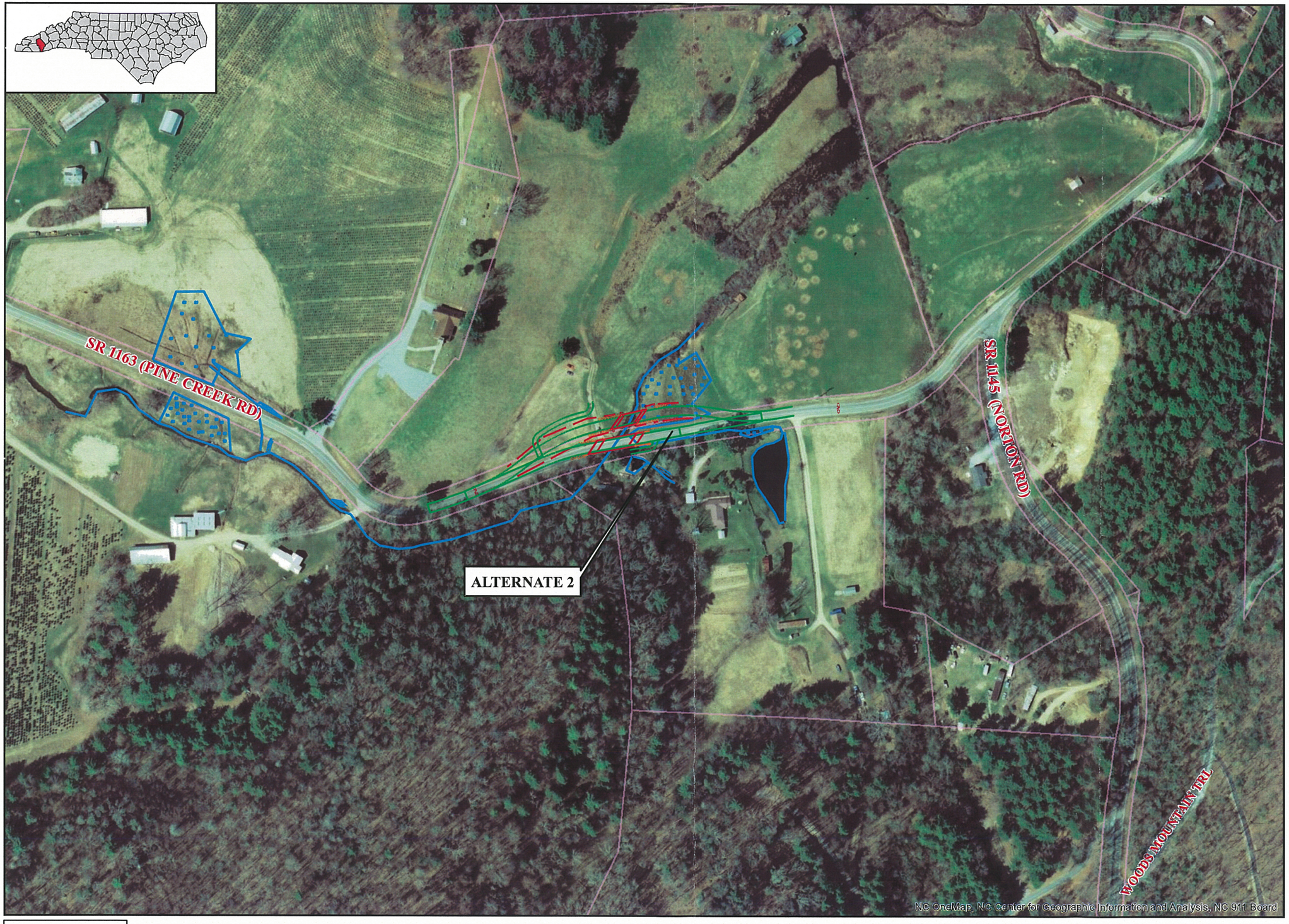
JACKSON COUNTY
TIP PROJECT B-5404

N

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

County: JACKSON	
Div: 14	TIP# B-5404
WBS: 46119.1.1	
Date: MAY 2014	

Figure
2a



By: J.TORTORELLA

ALTERNATE 2 : REPLACE IN EXISTING WITH TEMPORARY DETOUR
REPLACEMENT OF BRIDGE No. 136
ON SR 1163 (PINE CREEK RD.)
OVER BIG PINE CREEK
JACKSON COUNTY
TIP PROJECT B-5404

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

N

County: JACKSON

Div: 14 | TIP# B-5404

WBS: 46119.1.1

Date: MAY 2014

Figure
2b

B-5404

Bridge No. 136 on SR 1163 over Big Pine Creek

Figure 3

North Side of Bridge

West Approach

Project Tracking No. (Internal Use)

11-02-0027

NO HISTORIC PROPERTIES PRESENT/AFFECTED FORM

PROJECT INFORMATION

Project No: B-5404 *County:* Jackson

WBS No: 46119.1.1 *Document:* CE

*F.A. No:*BRZ-1163(10) *Funding:* ☐ State ☒ Federal

Federal (USACE) Permit Required? ☒ Yes ☐ No *Permit Type:*

Project Description:

Replace Bridge No 136 on SR 1163 over Big Pine Creek

SUMMARY OF FINDINGS

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

Historic Architecture/Landscapes

☒ There are no National Register-listed or Study Listed properties within the project's area of potential effects.

☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.

☐ There are no properties within the project's area of potential effects.

☒ There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.

☒ All properties greater than 50 years of age located in the APE have been considered and all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

Archaeology

☐ There are no National Register-listed or Study Listed properties within the project's area of potential effects.

☐ No subsurface archaeological investigations are required for this project.

☐ Subsurface investigations did not reveal the presence of any archaeological resources.

☐ Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.

☐ All identified Archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

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 March 28, 2011. Based on this review, there were no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects (APE). One structure exists within the APE, therefore a site visit was recommended.

On May 2, 2011 a NC DOT Architectural Historian surveyed the entire project area. The circa 1945 Pine Creek Baptist Church and cemetery were identified in the vicinity of the bridge. However the bridge is located on the rise of a steep hill approximately 500 feet from the bridge. Because of the distance, both physical and sight, there will be no effect to the church or cemetery. No historic properties will be affected by the proposed project.

SUPPORT DOCUMENTATION

See attached: Maps, photographs

Signed:

Shelby L Spillers 6/6/2011

Cultural Resources Specialist, NCDOT Date

Representative, HPO Date

HPO/OSA Comments:

Project Tracking No. (Internal Use)

11-02-0027

SURVEY REQUIRED FORM

PROJECT INFORMATION

Project No:	B-5404	*County:*	Jackson
WBS No:	46119.1.1	*Document:*	PCE or CE
F.A. No:	BRZ-1163(10)	*Funding:*	☐ State ☒ Federal

Federal (USACE) Permit Required? ☒ Yes ☐ No *Permit Type:* Unknown at this time

Project Description: Replace Bridge No. 136 on SR 1163 (Big Pine Creek Road) over Big Pine Creek. Detour routes are unknown at this time. The Area of Potential Effects (APE) for this bridge replacement project measures approximately 2000' long by 80' wide, centered on the existing structure. The bridge was constructed in 1963 and is considered to be structurally deficient and functionally obsolete.

SUMMARY OF CULTURAL RESOURCES REVIEW – *SURVEY REQUIRED*

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

A map review and site file search was conducted at the Office of State Archaeology (OSA) on Friday, March 18, 2011. A comprehensive survey of the area around Bridge No. 136 has never been conducted. However, located within one (1) mile of the proposed project are three (3) previously recorded archaeological sites, two of which are located along the shore of Lake Glenville/Thorpe Reservoir where Big Pine Creek drains into it. One (1) of the archaeological sites has not been evaluated regarding its eligibility for the National Register of Historic Places (NRHP). The two (2) archaeological sites located along the shore of Lake Glenville have previously been determined not eligible for the NRHP based on a lack of integrity; however, both historic and prehistoric components were present. Digital copies of HPO's maps (Glenville Quadrangle) were reviewed on Tuesday, March 29, 2011; there are no recorded historic structures that may have intact archaeological deposits located within the footprint of the proposed project. The Erastus Cemetery is associated with and located behind the Pine Creek Baptist Church along a narrow ridgeline. Based on current tax records, the church and cemetery (on 3 adjoining parcels) have been in existence since 1925, with the current church having been built in 1945. From an archaeological perspective, there should be no impact at all to either the church or its cemetery. Topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the archaeological APE.

A review of USGS maps, Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app), and Jackson County – GIS/Mapping System reveal a project area (i.e. APE) composed of steep, rolling as well as gently sloping to level terrain. Various soils located within the APE consist of: Nikwasi fine sandy loam (NkA), 0 to 2 percent slopes, frequently flooded (53.9%), Dillard loam (DrB), 1 to 5 percent slopes, rarely flooded (20.9%), Statler loam (SvB), 1 to 5 percent slopes, rarely flooded (12.2%), Edneyville-Chestnut complex (EdD), 15 to 30 percent slopes, stony (8.5%), and Tuckasegee-Whiteside complex (TwC), 8 to 15 percent slopes (4.5%). Based on soils information and contours, pockets of Dillard and Statler soils may have the potential for containing intact archaeological materials.

Although there currently is no design for this particular project, areas within the APE can be written off based on current topography (i.e. steeply sloped) or soils information (i.e. frequently flooded). With these areas removed from the APE, what remains are pockets of relatively level and rarely flooded Dillard and Statler soils (as noted above). Therefore, an archaeological survey is recommended for this project. A visual inspection of the entire corridor should be conducted; however, archaeological investigations should be concentrated solely on those pockets of Dillard and Statler soils. If design plans change prior to construction, then additional consultation regarding archaeology may be required.

SUPPORT DOCUMENTATION

See attached: Map(s) and aerial(s)

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL -- *SURVEY REQUIRED*

Archaeology Historic Architecture (circle one)

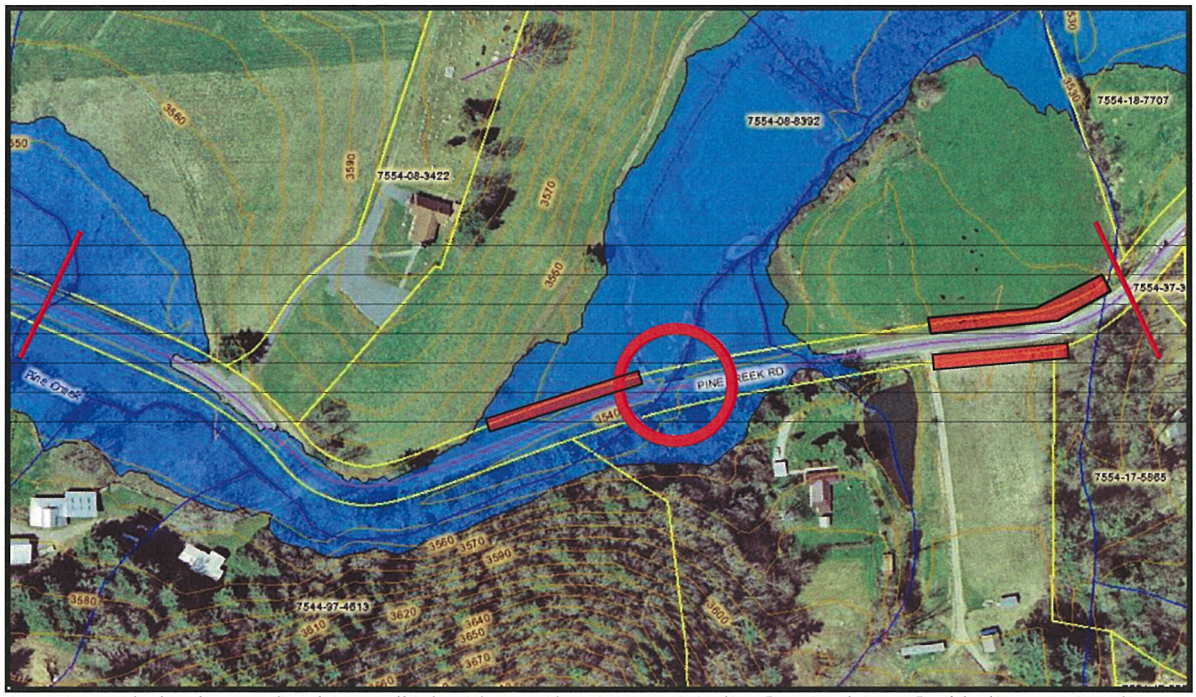
Paul J Mohler March 29, 2011

NCDOT Cultural Resources Specialist Date

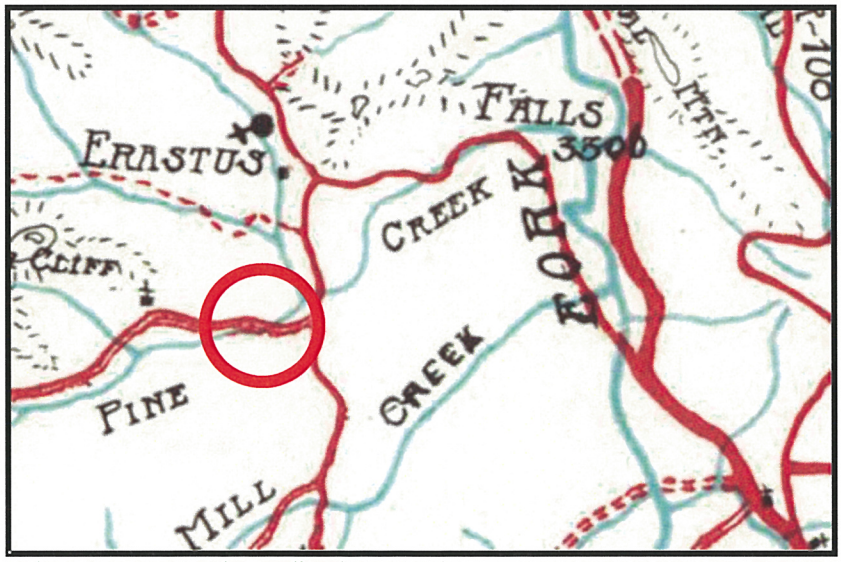
June 29, 2011

Proposed fieldwork completion date

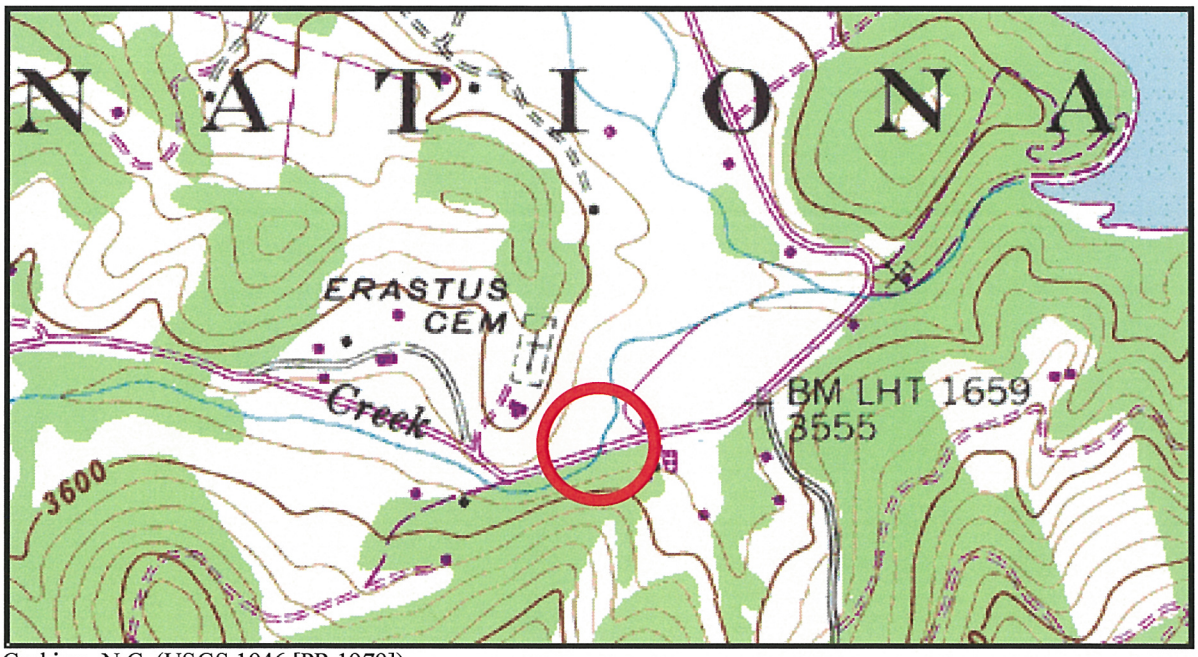
Flood Hazard Polygons displayed on Jackson County Orthos [year unknown] (http://maps.jacksonnc.org/gomaps/map/Index.cfm, last accessed 29 Mar 2011).



Contours and Flood Hazard Polygons displayed on Jackson County Orthos [year unknown] with three areas to be archaeologically tested shaded in red (http://maps.jacksonnc.org/gomaps/map/Index.cfm, last accessed 29 Mar 2011).



Jackson County, North Carolina (Cox 1924)



Cashiers, N.C. (USGS 1946 [PR 1979])

Project Tracking No. (Internal Use)

11-02-0027

NO PREHISTORIC OR HISTORIC PROPERTIES PRESENT/AFFECTED FORM

PROJECT INFORMATION

Project No:	B-5404	*County:*	Jackson
WBS No:	46119.1.1	*Document:*	PCE or CE
F.A. No:	BRZ-1163(10)	*Funding:*	☐ State ☒ Federal

Federal (USACE) Permit Required? ☒ Yes ☐ No *Permit Type:* Unknown at this time

Project Description: Replace Bridge No. 136 on SR 1163 (Big Pine Creek Road) over Big Pine Creek. Detour routes are unknown at this time. The Area of Potential Effects (APE) for this bridge replacement project measures approximately 2000' long by 80' wide, centered on the existing structure. The bridge was constructed in 1963 and is considered to be structurally deficient and functionally obsolete.

SUMMARY OF FINDINGS

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

Historic Architecture/Landscapes

- ☐ There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- ☐ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- ☐ There are no properties within the project's area of potential effects.
- ☐ There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- ☐ All properties greater than 50 years of age located in the APE have been considered and all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- ☐ There are no historic properties present or affected by this project. (*Attach any notes or documents as needed*)

Archaeology

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

SUMMARY OF CULTURAL RESOURCES REVIEW

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

A map review and site file search was conducted at the Office of State Archaeology (OSA) on Friday, March 18, 2011. A comprehensive survey of the area around Bridge No. 136 has never been conducted. However, located within one (1) mile of the proposed project are three (3) previously recorded archaeological sites, two of which are located along the shore of Lake Glenville/Thorpe Reservoir where Big Pine Creek drains into it. One (1) of the archaeological sites has not been evaluated regarding its eligibility for the National Register of Historic Places (NRHP). The two (2) archaeological sites located along the shore of Lake Glenville have previously been determined not eligible for the NRHP based on a lack of integrity; however, both historic and prehistoric components were present. Digital copies of HPO's maps (Glenville Quadrangle) were reviewed on Tuesday, March 29, 2011; there are no recorded historic structures that may have intact archaeological deposits located within the footprint of the proposed project. The Erastus Cemetery is associated with and located behind the Pine Creek Baptist Church along a narrow ridgeline. Based on current tax records, the church and cemetery (on 3 adjoining parcels) have been in existence since 1925, with the current church having been built in 1945. From an archaeological perspective, there should be no impact at all to either the church or its cemetery. Topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the archaeological APE.

As stated in the *Survey Required Form* for this project, "Although there currently is no design for this particular project, areas within the APE can be written off based on current topography (i.e. steeply sloped) or soils information (i.e. frequently flooded). With these areas removed from the APE, what remains are pockets of relatively level and rarely flooded Dillard and Statler soils. Therefore, an archaeological survey is recommended for this project. A visual inspection of the entire corridor should be conducted; however, archaeological investigations should be concentrated solely on those pockets of Dillard and Statler soils. If design plans change prior to construction, then additional consultation regarding archaeology may be required."

Flooded soils and sharp topography eliminated large sections from being surveyed. Those remaining sections consisted of flat, relatively level fields reminiscent of a mountain cove setting. STP's 1 and 2 were positioned in one of these fields on the south side of SR 1163 underneath a power line. STP's 3 through 5 were positioned in the Northwest Quadrant of Bridge No. 136, albeit within the floodzone of Big Pine Creek. Access to a field that could be surveyed was denied; however, this field is located over 400' east of Bridge No. 136. Impacts to this particular field are not anticipated; however, once design plans have been drawn, additional work may be required if there are proposed activities outside the existing ROW within this field. No cultural material was discovered from any of the shovel tests. Survey was conducted on Wednesday, April 5, 2011.

Shovel Test Pit Discussion (see map for spatial reference):
STP 1: 0-60cmbs, 10YR 3/3 SI LM with mica; 60-80cmbs (augured), 10YR 5/4 SI CL LM. Hit water table at 60cmbs. No cultural material.
STP 2: 0-56cmbs, 10YR 3/3 SI LM with mica; 56-62cmbs, 10YR 5/4 SI CL LM. Hit water table at 56cmbs. Small cobbles present; however, no cultural material. Located 20 meters east of STP 1.
STP 3: 0-30cmbs, 10YR 3/4 SI LM; 30-44cmbs, 10YR 5/6 SA LM, wet. No cultural material.
STP 4: 0-41cmbs, 10YR 3/4 SI LM; 41-47cmbs, 10YR 5/6 SA LM. No cultural material. Located 30 meters west of STP 3.
STP 5: 0-67cmbs, 10YR 2/2 LM; 67-70cmbs, 10YR 5/6 LM with some silt. Heavily micaceous. Located 30 meters west of STP 4. Near base of ridge toe. Lots of colluvium present, but no cultural material.

SUPPORT DOCUMENTATION

See attached: Figures and Photos
Signed:

Paul J. Mohler

April 8, 2011

Cultural Resources Specialist, NCDOT — Date