

TIP Project No.	<u>B-4714</u>
W.B.S. No.	<u>38488.1.2</u>
Federal Project No.	<u>BRZ-1612(3)</u>

A. Project Description:

STIP Project B-4714 involves replacing Bridge No. 13 on SR 1612 (Gibbs Road) over Turkey Creek in Buncombe County. See Figure 1 for a project vicinity map.

The proposed project is included in the 2016-2025 State Transportation Improvement Program (STIP). Right of way acquisition and construction are scheduled for state fiscal years 2019 and 2020, respectively, in the draft 2017-2027 STIP.

The estimated costs of the project are as follows:

Total Construction Cost	\$ 1,150,000
Right-of-way Costs (STIP)	\$ 81,000
Right-of-way Utility Costs	\$ 20,000
Total Project Cost	\$ 1,251,000

The total cost for the project included in both the approved 2016-2025 STIP and draft 2017-2027 STIP is \$1,425,000. This total includes \$75,000 for right of way acquisition and \$1,350,000 for construction.

The proposed replacement structure will be a bridge approximately 100 feet long providing a 30-foot 10-inch clear roadway width. The bridge width will include two 10-foot lanes and two five-foot five-inch offsets. The roadway grade of the new structure will be elevated in order to maintain the hydraulic conveyance with the use of 39-inch box beams.

Project construction on SR 1612 will extend approximately 245 feet from the northwest end of the new bridge and 500 feet from the southeast end of the new bridge. The approaches to the new bridge will be widened to include a 20-foot pavement with three-foot grass shoulders on each side (7-foot width shoulders will be utilized where guardrail is included). See Figure 2 for the proposed design plan. The roadway will be designed as a Rural Local Route using Sub Regional Tier guidelines with a 40 mile-per-hour design speed.

Traffic will be detoured off-site during construction of the new bridge. See Figure 1 and Section D for the proposed detour route.

B. Purpose and Need:

The purpose of the proposed project is to replace an obsolete bridge.

Bridge No. 13 was built in 1976. The bridge is 91 feet long with a 24-foot clear roadway width. The bridge superstructure consists of concrete channel beams. The substructure consists of concrete caps on timber piles.

NCDOT Bridge Management Unit records indicate Bridge No. 13 has a sufficiency rating of 39.76 out of a possible 100 for a new structure. The bridge is

considered functionally obsolete due to a structural appraisal of 3 out of 9 and a deck geometry appraisal of 4 out of 9. The structural and geometric condition appraisals are established by FHWA. The bridge has a posted weight limit of 22 tons for single vehicles and 25 tons for truck tractor semi-trailers.

The bridge has timber elements that are over forty years old. Timber components have a typical life expectancy of 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 elements are damaged or prematurely deteriorated. However, past a certain degree of deterioration, most timber elements become impractical to maintain and, upon eligibility, are programmed for replacement. Both the timber and concrete components of Bridge No. 13 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities, therefore the bridge is approaching the end of its useful life and should be replaced.

In 2013, Bridge No. 13 carried 490 vehicles per day and is estimated to carry 1,020 vehicles per day in the future (2025 ADT). Bridge No. 13 carries two lanes of traffic. The substandard deck width is becoming increasingly unacceptable and replacement of the bridge will result in safer traffic operations.

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
 - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
 - b. Widening roadway and shoulders without adding through lanes
 - c. Modernizing gore treatments
 - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
 - e. Adding shoulder drains
 - f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
 - g. Providing driveway pipes
 - h. Performing minor bridge widening (less than one through lane)
 - i. Slide Stabilization
 - j. Structural BMP's for water quality improvement

2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
 - a. Installing ramp metering devices
 - b. Installing lights
 - c. Adding or upgrading guardrail
 - d. Installing safety barriers including Jersey type barriers and pier protection

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- e. Installing or replacing impact attenuators
 - f. Upgrading medians including adding or upgrading median barriers
 - g. Improving intersections including relocation and/or realignment
 - h. Making minor roadway realignment
 - i. Channelizing traffic
 - j. Performing clear zone safety improvements including removing hazards and flattening slopes
 - k. Implementing traffic aid systems, signals, and motorist aid
 - l. Installing bridge safety hardware including bridge rail retrofit
3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
 - a. Rehabilitating, reconstructing, or replacing bridge approach slabs
 - b. Rehabilitating or replacing bridge decks
 - c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
 - d. Replacing a bridge (structure and/or fill)
 4. Transportation corridor fringe parking facilities.
 5. Construction of new truck weigh stations or rest areas.
 6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
 7. Approvals for changes in access control.
 8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
 9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.
 10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
 11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
 12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives,

including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.

13. Acquisition and construction of wetland, stream and endangered species mitigation sites.
14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

Estimated Traffic:

Current (2013)-		490 vpd
Year 2025	-	1,020 vpd
TTST	-	0%
Dual	-	6%

Accidents: Two accidents occurred in the vicinity of the project between January 2005 and January 2015. Neither of the two accidents were associated with the geometry of the bridge or its approach roadways.

Design Exceptions: There are no anticipated design exceptions for this project.

Pedestrian and Bicycle Accommodations: This portion of SR 1612 is not a part of a designated bicycle route nor it is listed in the 2015 Transportation Improvement Program (TIP) as a bicycle project. Neither permanent nor temporary bicycle or pedestrian accommodations are required for this project.

Bridge Demolition: Bridge No. 13 is constructed of timber and concrete and it should be possible to remove with no resulting debris in the water based on standard demolition practices.

Alternatives Discussion:

No-Build – The no-build alternative would result in eventually closing the bridge, which is unacceptable given the volume of existing and projected traffic served by SR 1612.

Rehabilitation – The existing bridge was constructed in 1976 and the timber and concrete materials that make up the bridge are reaching the end of their useful life. Rehabilitation would require replacing most, if not all, of the timber and concrete components which would constitute effectively replacing the bridge.

Offsite Detour – Bridge No. 13 will be replaced on the existing alignment. Traffic will be detoured off-site (see Figure 1 for the proposed

detour route) during the construction period. The *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 offsite detour for this project would include SR 1608, NC 63, and SR 1610. The detour for the average road user would result in approximately 10 minutes additional travel time (approximately 5.25 miles additional travel). Up to a six month construction duration is expected for this project.

Based on the Guidelines, the criteria above indicate that the detour is acceptable. Buncombe County Emergency Services along with Buncombe County Schools Transportation have also indicated the detour is acceptable. NCDOT Division 13 has indicated the condition of all roads, bridges, and intersections on the offsite detour are acceptable without improvement and concurs with the use of the detour.

On-site Detour – An on-site detour was not evaluated due to the presence of an acceptable off-site detour.

Staged Construction – Staged construction was not considered a worthwhile option.

New Alignment – Given that the current alignment for SR 1612 is acceptable, a new alignment of SR 1612 was not considered a beneficial alternative.

Other Agency Comments:

No substantive comments were received from other agencies on this project.

Stakeholder & Public Involvement:

A landowner notification letter and a project information postcard were sent to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

E. Threshold Criteria

ECOLOGICAL

	<u>YES</u>	<u>NO</u>
(1) Will the project have a substantial impact on any unique or important natural resource?	<input type="checkbox"/>	<u>X</u>
(2) Does the project involve habitat where federally listed endangered or threatened species may occur?	<input checked="" type="checkbox"/>	_____
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<u>X</u>

NCDOT PROGRAMMATIC CATEGORICAL EXCLUSION (PCE) ACTION CLASSIFICATION FORM

- | | | | |
|-----|--|--------------------------|--------------------------|
| (4) | If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated? | <u> X </u> | <input type="checkbox"/> |
| (5) | Will the project require the use of U. S. Forest Service lands? | <input type="checkbox"/> | <u> X </u> |
| (6) | Will the quality of adjacent water resources be adversely impacted by proposed construction activities? | <input type="checkbox"/> | <u> X </u> |
| (7) | Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)? | <input type="checkbox"/> | <u> X </u> |
| (8) | Will the project require fill in waters of the United States in any of the designated mountain trout counties? | <input type="checkbox"/> | <u> X </u> |
| (9) | Does the project involve any known underground storage tanks (UST's) or hazardous materials sites? | <input type="checkbox"/> | <u> X </u> |

PERMITS AND COORDINATION

YES NO

- | | | | |
|------|--|--------------------------|-----------------------|
| (10) | If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)? | <input type="checkbox"/> | <u> N/A </u> |
| (11) | Does the project involve Coastal Barrier Resources Act resources? | <input type="checkbox"/> | <u> X </u> |
| (12) | Will a U. S. Coast Guard permit be required? | <input type="checkbox"/> | <u> X </u> |
| (13) | Could the project result in the modification of any existing regulatory floodway? | <input type="checkbox"/> | <u> X </u> |
| (14) | Will the project require any stream relocations or channel changes? | <input type="checkbox"/> | <u> X </u> |

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

YES NO

- | | | | |
|------|---|--------------------------|---------------------|
| (15) | Will the project induce substantial impacts to planned growth or land use for the area? | <input type="checkbox"/> | <u> X </u> |
| (16) | Will the project require the relocation of any family or business? | <input type="checkbox"/> | <u> X </u> |
| (17) | Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population? | <input type="checkbox"/> | <u> X </u> |

NCDOT PROGRAMMATIC CATEGORICAL EXCLUSION (PCE) ACTION CLASSIFICATION FORM

- | | | | |
|------|---|--------------------------|--------------------------|
| (18) | If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor? | <u> X </u> | <input type="checkbox"/> |
| (19) | Will the project involve any changes in access control? | <input type="checkbox"/> | <u> X </u> |
| (20) | Will the project substantially alter the usefulness and/or land use of adjacent property? | <input type="checkbox"/> | <u> X </u> |
| (21) | Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness? | <input type="checkbox"/> | <u> X </u> |
| (22) | Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)? | <u> X </u> | <input type="checkbox"/> |
| (23) | Is the project anticipated to cause an increase in traffic volumes? | <input type="checkbox"/> | <u> X </u> |
| (24) | Will traffic be maintained during construction using existing roads, staged construction, or on-site detours? | <u> X </u> | <input type="checkbox"/> |
| (25) | If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility? | <u> X </u> | <input type="checkbox"/> |
| (26) | Is there substantial controversy on social, economic, or environmental grounds concerning the project? | <input type="checkbox"/> | <u> X </u> |
| (27) | Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project? | <u> X </u> | <input type="checkbox"/> |
| (28) | Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places? | <input type="checkbox"/> | <u> X </u> |
| (29) | Will the project affect any archaeological remains which are important to history or pre-history? | <input type="checkbox"/> | <u> X </u> |
| (30) | Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)? | <input type="checkbox"/> | <u> X </u> |
| (31) | Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended? | <input type="checkbox"/> | <u> X </u> |
| (32) | Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers? | <input type="checkbox"/> | <u> X </u> |

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2:

Construction authorization will not be requested until Endangered Species Act (ESA) Section 7 compliance is satisfied for those species with a Biological Conclusion of “Unresolved.” These species include: Gray Bat; Northern long-eared bat; Spotfin Chub; Appalachian Elktoe; and Tan Riffleshell.

G. CE Approval

TIP Project No.	<u>B-4714</u>
W.B.S. No.	<u>38488.1.2</u>
Federal Project No.	<u>BRZ-1612(3)</u>

Project Description:

STIP Project B-4714 involves replacing Bridge No. 13 on SR 1612 (Gibbs Road) over Turkey Creek in Buncombe County.

Categorical Exclusion Action Classification:

<u> </u>	TYPE II(A)
<u> X </u>	TYPE II(B)

Prepared:

3/13/2017	DocuSigned by: <i>Bryan Douglas Taylor</i>
<u> </u>	<hr/>
Date	21A622FAB404408 Doug Taylor, PE - Manager of Transportation Services STEWART Engineering, Inc.

Approved:

3/15/2017	DocuSigned by: <i>Angela Sanderson</i>
<u> </u>	<hr/>
Date	297E13451925471 Angela Sanderson – Project Planning Engineer Project Development & Environmental Analysis Unit

3/15/2017	DocuSigned by: <i>James McInnis, Jr.</i>
<u> </u>	<hr/>
Date	08B0E88DDF8141B James McInnis, Jr., PE - Project Engineer Project Development & Environmental Analysis Unit

For Type II(B) projects only:

3/15/2017	DocuSigned by: <i>Ronald G. Lucas</i>
<u> </u>	<hr/>
Date	7767B71B714A4F1 John Sullivan, III, PE, Division Administrator Federal Highway Administration

PROJECT COMMITMENTS:

Bridge No. 13 on SR 1612 (Gibbs Road) Over Turkey Creek
Buncombe County
W.B.S. No. 38488.1.2
STIP Project B-4714

Division Thirteen Construction, Resident Engineer's Office

In order to have time to adequately reroute school buses, Buncombe County Schools (828-232-4240) will be contacted at least one month prior to road closure.

Buncombe County Emergency Services (828-250-6630) will be contacted at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

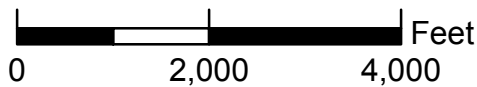
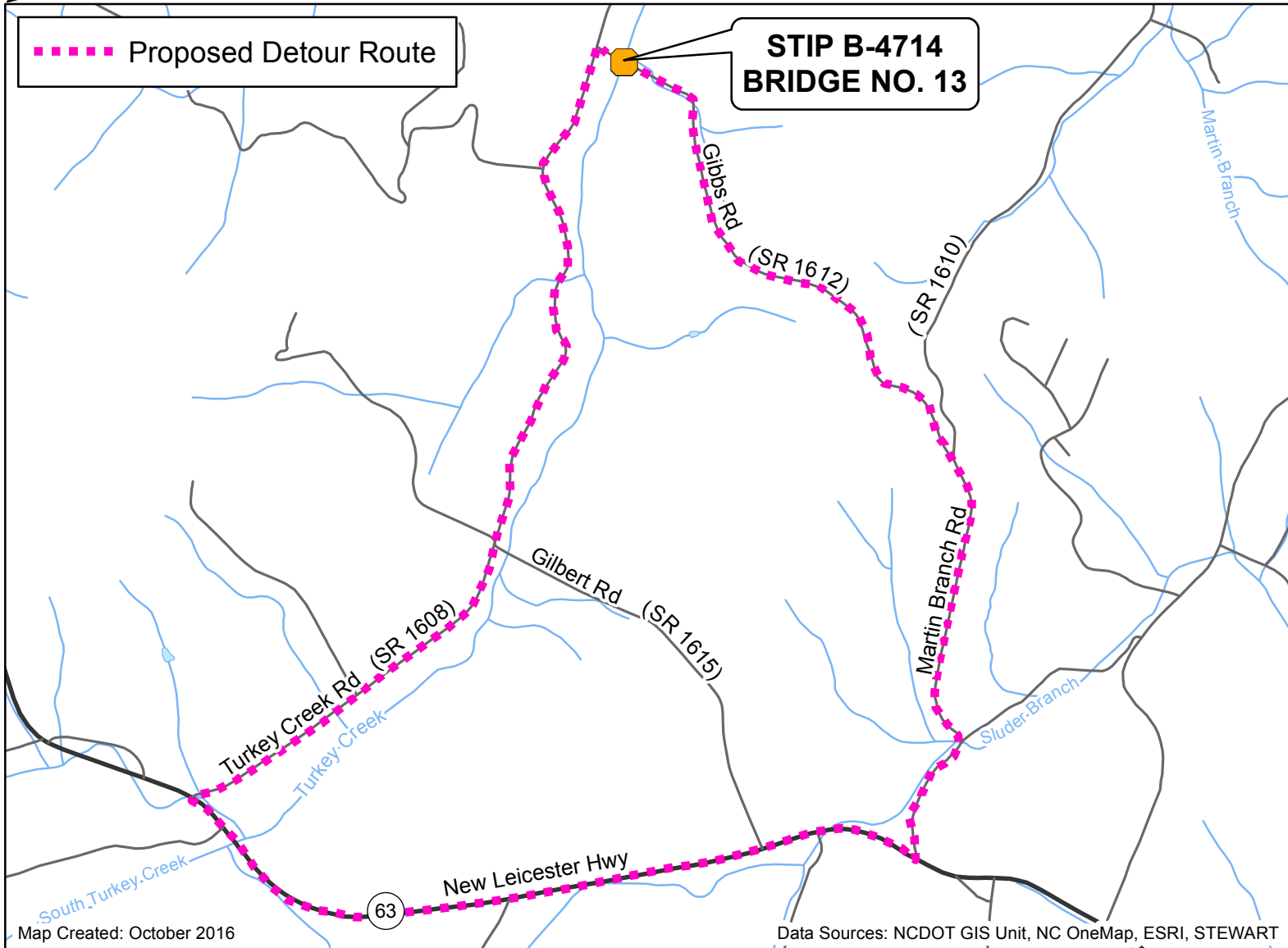
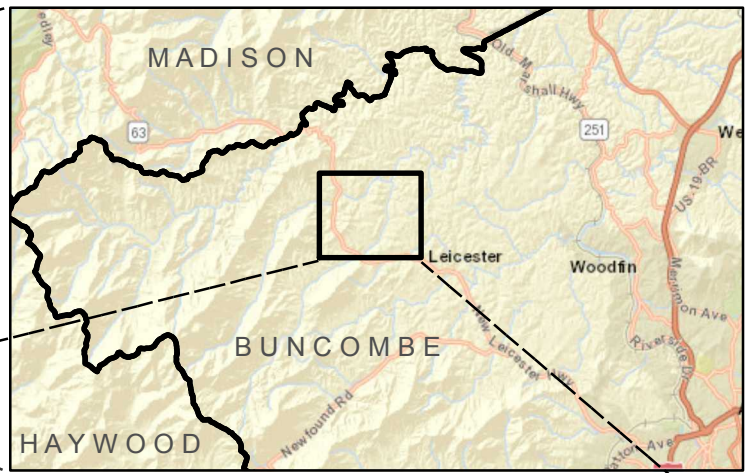
NCDOT Natural Environment Section (NES) – Biological Surveys Group

Construction authorization will not be requested until Endangered Species Act Section 7 compliance is satisfied for those species with a Biological Conclusion of "Unresolved." These species include: Gray Bat; Northern long-eared bat; Spotfin Chub; Appalachian Elktoe; and Tan Riffleshell.

NCDOT Hydraulics Unit

The Hydraulics Unit will coordinate with FEMA 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).

APPENDIX



**NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT**

**BRIDGE NO. 13 ON SR 1612 (GIBBS RD)
OVER TURKEY CREEK
BUNCOMBE COUNTY
STIP PROJECT B-4714**

PROJECT VICINITY

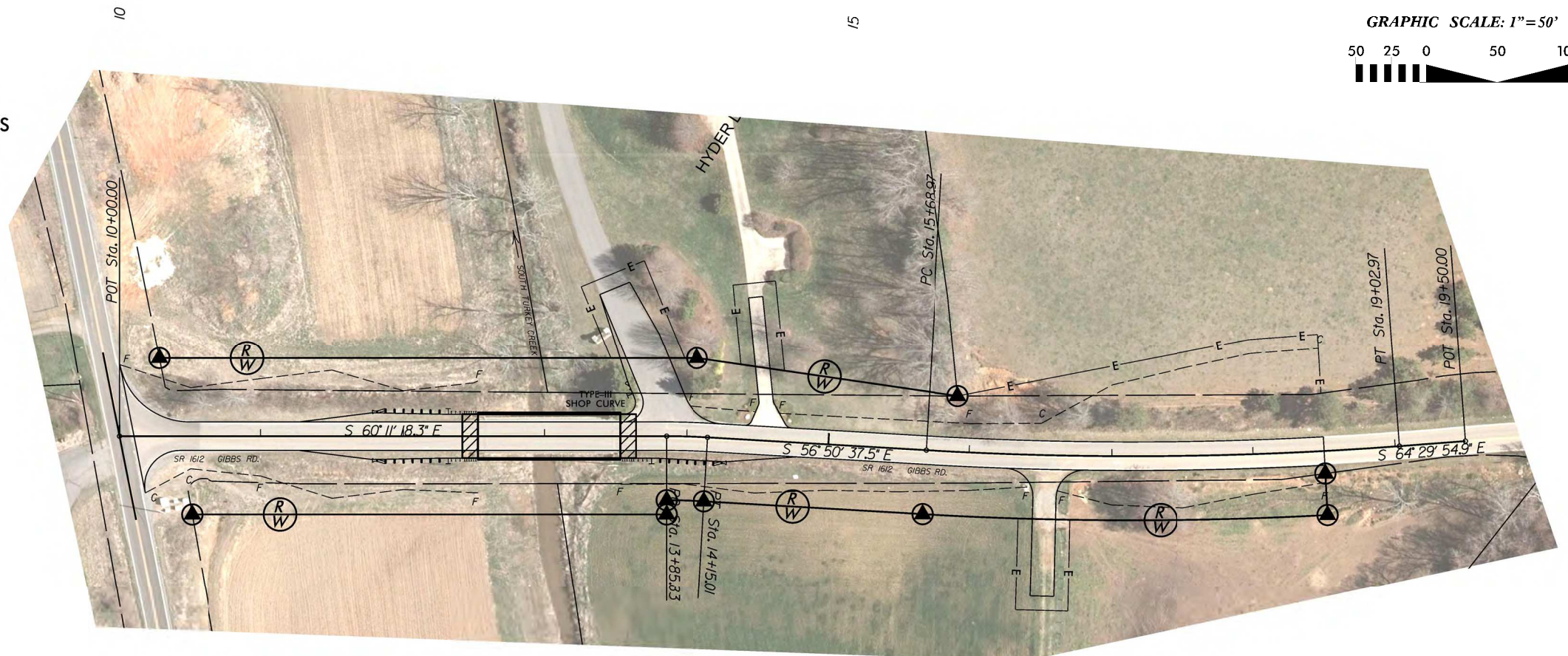
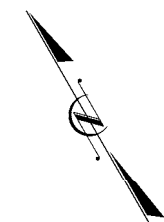
FIGURE 1

BUNCOMBE COUNTY B-4714 REPLACE IN PLACE WITH OFFSITE DETOUR 39" BOX BEAM OPTION

PROJECT REFERENCE NO. B-4714	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
STEWART	MORRATT & NICHOL
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ANTICIPATED DESIGN DATA

DESIGN STANDARDS	=	SUBREGIONAL TIER
DESIGN SPEED	=	40 MPH
ADT 2013	=	490
ADT 2033	=	
DHV	=	
D	=	
DUAL	=	
TTST	=	
MIN. RADIUS	=	485'
MAX GRADE	=	13%
K SAG	=	64
K CREST	=	44
SE MAX	=	0.06
CLASSIFICATION	=	RURAL LOCAL
TERRAIN	=	MOUNTAINOUS
DESIGN EXCEPTIONS	=	NONE

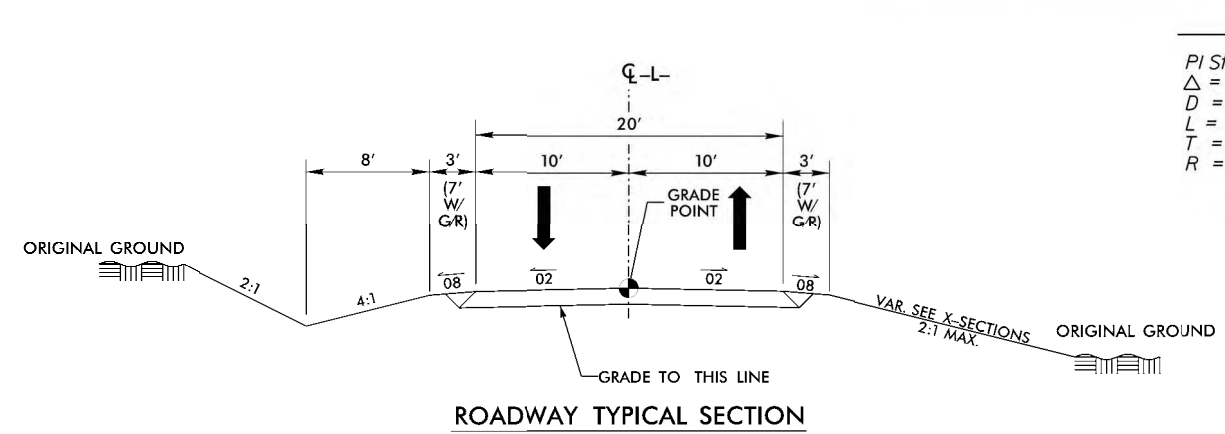


FOR -L- PROFILE SEE SHEET 5

BRIDGE APPROACH SLAB

GRAPHIC SCALE: 1"=50'

REVISIONS



-L-

PI Sta 14+00.42 $\Delta = 3^{\circ} 20' 40.8''$ (RT) $D = 11^{\circ} 27' 33.0''$ $L = 29.19'$ $T = 14.60'$ $R = 500.00'$	PI Sta 17+36.22 $\Delta = 7^{\circ} 39' 17.4''$ (LT) $D = 2^{\circ} 17' 30.6''$ $L = 334.00'$ $T = 167.25'$ $R = 2,500.00'$
---	--

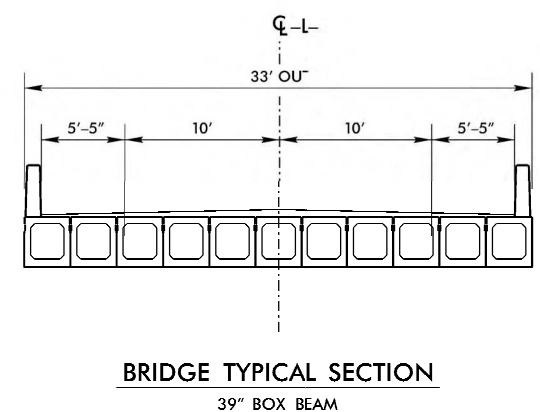


FIGURE 2

15-03-0047



HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

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

PROJECT INFORMATION

Project No:	B-4714	County:	Buncombe
WBS No.:	38488.1.2	Document Type:	PCE or CE
Fed. Aid No:	N/A	Funding:	<input checked="" type="checkbox"/> State <input type="checkbox"/> Federal
Federal Permit(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type(s):	NW
Project Description: Replacement of Bridge NO. 13 over Turkey Creek on SR 1612 (Gibbs Road).			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions:

Review of HPO quad maps, HPO GIS information, historic designations roster, and indexes was undertaken on March 30, 2015. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects, which is 100' from the centerline each way, 240' to the west of the end of the bridge and 750' to the east end of the bridge. There is one house within the APE, 31 Jones Cove Road, which is located northeast of the bridge. Built in 1970 according to Buncombe GIS/Tax information, the house is under fifty years of age and not eligible for National Register listing. Bridge No. 13, built 1976, is under fifty years of age and also not eligible for NR listing. There are no National Register listed or eligible properties and no survey is required. If design plans change, additional review will be required.

Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area:

HPO quad maps and GIS information recording NR, SL, LD, DE, and SS properties for the Buncombe County survey and Google Maps are considered valid for the purposes of determining the likelihood of historic resources being present. There are no National Register listed or eligible properties within the APE and no survey is required.

SUPPORT DOCUMENTATION

Map(s) Previous Survey Info. Photos Correspondence Design Plans

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Kate Hubbard

4/11/2015

NCDOT Architectural Historian

Date

Historic Architecture and Landscapes NO SURVEY REQUIRED form for Minor Transportation Projects as Qualified in the 2007 Programmatic Agreement.

15-03-0047



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



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

PROJECT INFORMATION

Project No: **B-4714** County: **Buncombe**
 WBS No: **38488.1.2** Document: **PCE or CE**
 F.A. No: **Not Provided** Funding: State Federal

Federal Permit Required? Yes No Permit Type: **NWP 3 or NWP 14**

Project Description:

The project calls for the replacement of Bridge No. 13 on SR 1612 (Gibbs Road) over the South Turkey Creek in Buncombe County. The archaeological Area of Potential Effects (APE) for the project is defined as a 950-foot (289.56 m) long corridor running 300 feet (91.44 m) northwest and 650 feet (198.12 m) southeast along Gibbs Road from the center of Bridge No. 13. The corridor is approximately 200 feet (60.96 m) wide extending 100 feet (30.48 m) on either side of the road from its present center.

SUMMARY OF ARCHAEOLOGICAL FINDINGS

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

- There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects.
- 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 National Register Eligible or Listed ARCHAEOLOGICAL SITES present or affected by this project. (*Attach any notes or documents as needed*)

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

Bridge No. 13 is located northwest of Asheville and north of Leicester in the northwest section of Buncombe County, North Carolina. The project area is plotted in the eastern half of the Leicester USGS 7.5' topographic quadrangle (Figure 1).

A map review and site file search was conducted at the Office of State Archaeology (OSA) on April 31, 2015. No previously recorded archaeological sites are identified within the APE, but six sites (31BN193, 31BN215, 31BN606, 31BN653, 31BN691, and 31BN720) are reported within a mile radius of the bridge. According to the North Carolina State Historic Preservation Office online data base (HPOWEB 2015), there are no known historic architectural resources within the APE that may yield intact archaeological deposits. Topographic maps, USDA soil survey maps, aerial photographs (NC One Map), historic maps (North Carolina maps website), and Google Street View application were examined for information on environmental and cultural variables that may have contributed to prehistoric or historic settlement within the project limits and to assess the level of ground disturbance. An archaeological field investigation was carried out on May 19, 2015, to evaluate the project area.

Bridge No. 13 and Gibbs Road cross South Turkey Creek from the northwest to the southeast. The creek flows north and joins with North Turkey Creek. These waterways are part of the French Broad drainage basin. The APE also encompasses a crossing over an unnamed tributary southeast of the bridge. Its confluence with South Turkey Creek is just to the north. The APE is situated mostly along a broad floodplain with a steep hillside in the northeast quadrant and a high stream terrace in the southeast (Figure 2). The floodplain is cultivated except to the northeast, which contains a residential lawn and a paved private road (Figures 2–6). The terrace and hillside both consist of fenced pastures (Figures 7 and 8). Ground disturbance is minimal except at the western end of the APE and within the residential lawn. At the western end, Gibbs Road intersects with SR 1608 (Turkey Creek Road) at the foot of a hillside. The hillside has been graded to accommodate Turkey Creek Road with the fill pushed in the floodplain. In the residential lawn, the unnamed tributary traverses the property through a buried culvert running parallel with Gibbs Road (Figure 9). Disturbance extends throughout this section of the APE. Buried utilities are also present and erosion is heavy along the steep slope.

According to the USDA soil survey map, APE is primarily made up of three soil types (see Figure 2). The floodplain is composed of French loam (FrA). This series is somewhat poorly drained and subject to occasional floods. Slope is less than 3 percent. Although the French soil series appears to be wet for part of the year, several previously recorded sites in the Buncombe County have been identified on this soil type. The high stream terrace consists of Unison loam (UnC). This series has a slope of 8 to 15 percent and is considered well drained. It has the potential of yielding archaeological sites due to being gentle sloping and dry. Lastly, the Clifton clay loam is found on the hillside. This series is well drained with a slope of 15 to 30 percent and moderately eroded with 25 to 75 percent of its original surface removed. It is unlikely any significant archaeological sites are present on this series due to slope in excess of 15 percent.

A review of the site files show that several archaeological sites have been identified within the area, but hardly any investigations have been carried out. All known sites (31BN193, 31BN215, 31BN606, 31BN653, 31BN691, and 31BN720) in the vicinity were reported by local collector V. Gary Henry, who visited the sites from the late 1980s through 2000s. These locations have not been confirmed, nor have the artifacts associated with them been analyzed. All are reported to be situated along Turkey Creek and its tributaries or neighboring Martin Branch. The nearest sites (31BN653 and 31BN720) are situated just off Gibbs Road along the banks of the unnamed tributary approximately 100 m (ca. 328 ft) to the southeast. These are prehistoric sites, whose National Register's eligibility has yet to be assessed. It is likely that Henry has inspected the agricultural fields within the APE with negative results, but this has not been confirmed.

15-03-0047

Lastly prior to fieldwork, a historic map review was conducted. Most maps prior to the 20th centuries provide only general details concerning the region illustrating just major roads and settlements. The 1901 USGS Asheville topographic map is one of the first in which the project area could be approximately located (Figure 10). This map depicts South Turkey Creek and a former road alignment that likely included portions of Gibbs Road and Turkey Creek Road. There is a crossing over Turkey Creek near the current bridge, but it is difficult to determine exactly where. One historic structure is also plotted west of the bridge. If the current bridge is in the same location of the former crossing, then the structure may fall within the APE. However, this structure is not significant to the history of the region. The 1920 Soil Survey map for Buncombe County shows a similar picture with no major changes to the project area (Figure 11). It is not until the 1938 North Carolina State Highway map of Buncombe County that the modern road lay-out is depicted (Figure 12). The maps show a bridge most likely in the project area and all structure well away from the APE. It seems unlikely for any significant deposits associated with former structures to be impacted by the proposed bridge replacement project.

The archaeological field investigation at Bridge No. 13 consisted of six shovel test placement (STP) (see Figure 2). One (STP# 1 and 2) each was placed in the northwest and southwest quadrants, while four (STP# 3–6) were excavated in the southeast at 30-m (ca. 98-ft) intervals. None were placed on the residential lawn due to disturbance from the buried culvert, on slope 15 percent or more in the northeast quadrant, or on the fill at the western end of the APE. Also, no additional STPs were excavated further to the east in the southeast quadrant due to exposed subsoil at the surface, but this area was surface inspected along with the cultivated fields. The soil stratigraphy consists of two layers. The top layer is approximately 20 cm (ca. 8 in) thick. In the floodplain and on the French series, this layer is a dark brown (10YR 4/6) silt loam or loam. Towards the southeast as the landform rises, it becomes a brown (10YR 4/3) and eventually a very dark grayish brown (10YR 3/2) sandy loam. The second layer is a strong brown (7.5 YR 5/6) clay loam in the floodplain and a dark yellowish brown (10YR 4/6) clay loam on the stream terrace. This second layer extends to at least 25 cm (ca. 10 in) below the surface and is subsoil. All STPs were negative for cultural material, and the surface inspection field to yield artifacts as well.

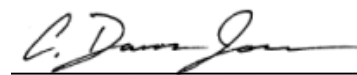
The archaeological investigations for the proposed replacement of Bridge No. 13 show that no significant archaeological sites are within the APE. Surface and subsurface investigations identified no cultural artifacts. Areas not tested or surface inspected consists of disturbed soils, steep slope, or fill material. These areas are unlikely to yield any significant sites. As a result of the current investigation, no further archaeological work is required for replacement of Bridge No. 13 in Beaufort County. However, additional work will be required should design plans change to encompass property outside of the currently defined APE.

SUPPORT DOCUMENTATION

See attached: Map(s) Previous Survey Info Photos Correspondence

Other: **images of historic maps consulted**

Signed:



C. Damon Jones
NCDOT ARCHAEOLOGIST

5/21/15

Date