

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

STIP Project No.	B-4794
W.B.S. No.	38564.1.1
Federal Project No.	BRZ-1107(14)

A. Project Description:

The purpose of this project is to replace Randolph County Bridge No. 18 along SR 1107 (Lassiter Mill Road) over Betty McGees Creek. Bridge No. 18 is 76 feet long. The replacement structure will be a bridge approximately 94 feet long providing a minimum 27-foot, 10-inch clear deck width. The bridge will include two 10-foot lanes and 3-foot, 11-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The proposed roadway will be constructed at a similar grade to the existing bridge.

The approach roadway will extend approximately 416 feet from the north end and approximately 565 feet from the south end of the new bridge. The approaches will be constructed to include a 20-foot pavement width providing two 10-foot lanes. Three-foot grass shoulders will be provided on each side of the roadway (6-foot shoulders where guardrail is included). The roadway will be designed as a Rural Local Road using Sub-regional Tier guidelines with a 55 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1). The off-site detour is approximately 5.2 miles long and utilizes SR 1143 (High Pine Church Road), SR 1181 (New Hope Road), NC 49, and SR 1163 (Science Hill Road). The detour will result in approximately 5.6 minutes of additional travel time.

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 18 has a sufficiency rating of 32.4 out of a possible 100 for a new structure.

The bridge is considered functionally obsolete deficient due to a structural evaluation rating of 2 of 9 and a deck geometry rating of 2 of 9 according to Federal Highway Administration (FHWA) standards. The posted weight limit on Bridge No. 18 is 13 tons for single vehicles and 17 tons for truck-tractor semi-trailers. The superstructure and substructure of Bridge No. 18 have timber elements that are 64 years old. Timber components have 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 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. Timber components of Bridge No. 18 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities. The bridge is approaching the end of its useful life.

Bridge No. 18 carried 500 vehicles per day in 2013. The bridge is projected to carry 800 vehicles per day in 2040. 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
 - 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 weighs 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:

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

Structure	\$395,000
Roadway Approaches	\$274,000
Misc. & Mob.	\$182,000
Eng. & Contingencies	\$149,000
Total Construction Cost	\$1,000,000
Right-of-way Costs	\$22,000
Right-of-way Utility Costs	\$53,000
Total Project Cost	\$ 1,075,000

Estimated Traffic:

Year (2013)	-	500 vehicles per day (vpd)
Year 2040	-	800 vpd
TTST	-	1%
Dual	-	7%

Accidents: The NCDOT Transportation Mobility and Safety Division evaluated a ten year period from March 1, 2003 to February 28, 2013 and found four crashes reported in the vicinity. One crash on the bridge involved two vehicles traveling in opposite directions, sideswiping each other. None of the four crashes were fatal.

Design Exceptions: A design exception may be required for the horizontal curve radius, superelevation, vertical sag curve K factor and the stopping sight distance.

Pedestrian and Bicycle Accommodations: This portion of SR 1107 is not a part of a designated bicycle route nor is it listed in the State Transportation Improvement Program (STIP) as a bicycle project. Neither permanent or temporary bicycle nor pedestrian accommodations are required for this project.

Bridge Demolition: Bridge No. 18 is constructed entirely of timber and steel. It should be possible to remove the structure with no resulting debris in the water based on standard demolition practices.

Alternatives Discussion:

No Build – The no-build alternative was not selected because it would have resulted in the closure of Bridge No. 18, which is unacceptable given that this section of SR 1107 carries over 500 vpd and is projected to serve over 800 vpd by the design year (2040).

Rehabilitation – Bridge No. 18 was constructed in 1952 and the timber materials within the bridge are reaching the end of their useful life. Rehabilitation would require replacing the timber components which would constitute effectively replacing the bridge.

Offsite Detour – Bridge No. 18 will be replaced on the existing alignment. Traffic will be detoured offsite (see Figure 1) during the construction period. NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The off-site detour is approximately 5.2 miles long and utilizes SR 1143 (High Pine Church Road), SR 1181 (New Hope Road), NC 49, and SR 1163 (Science Hill Road). The detour will result in approximately 5.6 minutes of additional travel time.

The project is expected to take approximately 18 months to construct. Based on the Guidelines, the criteria above indicate that on the basis of delay alone, the detour is acceptable. NCDOT Division 8 and the Work Zone and Traffic Control Unit have indicated the condition of all roads, bridges, and intersections on the offsite detour are acceptable without improvements and concur with the use of the detour. During the development of the Community Impact Assessment, NCDOT corresponded with Randolph County Schools Transportation, Randolph County EMS, and the Randolph County Planning Director to gather input on potential detour routes. The responses/input is included in Appendix A.

In order to have time to adequately reroute school buses, Randolph County Schools Transportation Office will be contacted at (336) 318-6144 at least one month prior to road closure.

Randolph County Emergency Management will be contacted at (336) 318-6913 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

Onsite Detour – An onsite detour was not evaluated due to the presence of an acceptable offsite detour.

Staged Construction – Staged construction was not considered because of the availability of an acceptable offsite detour.

New Alignment – Construction on a new alignment was not considered because of the availability of an acceptable offsite detour. In addition, the project is located adjacent to the Uwharrie National Forest and construction on a new alignment would have resulted in impacts to US Forest Service Forest lands.

Agency Comments:

The **North Carolina Wildlife Resources Commission (NCWRC)** noted in the letter included in Appendix A that this portion of Bettie McGees Creek is

designated as a Significant Aquatic Habitat by the NC Natural Heritage Program. The NCWRC noted that their records indicate the potential for the following state-listed species to be within the project area: Carolina creekshell (*Villosa vaughaniana*), Notched rainbow (*Villosa constricta*), and Eastern creekshell (*Villosa delumbis*). They recommend that NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of the project. The NCWRC also recommends replacing the bridge with a bridge.

Response: State listed species are not afforded the same level of protection as federally listed species. NCDOT's Best Management Practices for Construction and Maintenance Activities will be implemented during construction. NCDOT will replace the existing bridge with a new bridge along the existing alignment.

The U.S. Army Corps of Engineers (USACE) noted in the email included in Appendix A that all bridges should be replaced with bridges that have hydraulic openings as large as or larger than the existing bridges. They also recommended that off-site detours be utilized for the project.

Response: The Project will replace the existing bridge with a new bridge located at the current bridge location. The bridge structure will span the active channel providing adequate clearance for the passage of aquatic species and the movement of debris and stream bed material. NCDOT will utilize an off-site detour during the construction of the project.

Public Involvement:

A letter was sent by the Project Development and Environmental Analysis Unit's Natural Environment Section on February 7, 2013 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

The following evaluation of threshold criteria must be completed for Type II actions

<u>ECOLOGICAL</u>	<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"/>	<u> </u>
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<u> X </u>

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| (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>N/A</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

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|------|--|--------------------------|--------------------------|
| (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>X</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? | <u>X</u> | <input type="checkbox"/> |
| (14) | Will the project require any stream relocations or channel changes? | <input type="checkbox"/> | <u>X</u> |

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

YES NO

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|------|---|--------------------------|----------|
| (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> |
| (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> |
| (201) | 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 | <input type="checkbox"/> | <u> </u> |

of 1965, as amended? X

(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? X

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2: The USFWS lists the following protected species for Randolph County.

Scientific Name	Common Name	Federal Status*	Habitat Present	Biological Conclusion
<i>Notropis mekistocholas</i>	Cape Fear shiner	E	No	No Effect
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	E	Yes	No Effect

Endangered species surveys were conducted in February 2013. A review of the North Carolina NHP database was conducted on September 13, 2016 and indicated that there are no known occurrences of any federally-protected species within one mile of the project study area.

The US Fish and Wildlife Service 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 in eastern North Carolina. The PBO provides incidental take coverage for the 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 Division 1-8, which includes Randolph County, where project B-4794 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect."

Response to Question 13: Randolph County is a participant in the Federal Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). The project is within a Flood Hazard Zone, designated as Zone AE, for which the 100-year base flood elevations and corresponding regulatory floodway have been established.

The Hydraulics Unit will coordinate with FEMA to determine if a Conditional Letter of Map Revision (CLOMR) and a subsequent final Letter of Map Revision (LOMR) are required for this project. The Division will submit sealed as-built construction plans to the Hydraulics Unit upon project completion certifying the project was built as shown on the construction plans.

G. CE Approval

STIP Project No.

B-4794

W.B.S. No.
Federal Project No.

38564.1.1
BRZ-1107(14)

The purpose of this project is to replace Randolph County Bridge No. 18 along SR 1107 (Lassiter Mill Road) over Betty McGees Creek. Bridge No. 18 is 76 feet long. The replacement structure will be a bridge approximately 94 feet long providing a minimum 27-foot, 10-inch clear deck width. The bridge will include two 10-foot lanes and 3-foot, 11-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The proposed roadway will be constructed at a similar grade to the existing bridge.

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PROJECT COMMITMENTS

**Hoke County
Bridge Number 18 along SR 1107 (Lassiter Mill Road)
Over Betty McGees Creek
Federal Aid Project No. BRZ-1107(14)
W.B.S. No. 38564.1.1
S.T.I.P. No. B-4794**

Hydraulics Unit – FEMA Coordination

NCDOT 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 Letter of Map Revision (LOMR).

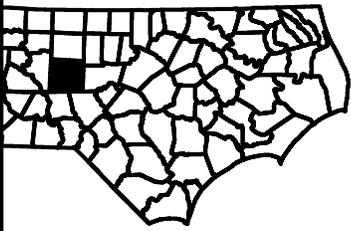
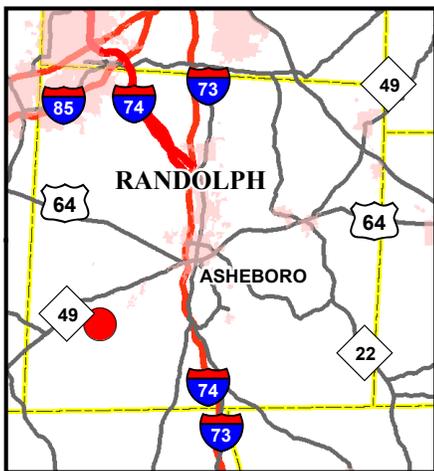
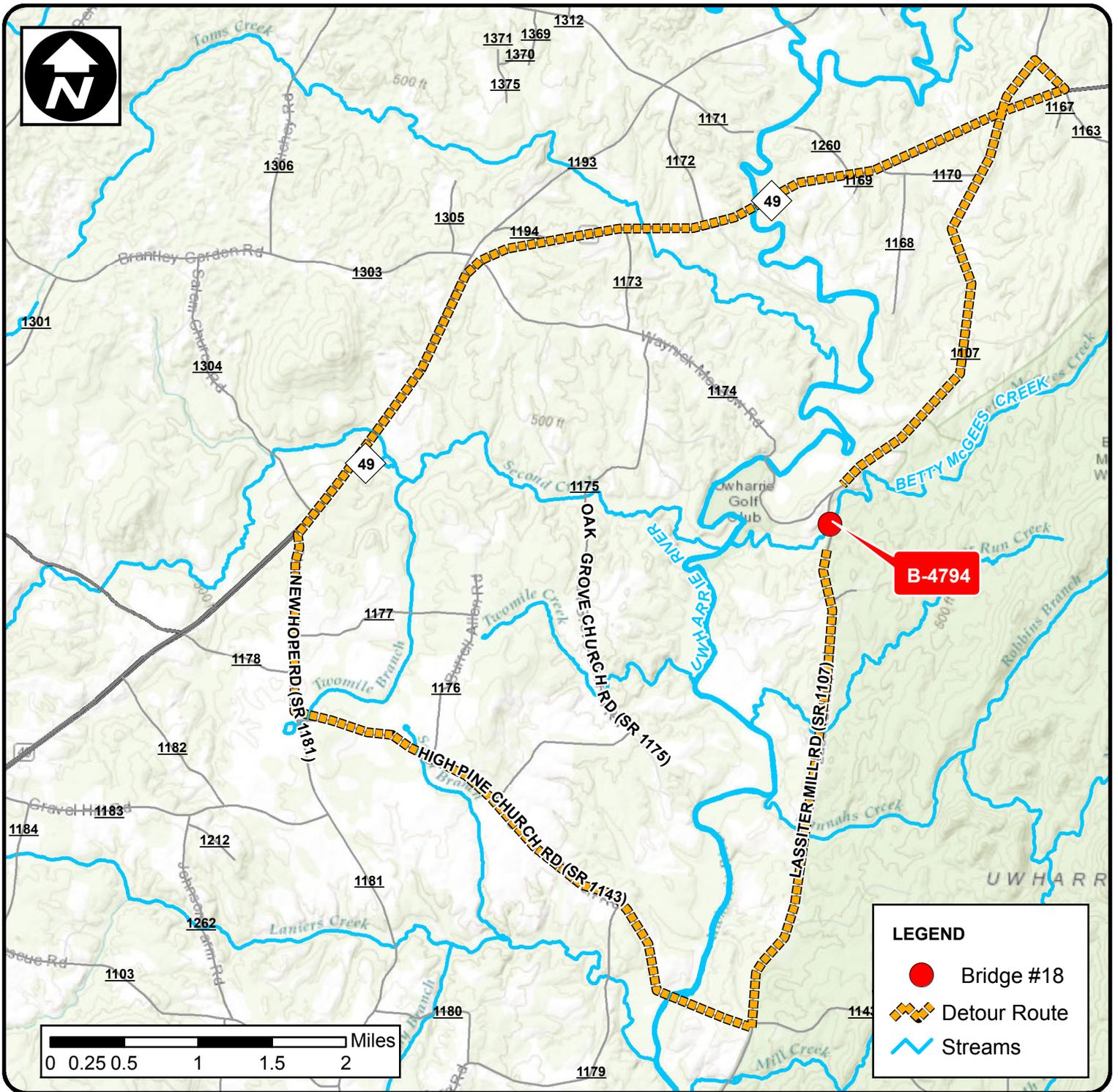
Division 8 Construction-FEMA Coordination

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

Division 8 Construction, Resident Engineer's Office – Offsite Detour

In order to have time to adequately reroute school buses, Randolph County Schools Transportation Office will be contacted at (336) 318-6144 at least one month prior to road closure.

Randolph County Emergency Management will be contacted at (336) 318-6913 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.



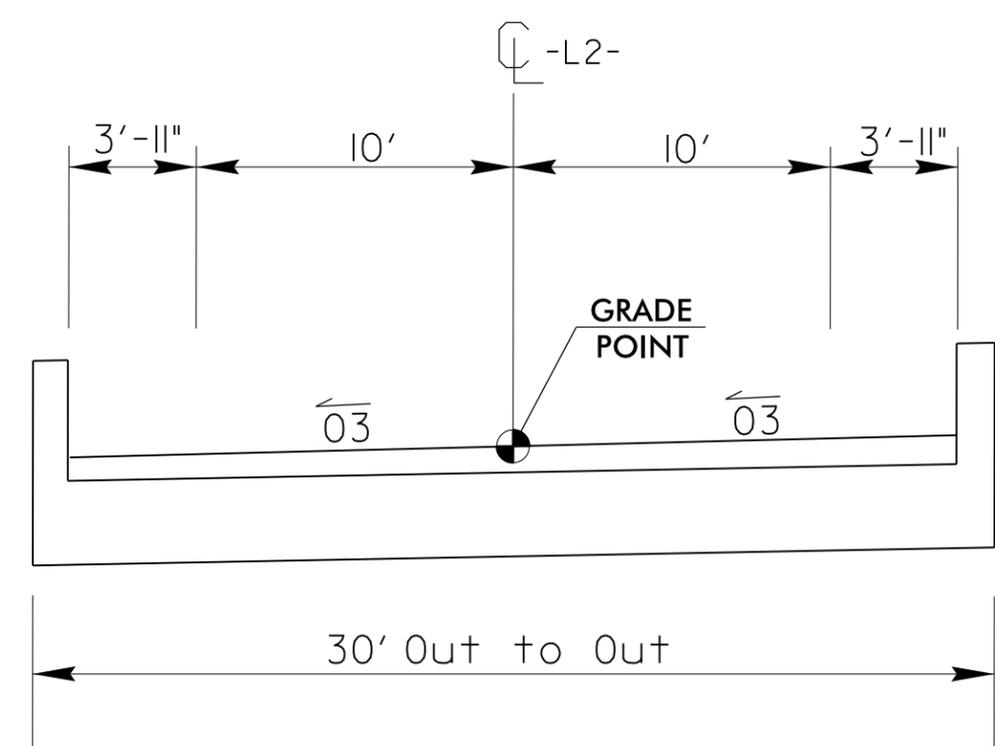
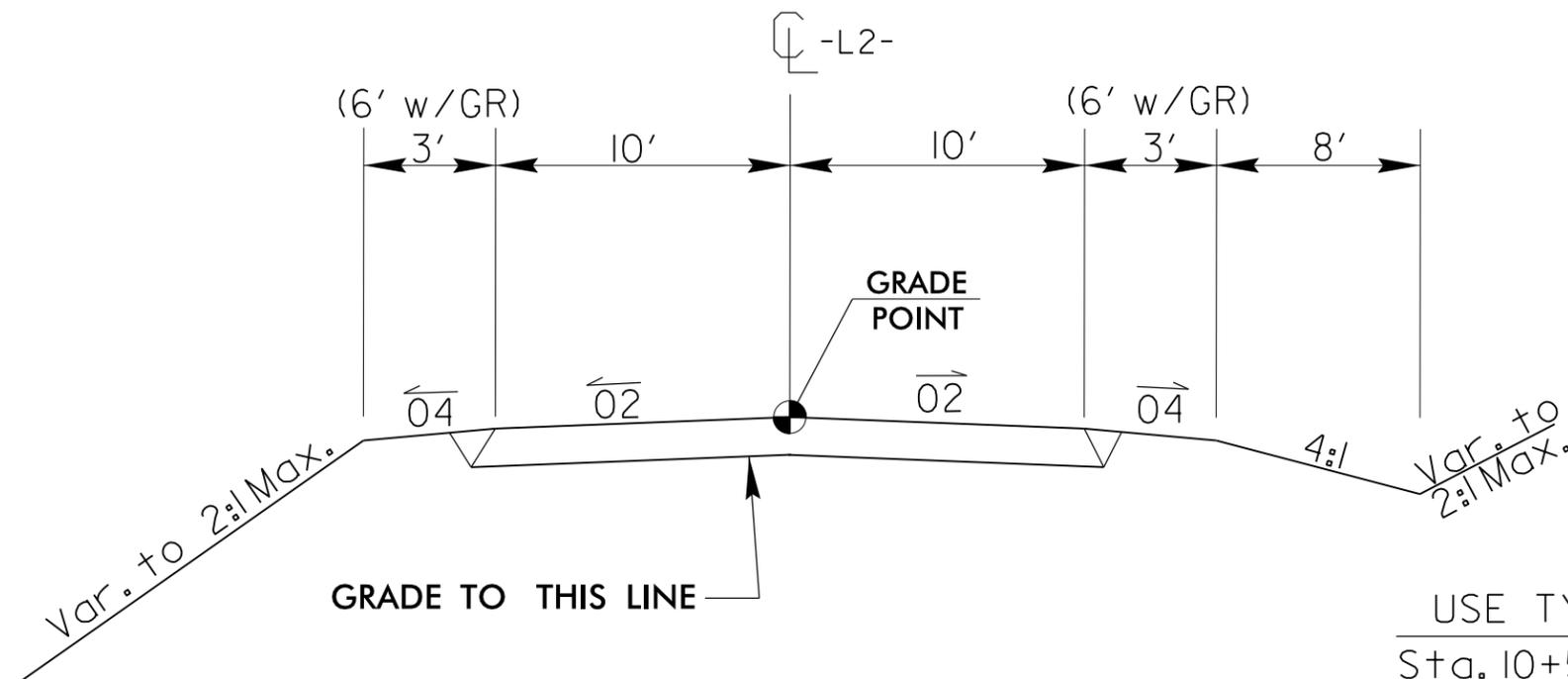
NORTH CAROLINA DEPARTMENT
 OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS BRANCH

REPLACEMENT OF BRIDGE # 18 ON
 SR 1107 (LASSITER MILL ROAD) OVER
 BETTY MCGEES CREEK

RANDOLPH COUNTY
 TIP PROJECT B-4794

FIGURE 1: VICINITY MAP

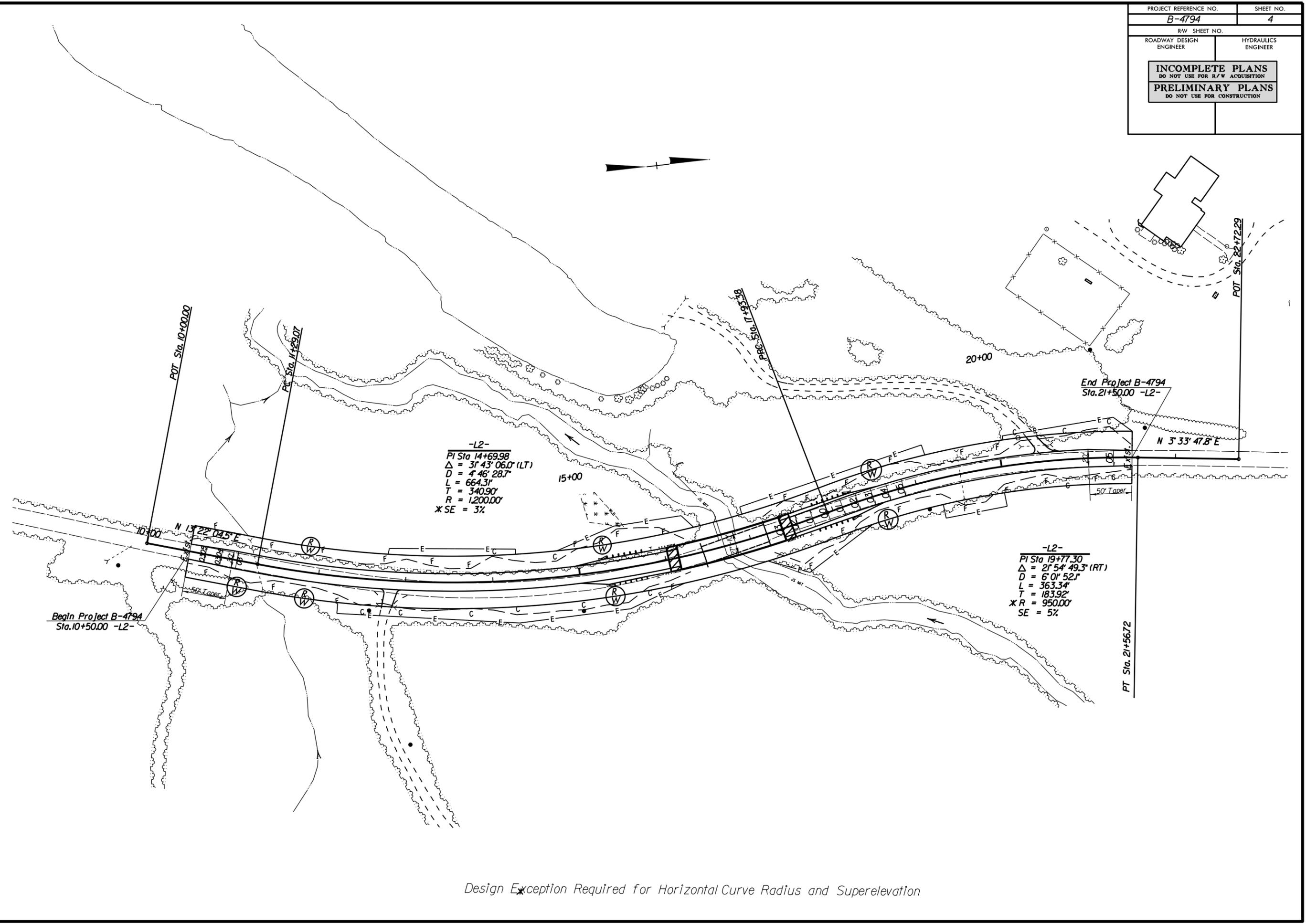
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



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PROJECT REFERENCE NO. B-4794	SHEET NO. 4
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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

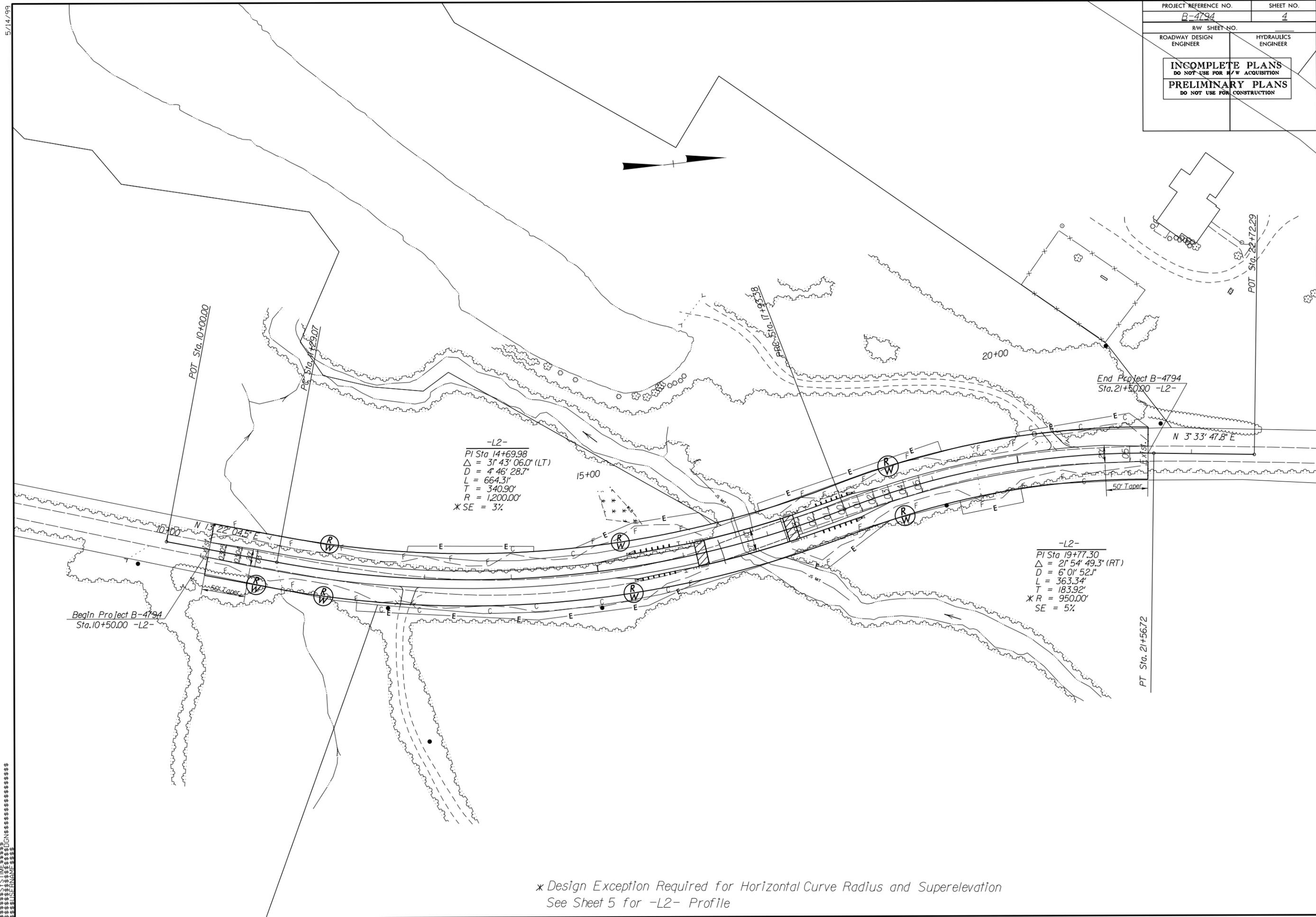
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Design Exception Required for Horizontal Curve Radius and Superelevation

5/14/99

PROJECT REFERENCE NO. B-4794	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-L2-
 PI Sta 14+69.98
 $\Delta = 31^{\circ} 43' 06.0''$ (LT)
 $D = 4^{\circ} 46' 28.7''$
 $L = 664.31'$
 $T = 340.90'$
 $R = 1,200.00'$
 $\ast SE = 3\%$

-L2-
 PI Sta 19+77.30
 $\Delta = 21^{\circ} 54' 49.3''$ (RT)
 $D = 6^{\circ} 01' 52.1''$
 $L = 363.34'$
 $T = 183.92'$
 $\ast R = 950.00'$
 $SE = 5\%$

Begin Project B-4794
 Sta. 10+50.00 -L2-

End Project B-4794
 Sta. 21+50.00 -L2-

*\ast Design Exception Required for Horizontal Curve Radius and Superelevation
 See Sheet 5 for -L2- Profile*

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APPENDIX A

CORRESPONDENCE



⊠ North Carolina Wildlife Resources Commission ⊠

Gordon Myers, Executive Director

MEMORANDUM

TO: Rachelle Beauregard
NCDOT, PDEA-NES

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: April 10, 2013

SUBJECT: Bridge Replacements

Biologists with the N. C. Wildlife Resources Commission (NCWRC) have reviewed the information provided and have the following preliminary comments on the subject project. Our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

Our standard recommendations for bridge replacement projects of this scope are as follows:

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.
2. Bridge deck drains should not discharge directly into the stream.
3. Live concrete should not be allowed to contact the water in or entering into the stream.
4. If possible, bridge supports (bents) should not be placed in the stream.
5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary

structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.

6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the stream underneath the bridge.
7. In trout waters, the N.C. Wildlife Resources Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.
8. In streams that contain threatened or endangered species, NCDOT biologist should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.
9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997)" should be followed.
10. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.
11. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.
12. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.
13. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.
14. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.
15. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

1. The culvert must be designed to allow for aquatic life and fish passage. Generally, the culvert or pipe invert should be buried at least 1 foot below the natural streambed (measured from the natural thalweg depth). If multiple barrels are required, barrels other than the base flow barrel(s) should be placed on or near stream bankfull or floodplain bench elevation (similar to Lyonsfield design). These should be

reconnected to floodplain benches as appropriate. This may be accomplished by utilizing sills on the upstream and downstream ends to restrict or divert flow to the base flow barrel(s). Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel(s) during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes, and 3) by providing resting places for fish and other aquatic organisms. In essence, base flow barrel(s) should provide a continuum of water depth and channel width without substantial modifications of velocity.

2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
3. Culverts or pipes should be situated along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
4. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. If the area reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be utilized as mitigation for the subject project or other projects in the watershed.

Project specific comments:

B-4550, Hoke County, replace bridge No. 41 and 42 on SR 1432 over Rockfish Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4729, Chatham County, replace bridge No. 306 on SR 1303 over North Prong Rocky River: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4802, Rockingham County, replace bridge No. 18 on SR 1002 over the Haw River: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4805, Rockingham County, replace bridge No. 9 on SR 2406 over prong of Troublesome Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4624, Rockingham County, replace bridge No. 80 on SR 1929 over Wolf Island Creek: The potential exist for Roanoke logperch (*Percina rex*: state E, federal E) to be found at this site. NCDOT should coordinate with NCWRC and USFWS in conducting a survey to determine the presence or absence of this species. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4662, Wake County, replace bridge No. 196 on SR 2308 over Moccasin Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4828, Vance County, replace bridge No. 56 on SR 1526 over Sandy Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4831, Wake County, replace bridge No. 371 on SR 1152 over White Oak Creek: Harris Game Land is located within the project study area, DOT should coordinate closely during the design and construction of this project to avoid and minimize impacts to this area. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4794, Randolph County, replace bridge No. 18 on SR 1107 over Bettie McGees Creek: This portion of Bettie McGees Creek is designated as Significant Aquatic Habitat by the NC Natural Heritage Program. Our records also indicate the potential for listed species to be present within the project area, including: Carolina creekshell (*Villosa vaughaniana*: state E, FSC), Notched rainbow (*Villosa constricta*: state SC), and Eastern creekshell (*Villosa delumbis*: state SR). We recommend NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5322, Person County, replace bridge No. 51 on SR 1343 over Richland Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5323, Granville County, replace bridge No. 143 on SR 1442 over Johnston Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5326, Wake County, replace bridge No. 247 on SR 2555 over White Oak Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5328, Franklin County, replace bridge No. 129 on SR 1406 over Sandy Creek: This portion of Sandy Creek is designated as Significant Aquatic Habitat by the NC Natural Heritage Program. Our records also indicate the potential for listed species to be present within the project area, including: Carolina creekshell Notched rainbow (*Villosa constricta*: state SC), Atlantic pigtoe (*Fusconaia masoni*: state E, FSC), and Creeper (*Strophitus undulatus*: state T). We recommend NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5346, Alamance County, replace bridge No. 3 on SR 1529 UT: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5347, Alamance County, replace bridge No. 170 on SR 1212 over prong of Alamance Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5348, Orange County, replace bridge No. 85 on SR 1005 over Phil's Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5349, Alamance County, replace bridge No. 173 on SR 1149 over Little Alamance Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5350, Alamance County, replace bridge No. 44 on SR 1768 over Jordan's Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5351, Guilford County, replace bridge No. 242 on US29/US70/I-85 Business over the Deep River: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5353, Guilford County, replace bridge No. 147 on US29/US 70/I-85 Business over US 311: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5354, Guilford County, replace bridge No. 360 on SR 4771 over US 29: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5362, Montgomery County, replace bridge No. 53 on NC 73 over Drowning Creek: This portion of Drowning Creek is designated as Significant Aquatic Habitat by the NC Natural Heritage Program. We recommend NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 707-0370. Thank you for the opportunity to review and comment on this project.

From: [Smith, Ronnie D SAW](#)
To: [Brown, Dionne C](#)
Cc: felix.davila@fhwa.dot.gov; [Chris Militscher](#); [Gary Jordan@fws.gov](mailto:Gary.Jordan@fws.gov); [Wilson, Travis W.](#); [Gledhill-earley, Renee](#); [Wainwright, David](#); [King, Art C](#)
Subject: B-4550, B-4729, B-4794 and B-5362 (UNCLASSIFIED)
Date: Wednesday, January 02, 2013 1:04:19 PM

Classification: UNCLASSIFIED

Caveats: NONE

AID #s: SAW-2012-02001, B-4550, Replacement of Bridge Numbers 41 and 42 on SR 1422 over Rockfish Creek, Hoke County

SAW-2012-02002, B-4729, Replacement of Bridge Number 306 on SR 1303 over North Prong Rocky River, Chatham County

SAW-2012-02003, B-4794, Replacement of Bridge Number 18 on SR 1107 over Bettie McGees Creek, Randolph County

SAW-2012-02004, B-5362, Replacement of Bridge Number 53 on NC 73 over Drowning Creek, Montgomery County

Ms. Brown,

Reference is made to your letter of December 12, 2012, regarding the proposed bridge replacement projects described above. The letter requested information to assist in evaluating potential environmental impacts of the project.

We have reviewed the subject documents and determined that, based upon a review of the information provided and available maps, the construction of this project may impact streams and/or wetlands within the work corridor. Please be aware that impacts associated with the discharge of fill into waters of the United States are subject to our regulatory authority pursuant to Section 404 of the Clean Water Act. Any discharge of excavated or fill material into waters of the United States and/or any adjacent wetlands would require Department of the Army (DA) permit authorization. The type of DA authorization required (i.e., general or individual permit) will be determined by the location, type, and extent of jurisdictional area impacted by the project, and by the project design and construction limits.

Until additional data is furnished which details the extent of the construction limits of the proposed project, and an onsite inspection is completed with regard to determinations of the presence of jurisdictional waters in the project area, we are unable to verify that the project will not have regulated impacts, or to provide specific comments concerning DA permit requirements. To assist you with determining permitting requirements, we recommend that you perform a detailed delineation of the streams and/or wetlands present on the project site. When this information becomes available, it should be forwarded to our office for review and comment, as well as a determination of DA permit eligibility.

The Corps has the following additional recommendations and comments concerning the proposed project:

- The Corps recommends that all bridges be replaced with bridges that have hydraulic openings as large or larger than the existing bridges.
- Off-site detours should be used for all projects.
- If any underground utility lines will have to be relocated as a result of the projects, they should be directionally drilled under all waters of the United States, including wetlands. If overhead utility lines will have to be relocated within wetland areas, the new corridors should be cleared in a way that does not disturb the root mat or result in re-deposition of soil.
- The categorical exclusion (CE) for this project should include a bridging alternative.
- At the location of project B-5362, Drowning Creek is designated as a high quality water (HQW) and the waterway is listed as a 303d water.

Should you have any further questions related to DA permits for this project, please contact me at (910) 251-

4829.

Sincerely,

Ronnie Smith
Project Manager
U.S. Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403
Office: 910-251-4829
Fax: 910-251-4025
Website: <http://www.saw.usace.army.mil/WETLANDS>

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at <http://per2.nwp.usace.army.mil/survey.html> to complete the survey online.

Classification: UNCLASSIFIED

Caveats: NONE



United States Department of the Interior

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

December 28, 2012

Dionne C. Brown
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Ms. Brown:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the following proposed bridge replacement projects.

B-4550: Replace Bridge Nos. 41 & 42 on SR 1422 over Rockfish Creek in Hoke County
B-4729: Replace Bridge No. 306 on SR 1303 over North Prong of Rocky River in Chatham County
B-4794: Replace Bridge No. 18 on SR 1107 over Bettie McGees Creek in Randolph County
B-5362: Replace Bridge No. 53 on NC 73 over Drowning Creek in Montgomery County

These comments provide information in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

For bridge replacement projects, the Service recommends the following general conservation measures to avoid or minimize impacts to fish and wildlife resources:

1. Wetland, forest and designated riparian buffer impacts should be avoided and minimized to the maximum extent practical;
2. If unavoidable wetland or stream impacts are proposed, a plan for compensatory mitigation to offset unavoidable impacts should be provided early in the planning process;
3. Off-site detours should be used rather than construction of temporary, on-site bridges. For projects requiring an on-site detour in wetlands or open water, such detours should be aligned along the side of the existing structure which has the least and/or least quality of fish and wildlife habitat. At the completion of construction, the detour area should be entirely removed and the impacted areas be replanted with appropriate tree species;

4. In streams utilized by anadromous fish, the NCDOT policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage" should be implemented;
5. New bridges should be long enough to allow for sufficient wildlife passage along stream corridors;
6. On each side of the stream bank underneath bridges, at least 10 feet of the bank should remain clear of riprap;
7. "Best Management Practices (BMP) for Construction and Maintenance Activities" should be implemented;
8. Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from run-off of storm water and pollutants;
9. Bridge designs should not alter the natural stream and stream-bank morphology or impede fish passage. To the extent possible, piers and bents should be placed outside the bank-full width of the stream; and
10. Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or flood plain. If spanning the flood plain is not feasible, culverts should be installed in the flood plain portion of the approach to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected area.

Section 7(a)(2) of the Endangered Species Act requires that all federal action agencies (or their designated non-federal representatives), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally threatened or endangered species. To assist you, a county-by-county list of federally protected species known to occur in North Carolina and information on their life histories and habitats can be found on our web page at <http://www.fws.gov/nc-es/es/countyfr.html> .

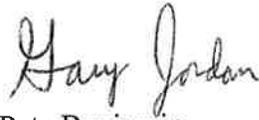
Although the North Carolina Natural Heritage Program (NCNHP) database does not indicate any known occurrences of listed species near the project vicinity, use of the NCNHP data should not be substituted for actual field surveys if suitable habitat occurs near the project site. The NCNHP database only indicates the presence of known occurrences of listed species and does not necessarily mean that such species are not present. It may simply mean that the area has not been surveyed. If suitable habitat occurs within the project vicinity for any listed species, surveys should be conducted to determine presence or absence of the species.

If you determine that the proposed action may affect (i.e. likely to adversely affect or not likely to adversely affect) a listed species, you should notify this office with your determination, the results of your surveys, survey methodologies and an analysis of the effects of the action on listed species, including consideration of direct, indirect and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action

will have no effect (i.e. no beneficial or adverse, direct or indirect effect) on listed species, then you are not required to contact our office for concurrence.

The Service appreciates the opportunity to comment on this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520, ext. 32.

Sincerely,


for Pete Benjamin
Field Supervisor



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 25, 2013

Memorandum to: Amy James, Central Environmental Senior Specialist,
Natural Environment Section, Project Management Group

From: Jared Gray, Environmental Program Supervisor
Natural Environment Section, Biological Surveys Group

Subject: Protected species screening memo for the Cape Fear shiner
(*Notropis mekistocholas*) associated with the replacement of
Bridge No. 18 over Betty McGee's Creek on SR 1107;
Randolph County; TIP No. B-4794; WBS 38564.1.1.

Proposed Project B-4794

The proposed project calls for the replacement of Bridge No. 18 on SR 1107 (Lassiter Mill Road) over Bettie McGee's Creek, in Randolph County. The federally endangered Cape Fear shiner is listed by the U.S. Fish and Wildlife Service for Randolph County. Betty McGee's Creek is located in the Yadkin Pee Dee River Basin. From the project site, Betty McGee's Creek flows 1.0 mile before entering the Uwharrie River. A map of the project site is attached

NCDOT Biologist Jared Gray from the Biological Surveys Group did a review of the North Carolina Natural Heritage Program (NHP) database on June 14, 2013, to determine if there were any records of listed fish within the proposed project study area or receiving waters. **This review indicated that there are no known occurrences of the federally protected Cape Fear Shiner within the project area. Furthermore, there are no known records of Cape Fear shiner for the Yadkin- Pee Dee River Basin.** Therefore the biological conclusion for the replacement of Bridge No. 18 over Betty McGee's Creek is **No Effect for Cape Fear shiner.**

Cc: Dionne Brown P.E., Project Development Engineer, Bridge Group
File: B-4794



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

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Memorandum to: Amy James, Central Environmental Senior Specialist,
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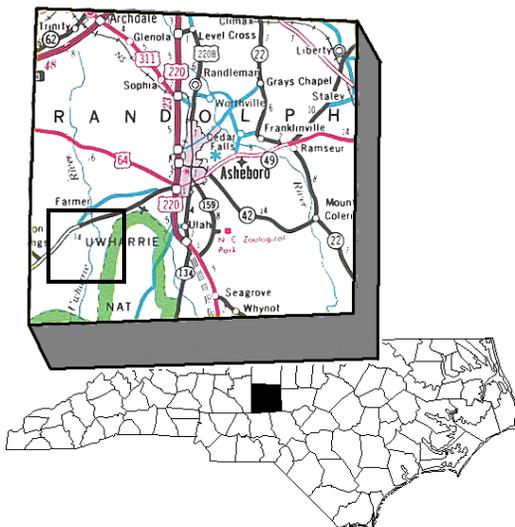
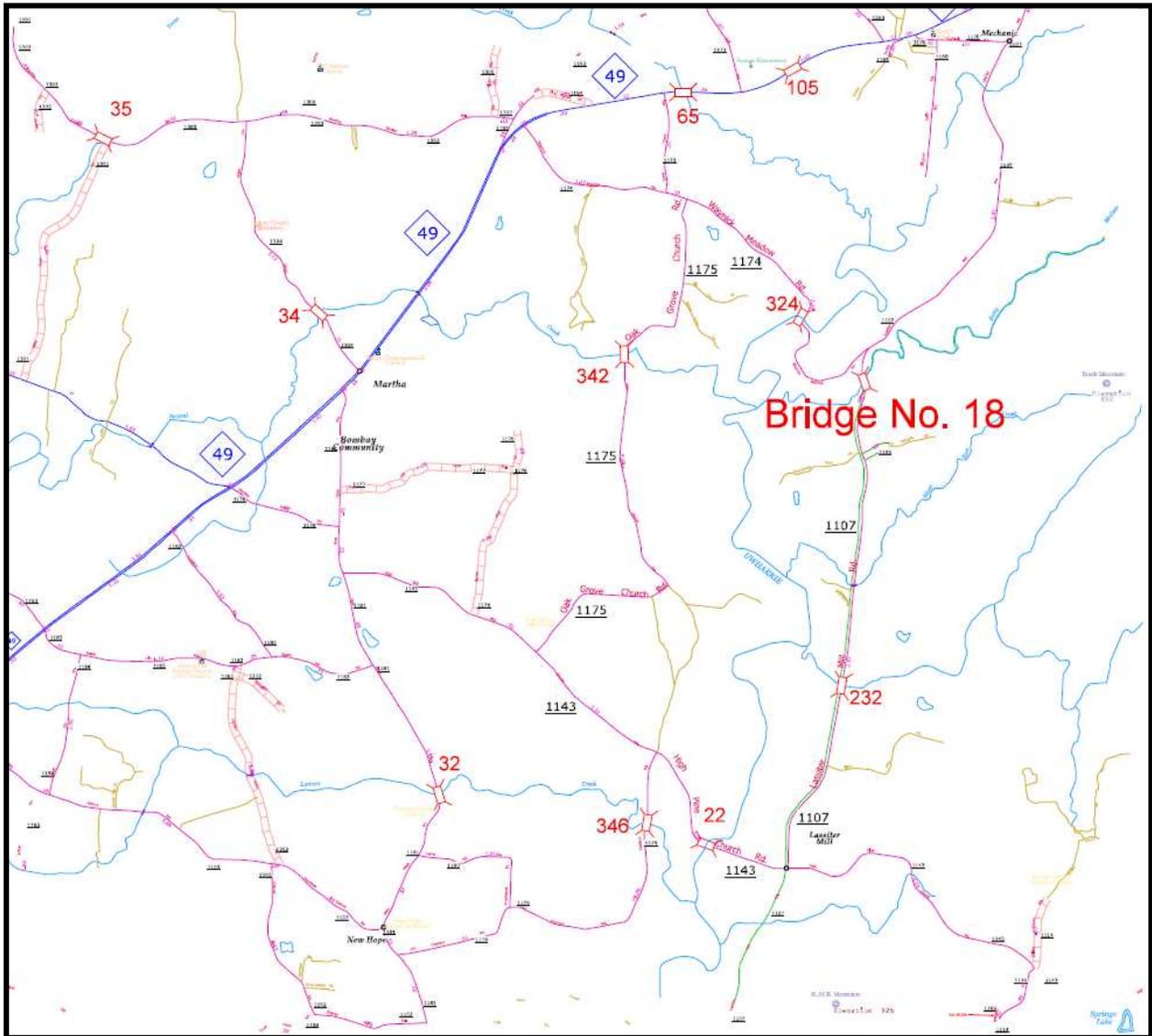
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Cc: Dionne Brown P.E., Project Development Engineer, Bridge Group
File: B-4794



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

RANDOLPH COUNTY
Replace Bridge No. 18 on SR 1107
OVER BETTIE MCGEES CREEK
B-4794

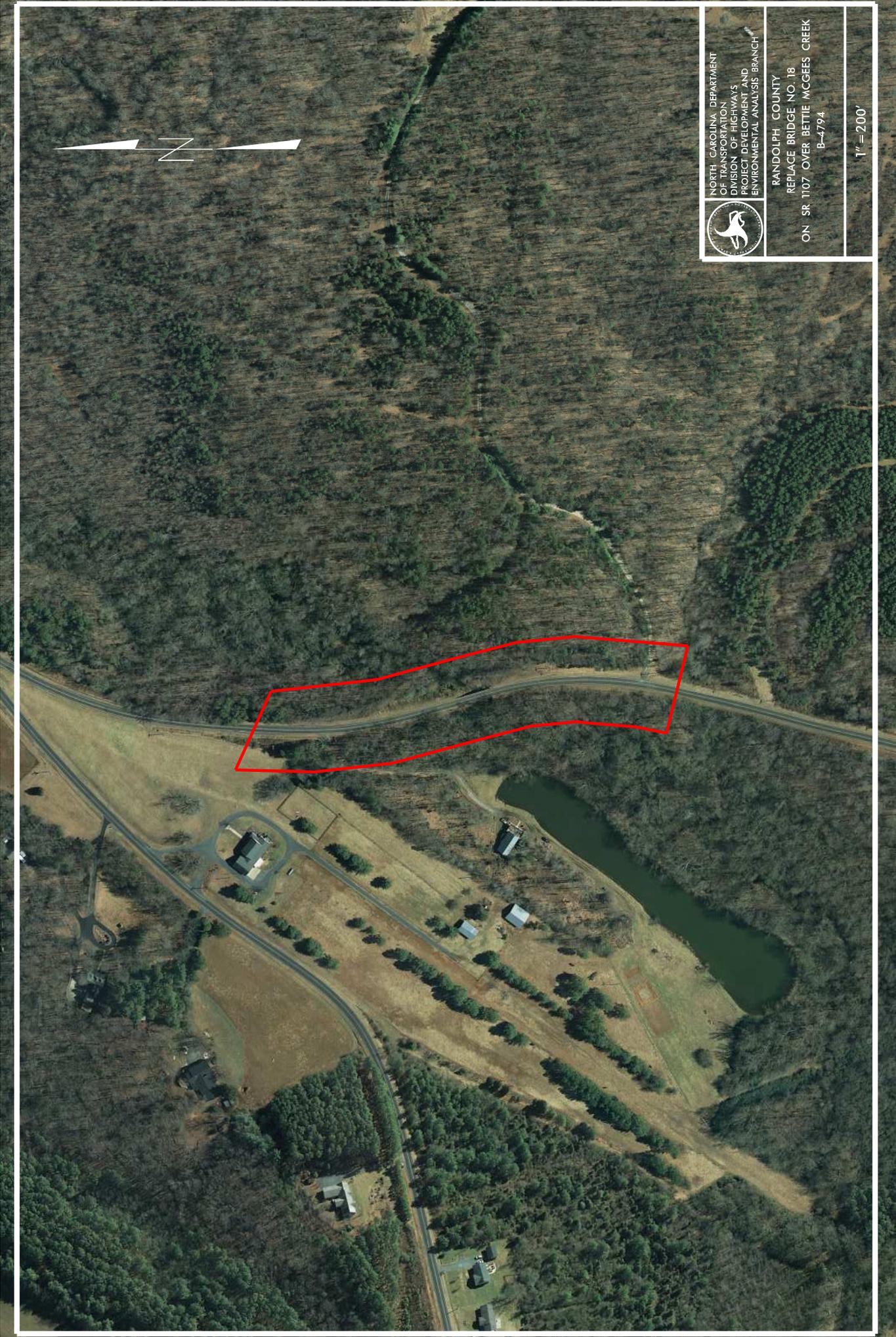
Figure 1



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

RANDOLPH COUNTY
REPLACE BRIDGE NO. 18
ON SR 1107 OVER BETTIE MCGEE'S CREEK
B-4794

1" = 200'





PAT McCrory
Governor

SUSAN KLUTTZ
Secretary

NCNHDE-2211

September 13, 2016

Ryan White
Stantec Consulting
801 Jones Franklin Road
Raleigh, NC 27606
RE: Replace Bridge # 18 along SR 1107 (Lassiter Mill Road) over Betty McGees Creek in Randolph County; B-4794

Dear Ryan White:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

A query of the NCNHP database indicates that there are records for rare species, important natural communities, natural areas, or conservation/managed areas within the proposed project boundary. These results are presented in the attached 'Documented Occurrences' tables and map.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists and is included for reference. Tables of natural areas and conservation/managed area within a one-mile radius of the project area, if any, are also included in this report.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

Also please note that the NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve (DNP), Registered Heritage Area (RHA), Clean Water Management Trust Fund (CWMTF) easement, or an occurrence of a Federally-listed species is documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact Suzanne Mason at suzanne.mason@ncdcr.gov or 919.707.8637.

Sincerely,
NC Natural Heritage Program



State of North Carolina | Department of Natural and Cultural Resources
109 East Jones Street | Raleigh, NC 27601
919-807-7300

**Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Intersecting the Project Area
 Replace Bridge # 18 along SR 1107 (Lassiter Mill Road) over Betty McGees Creek in Randolph County
 Project No. B-4794
 September 13, 2016
 NCNHDE-2211**

Element Occurrences Documented Within Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Freshwater Bivalve	17570	Villosa constricta	Notched Rainbow	1995-05-04	E	3-Medium	---	Special Concern	G3	S3
Freshwater Bivalve	10664	Villosa delumbis	Eastern Creekshell	2014-07-01	E	3-Medium	---	Significantly Rare	G4	S4
Freshwater Bivalve	19465	Villosa vaughaniana	Carolina Creekshell	2012-06-06	E	3-Medium	Species of Concern	Endangered	G2	S3
Freshwater Fish	22905	Etheostoma collis	Carolina Darter	2011-05-17	E	3-Medium	Species of Concern	Special Concern	G3	S3

Natural Areas Documented Within Project Area

Site Name	Representational Rating	Collective Rating
YAD/Uwharrie River Aquatic Habitat	n/a (Not Applicable)	C2 (Very High)

No Managed Areas Documented within the Project Area

Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on September 13, 2016; source: NCNHP, Q2 June 2016. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
Replace Bridge # 18 along SR 1107 (Lassiter Mill Road) over Betty McGees Creek in Randolph County
Project No. B-4794
September 13, 2016
NCNHDE-2211

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Freshwater Bivalve	35430	Alasmidonta undulata	Triangle Floater	2014-07-01	E	3-Medium	---	Threatened	G4	S3
Freshwater Bivalve	13543	Lampsilis radiata	Eastern Lampmussel	2014-07-01	E	3-Medium	---	Threatened	G5	S3
Freshwater Bivalve	17570	Villosa constricta	Notched Rainbow	1995-05-04	E	3-Medium	---	Special Concern	G3	S3
Freshwater Bivalve	10664	Villosa delumbis	Eastern Creekshell	2014-07-01	E	3-Medium	---	Significantly Rare	G4	S4
Freshwater Bivalve	19465	Villosa vaughaniana	Carolina Creekshell	2012-06-06	E	3-Medium	Species of Concern	Endangered	G2	S3
Freshwater Fish	22905	Etheostoma collis	Carolina Darter	2011-05-17	E	3-Medium	Species of Concern	Special Concern	G3	S3
Natural Community	3116	Dry-Mesic Oak--Hickory Forest (Piedmont Subtype)	---	2016-03-13	A	3-Medium	---	---	G4G5	S4
Natural Community	11679	Dry Oak--Hickory Forest (Piedmont Subtype)	---	2016-03-14	B	3-Medium	---	---	G4G5	S4
Natural Community	13594	Mesic Mixed Hardwood Forest (Piedmont Subtype)	---	2009-04-10	B	3-Medium	---	---	G3G4	S4
Natural Community	28443	Piedmont Alluvial Forest	---	2016-05-22	B	3-Medium	---	---	G4	S4
Natural Community	17852	Piedmont Monadnock Forest (Typic Subtype)	---	2015-06-24	B	3-Medium	---	---	G3G4	S3

Natural Areas Documented Within a One-mile Radius of the Project Area

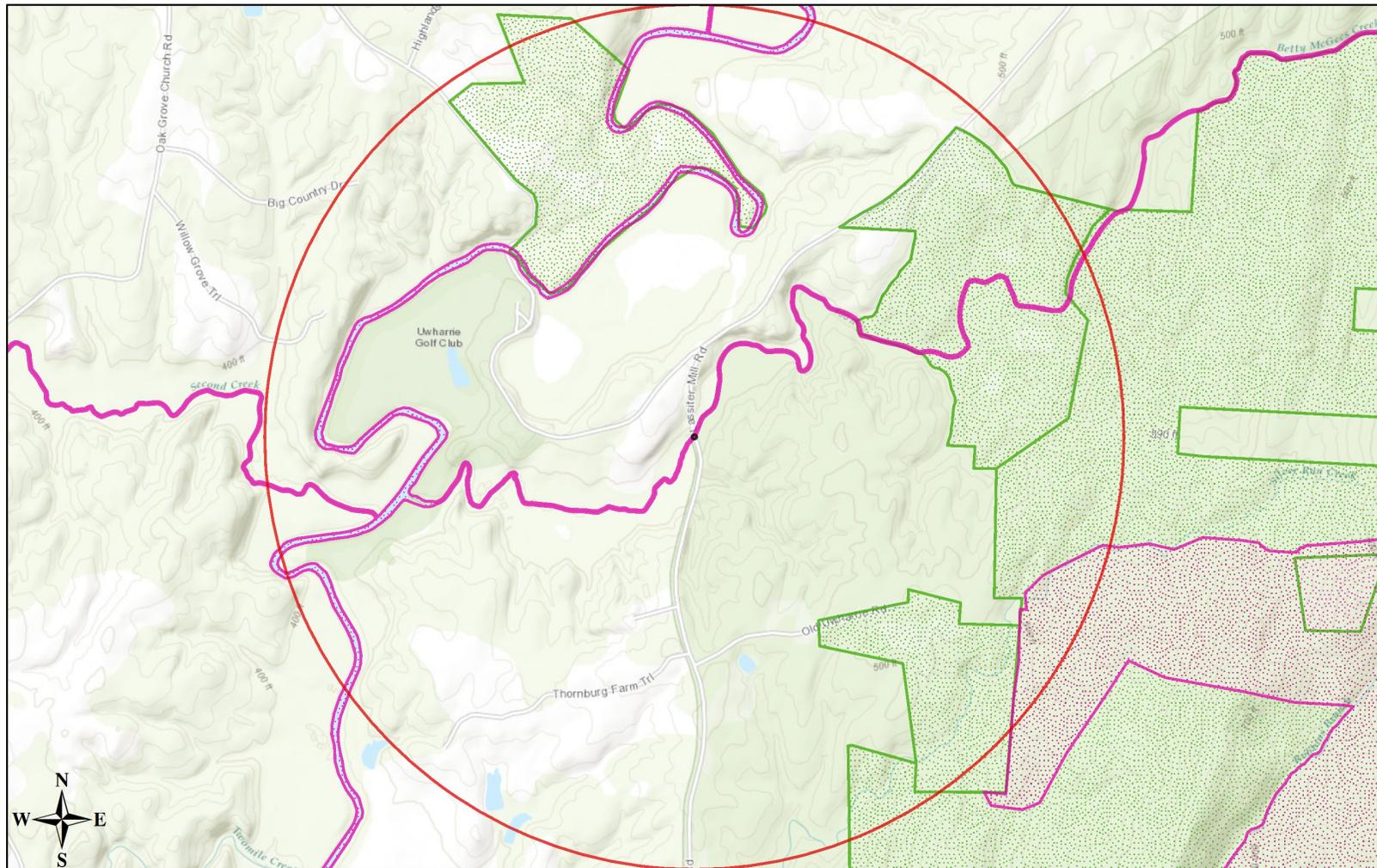
Site Name	Representational Rating	Collective Rating
Birkhead Upland Forest Natural Area	R3 (High)	C3 (High)
YAD/South Fork Second Creek Aquatic Habitat	n/a (Not Applicable)	C4 (Moderate)
YAD/Uwharrie River Aquatic Habitat	n/a (Not Applicable)	C2 (Very High)

Managed Areas Documented Within a One-mile Radius of the Project Area

Managed Area Name	Owner	Owner Type
Uwharrie National Forest	US Forest Service	Federal
Uwharrie National Forest - Birkhead Mountain Wilderness	US Forest Service	Federal
NC Clean Water Management Trust Fund Easement	NC DNCR, Clean Water Management Trust Fund	State

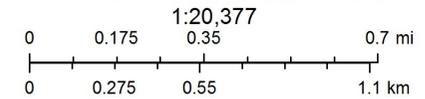
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-2211: Replace Bridge # 18 along SR 1107 (Lassiter Mill Road) over Betty McGees Creek in Randolph



September 13, 2016

-  Project Boundary
-  Buffered Project Boundary
-  NHP Natural Area (NHNA)
-  Managed Area (MAREA)



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

13-03-0044



**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-4794** County: **Randolph**
 WBS No: **38564.1.1** Document: **MCS**
 F.A. No: **BRZ-1107(14)** Funding: State Federal

Federal Permit Required? Yes No Permit Type: **Nationwide 3**

Project Description: Replace Bridge No. 18 over Bettie McGee's Creek on SR1107 (Lassiter Mill Rd) in Randolph County, North Carolina. The archaeological Area of Potential Effects (APE) for the project is centered upon Bridge 18 and measures 600ft in length (300ft from each bridge end-point) by 150ft in width (75ft laterally from each side of the SR1107 center-line).

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 is no National Register Eligible or Listed ARCHAEOLOGICAL SITES present or affected by this project. (Attach any notes or documents as needed)

13-03-0044***Brief description of review activities, results of review, and conclusions:***

First, construction design and other available engineering data were evaluated to determine the potential impacts to the ground surfaces surrounding Bridge No. 18. This information was then used to formulate and Area of Potential Effects. Next, a map review and site file search was conducted at the Office of State Archaeology (OSA) on Thursday, March 28, 2013. This assessment served to gauge the cultural resource potential of the project area based on factors associated with local archaeological and historical site profiles.

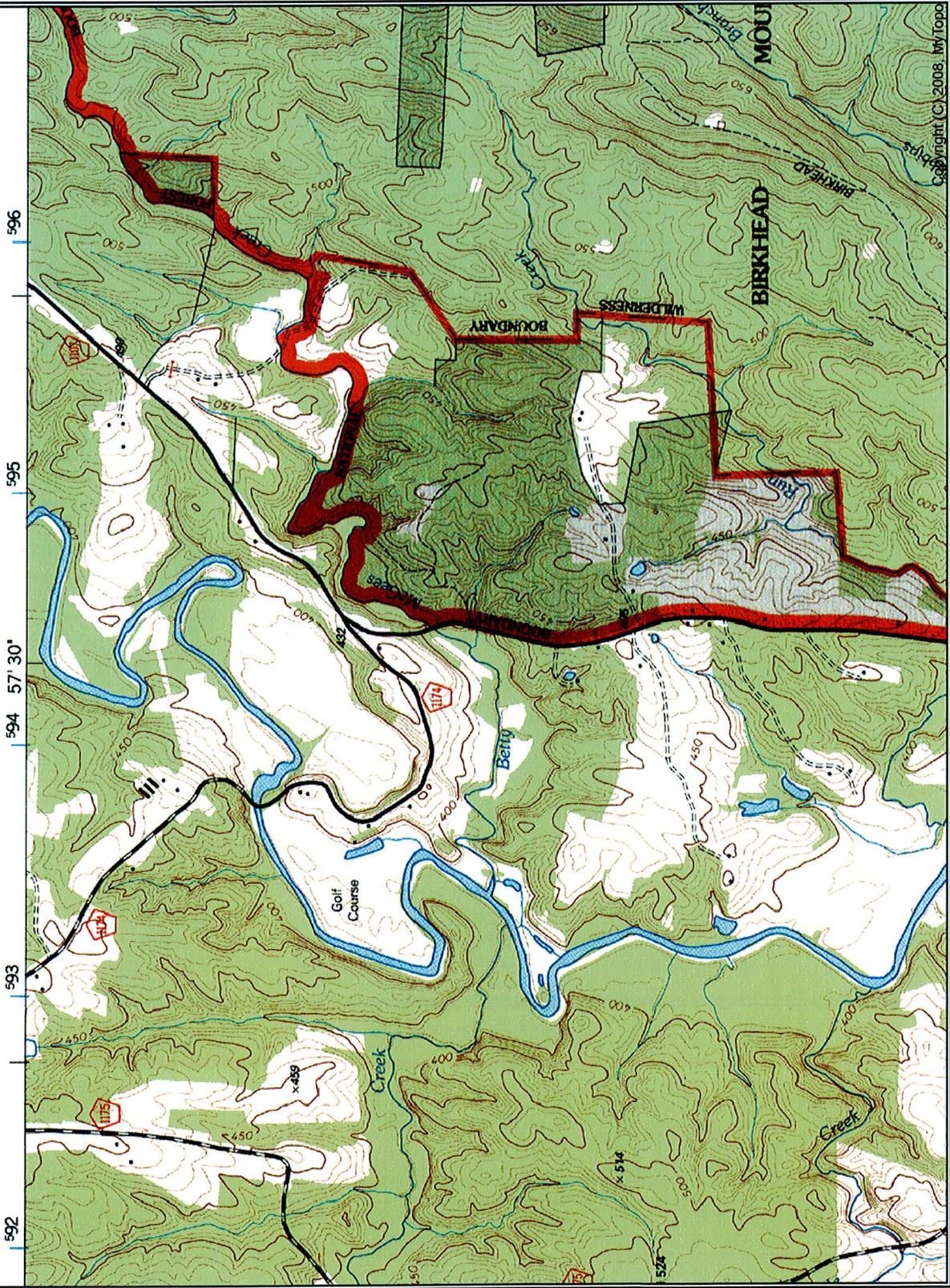
Numerous prehistoric archaeological sites have been documented a short distance to the north. Further, one archaeological site (31RD999) is located directly adjacent to the APE boundaries within the southeastern project quadrant. According to the NC site form, the resource was first investigated in 1972 but was not properly recorded and located with the OSA until 1990 (WFU). Even still, the form contains very limited information. Apparently, the cultural component and temporal frame is Archaic (unknown sub-period) and the site is located on a low floodplain rise about 60 meters south of the creek in a cultivated agricultural field that yielded 100% surface visibility during initial documentation. However, the directions to the site state that it is located in a field that lies on the east side of SR1107 just south of Bettie McGee's Creek at the top of a hill. While this statement contradicts the data fields on the site form, the hilltop locale syncs with the OSA topographic mapping. Because of the proximity of 31RD999 to the APE, and due to a heightened archaeological site potential based on the abundance of nearby locations of prehistoric cultural activity, a survey of the project area prior to construction is recommended.

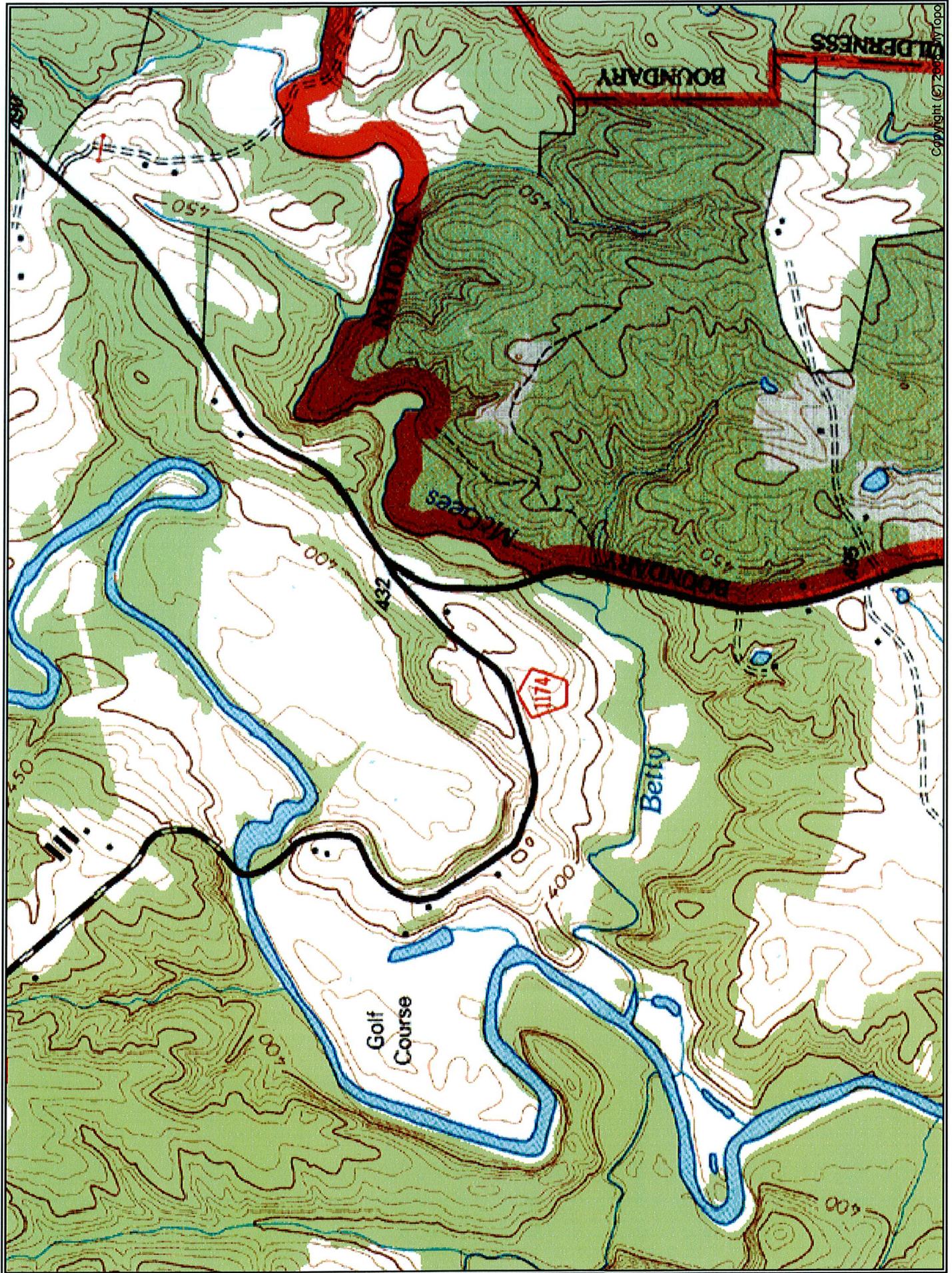
Examination of National Register of Historic Places (NRHP), State Study Listed (SL), Locally Designated (LD), Determined Eligible (DE), and Surveyed Site (SS) properties employing resources available on the NCSHPO website concluded that none of these historic property types were located within the bounds of the APE. One NRHP property (RD0275 Lewis-Thornburg Farm 2005) is situated less than one mile to the east of Bridge No. 18 and several additional surveyed site properties are located in the vicinity. In general, this work demonstrated a distinct historic presence in this portion of Randolph County, but also confirmed that the proposed construction effort will have no impact on existing NRHP listed properties.

Additionally, topographic, geologic, historic, and NRCS soil survey maps (RvA), and historical/archaeological reference materials were inspected for the appraisal of environmental, cultural, and other determinants that may have resulted in past occupation within the project limits. Aerial photographs (NCDOTSDV) were examined and the Google Street View map application was utilized for the estimation of erosive impacts and other disturbances that may have previously invalidated, dismantled, or annulled extant cultural deposits in the APE. Although sloping ground surfaces and frequently flooded soils characterize the majority of the APE beyond the disturbed SR1107 right-of-way corridor, an on-ground reconnaissance survey will be needed to determine if 31RD999 extends into the potential impact area.

An on-ground investigation of the APE was conducted on Thursday, April 4, 2013. First, a walk-over of all APE ground surfaces was completed. This served to identify any above-ground archaeological or historical remains, and to determine the location and extent of subsurface investigation necessary for project compliance. The entire project study area was photographed and descriptive notes were taken at this time. The southeastern quadrant contained an old road bed deviating from SR1107 about 250ft south of the bridge. The western hillside has been severely cut as a result of this old road feature. It trends northeast from SR1107 to an old abandoned bridge location about 200ft upstream and beyond the project APE. The bridge is defunct, the connecting expanse missing, and only it's keen and well-built stone

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

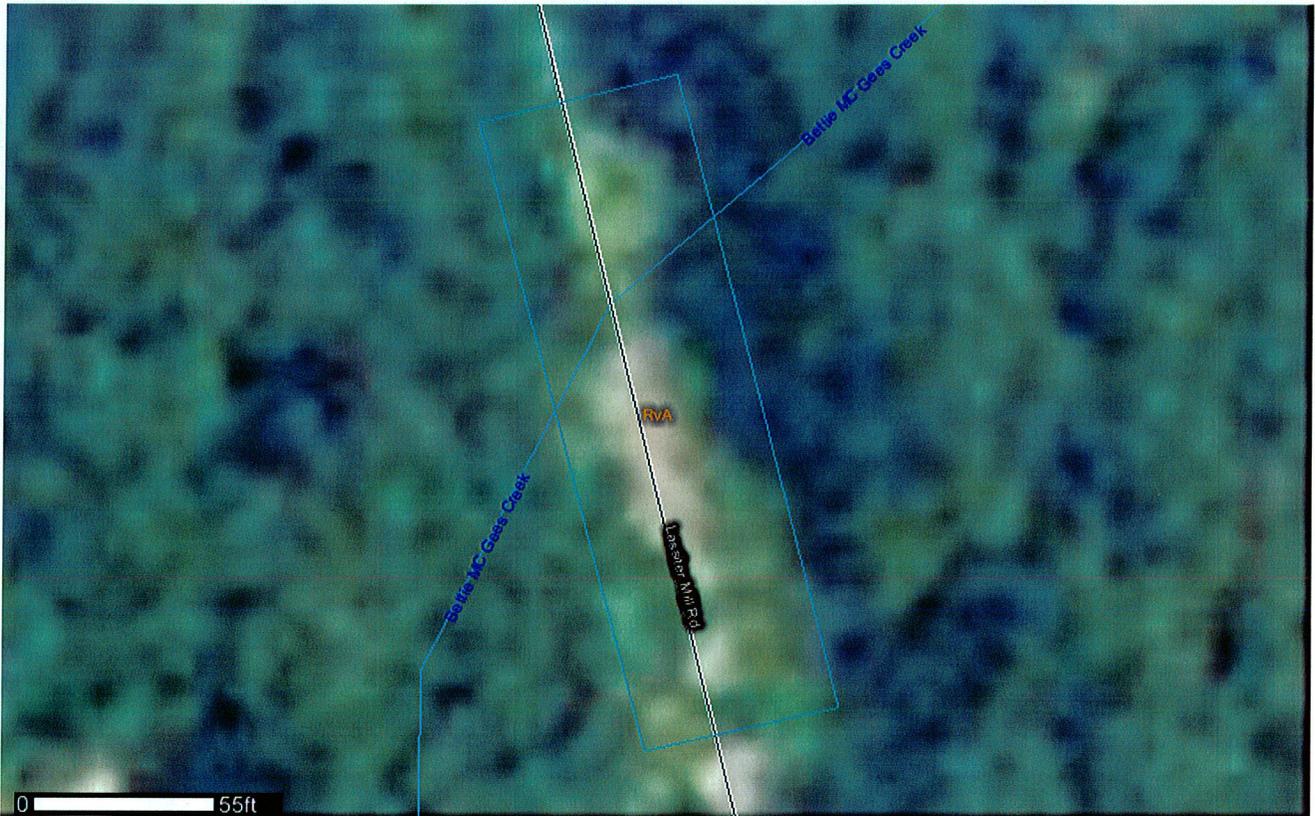






35m

Source: USGS
Source: NASA, NGA, USGS
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AIX, Geomatics, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community
SDV Default Map



Randolph County, North Carolina

RvA—Riverview sandy loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

- *Landscape:* Valleys
- *Elevation:* 200 to 1,400 feet
- *Mean annual precipitation:* 37 to 60 inches
- *Mean annual air temperature:* 59 to 66 degrees F
- *Frost-free period:* 200 to 240 days

Map Unit Composition

- *Riverview and similar soils:* 85 percent
- *Minor components:* 5 percent

Description of Riverview

Setting

- *Landform:* Flood plains
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Parent material:* Loamy alluvium derived from igneous and metamorphic rock

Properties and qualities

- *Slope:* 0 to 2 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Well drained
- *Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)
- *Depth to water table:* About 36 to 60 inches
- *Frequency of flooding:* Frequent
- *Frequency of ponding:* None

- *Available water capacity*: High (about 10.6 inches)

Interpretive groups

- *Farmland classification*: Prime farmland if protected from flooding or not frequently flooded during the growing season
- *Land capability (nonirrigated)*: 3w
- *Hydrologic Soil Group*: B

Typical profile

- *0 to 18 inches*: Loam
- *18 to 46 inches*: Loam
- *46 to 55 inches*: Sandy loam
- *55 to 72 inches*: Clay loam
- *72 to 80 inches*: Loam

Minor Components

Wehadkee, undrained

- *Percent of map unit*: 5 percent
 - *Landform*: Depressions on flood plains
 - *Down-slope shape*: Concave
 - *Across-slope shape*: Linear
-

592

593

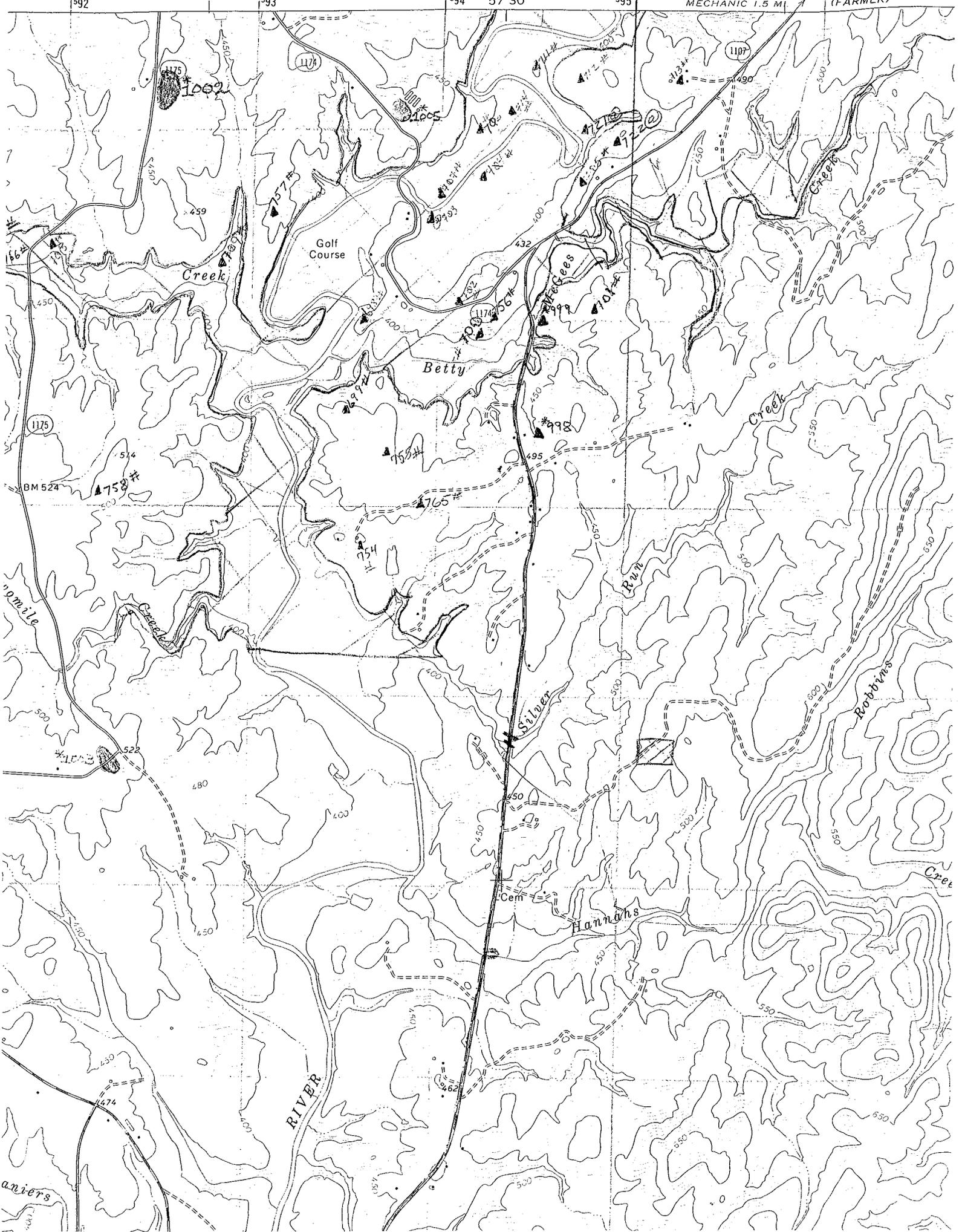
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57'30"

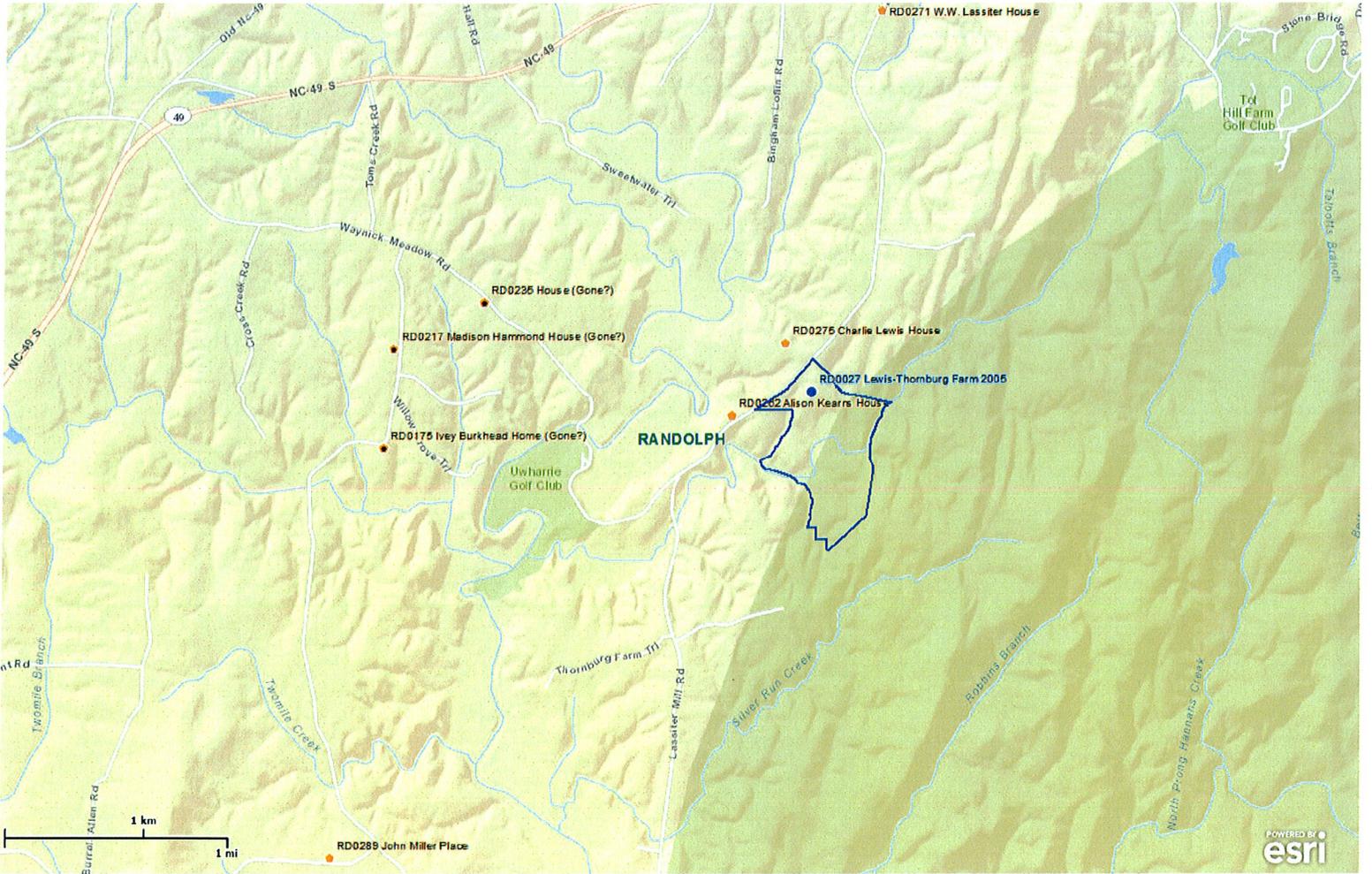
595

MECHANIC 1.5 M

(FARMER)



B-4794 Randolph



Copyright 2011 Esri. All rights reserved. Wed Mar 27 2013 01:05:36 PM.

13-03-0044

**REQUEST FOR CULTURAL
RESOURCES REVIEW FORM**

MEMORANDUM TO: Drew Joyner, Human Environment Unit
1598 Mail Service Center, Raleigh, NC 27699-1598

ATTENTION: Matt Wilkerson, Archaeology Supervisor
Mary Pope Furr, Historic Architecture Supervisor

FROM: Dionne C. Brown
Bridge Project Planning Engineer

SUBJECT: Request for Cultural Resources Review

DATE: January 2, 2013

**PROJECT INFORMATION**

Project No: B-4794 *County:* Randolph
WBS No: 38564.1.1 *Document:* PCE or CE
F.A. No: BRZ-1107(14) *Funding:* State Federal
USGS Quad: Eleazer

Project Description: Replacement of Bridge No. 18 on SR 1107 over Bettie McGee's Creek in Randolph County

Purpose & Need: Bridge is structurally deficient.

SCHEDULING AND CONTACT INFORMATION

Date Needed: February 4, 2013
Engineer: Dionne C. Brown *Tel* 707-6171 *Email* DCBROWN@NCDOT.GOV

DESIGN INFORMATION

Project Length: Approx. 1000'
Exist. R/W: Assuming 60' *Proposed R/W:* 200'
Exist. Speed Limit: ? *Proposed Speed Limit:* ?
Exist. X-Section:
Detour Route: Unknown at this time
Structure Type: Bridge *Year Built:* 1952

13-03-0044



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-4794	County:	Randolph
WBS No.:	38564.1.1	Document Type:	PCE or CE
Fed. Aid No:	BRZ-1107(14)	Funding:	<input type="checkbox"/> State <input checked="" type="checkbox"/> Federal
Federal Permit(s):	<input type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type(s):	

Project Description:

Replace Bridge No. 18 on SR 1107 (Lassiter Mill Rd) over Bettie McGee's Creek in Randolph County. Project length is approximately 1,000 feet. The right-of-way is assumed to be 60 feet and the proposed right-of-way is 200 feet, 100 feet to each side of the centerline of the roadway.

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions:

Review of HPO quad maps, HPOweb GIS mapping, historic designations roster, and indexes was conducted on 3/28/13. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects (APE). Built in 1952, Bridge No. 18 is not eligible for listing to the National Register of Historic Places (NRHP) according to the NCDOT Historic Bridge Inventory. The CRS also reviewed Randolph County GIS and tax records which revealed no one property over the age of fifty near the project area and no properties at all within the APE proper. Since there are no properties located within the project APE, a survey will not be required for Historic Architecture. The APE lies southeast of the Uwharrie River and on the western boundary of the Uwharrie National Forest in Randolph County. It consists of mostly of heavily wooded tracts. Thus, a survey is not required for this project.

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, HPOweb GIS mapping, Google maps and Randolph County property records are considered valid tools for the purposes of determining the likelihood of historic resources being present. A survey is not required for this project.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

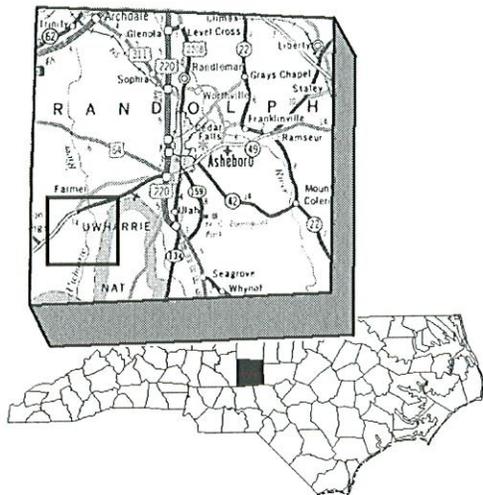
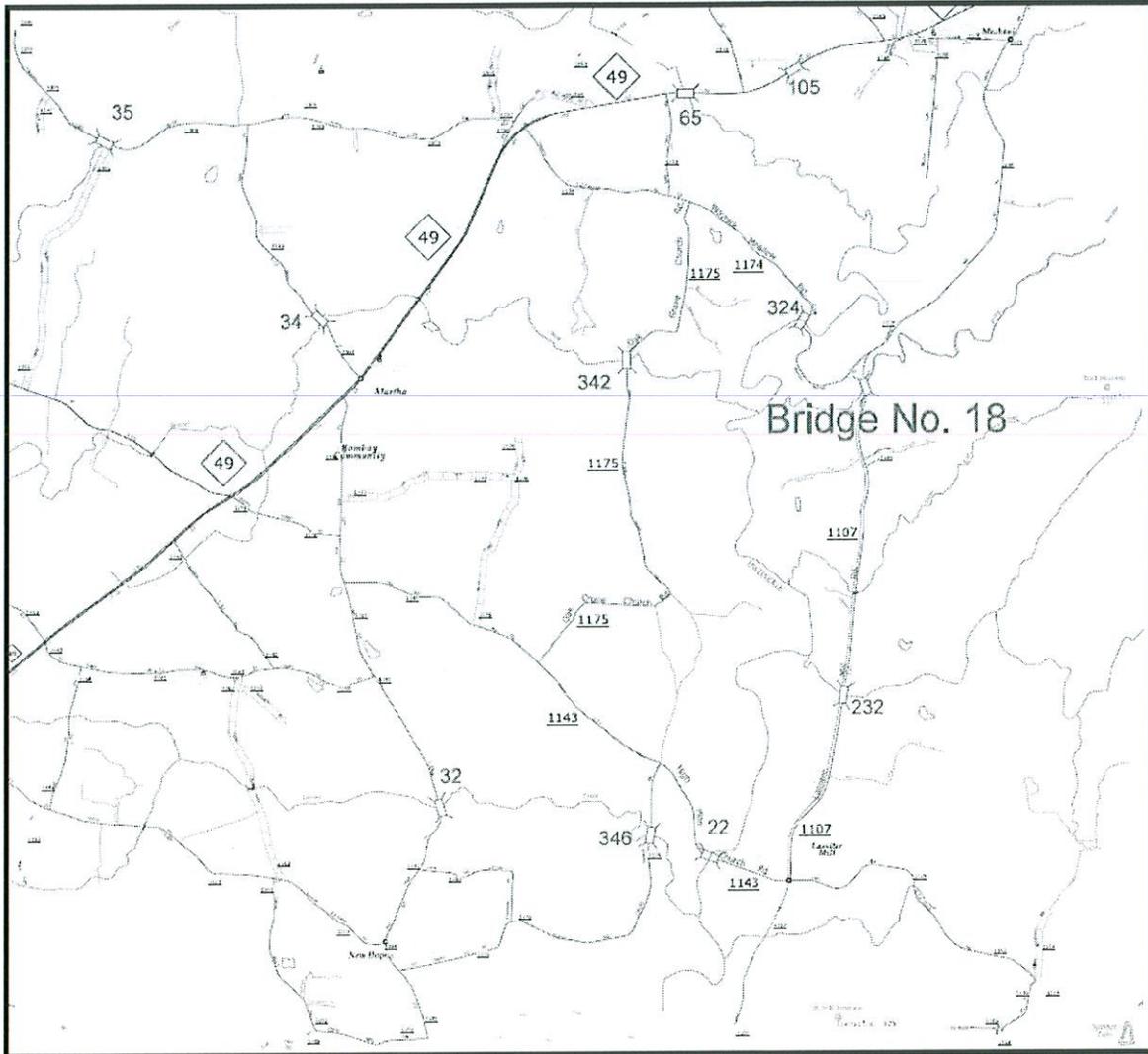
Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Megan Rivett

4/1/13

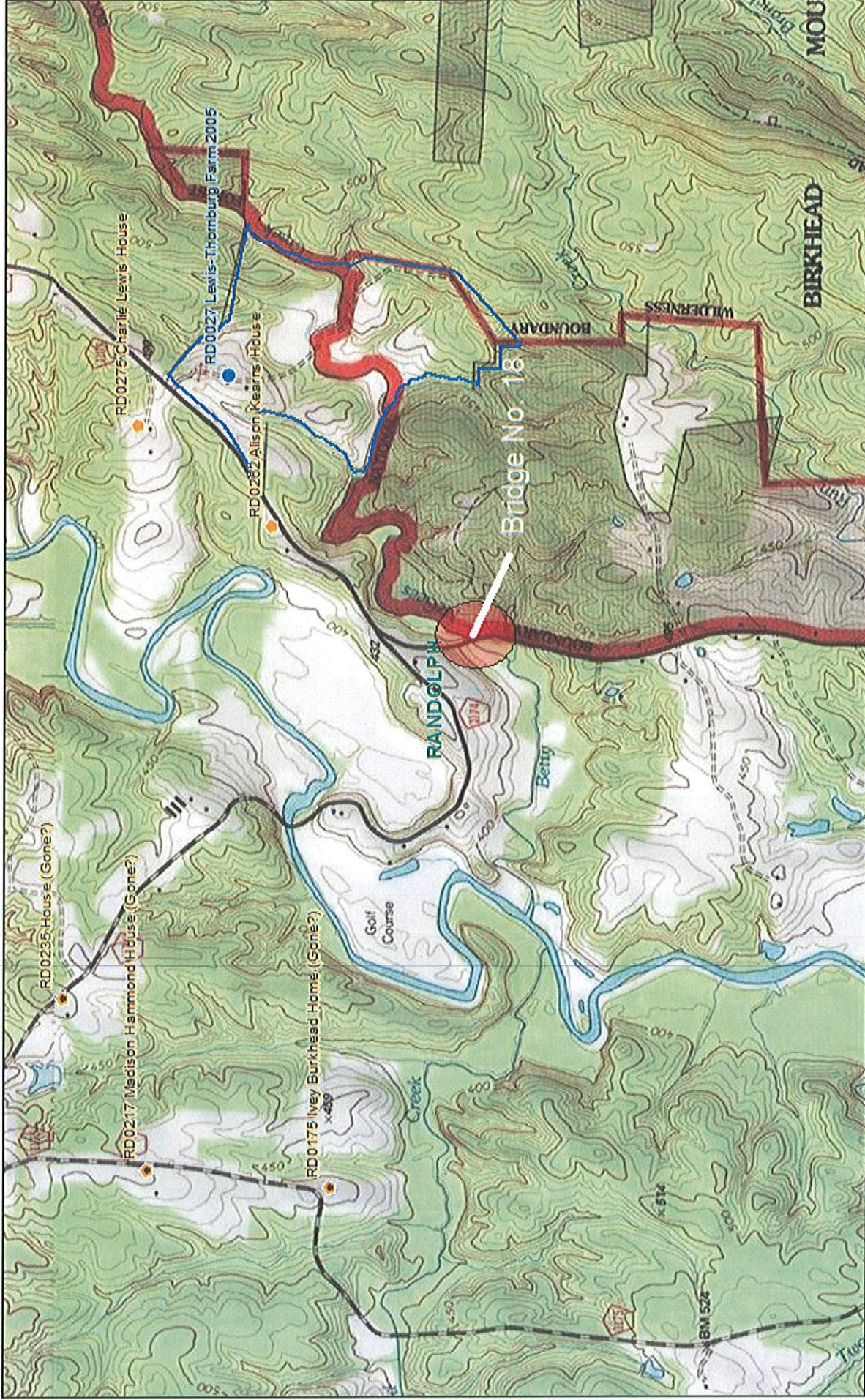
NCDOT Architectural Historian

Date



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
	<p style="text-align: center;"> RANDOLPH COUNTY Replace Bridge No. 18 on SR 1107 OVER BETTIE MCGEES CREEK B-4794 </p>
Figure 1	

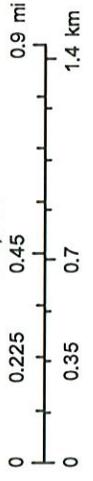
NC HPOweb, Randolph County



March 28, 2013

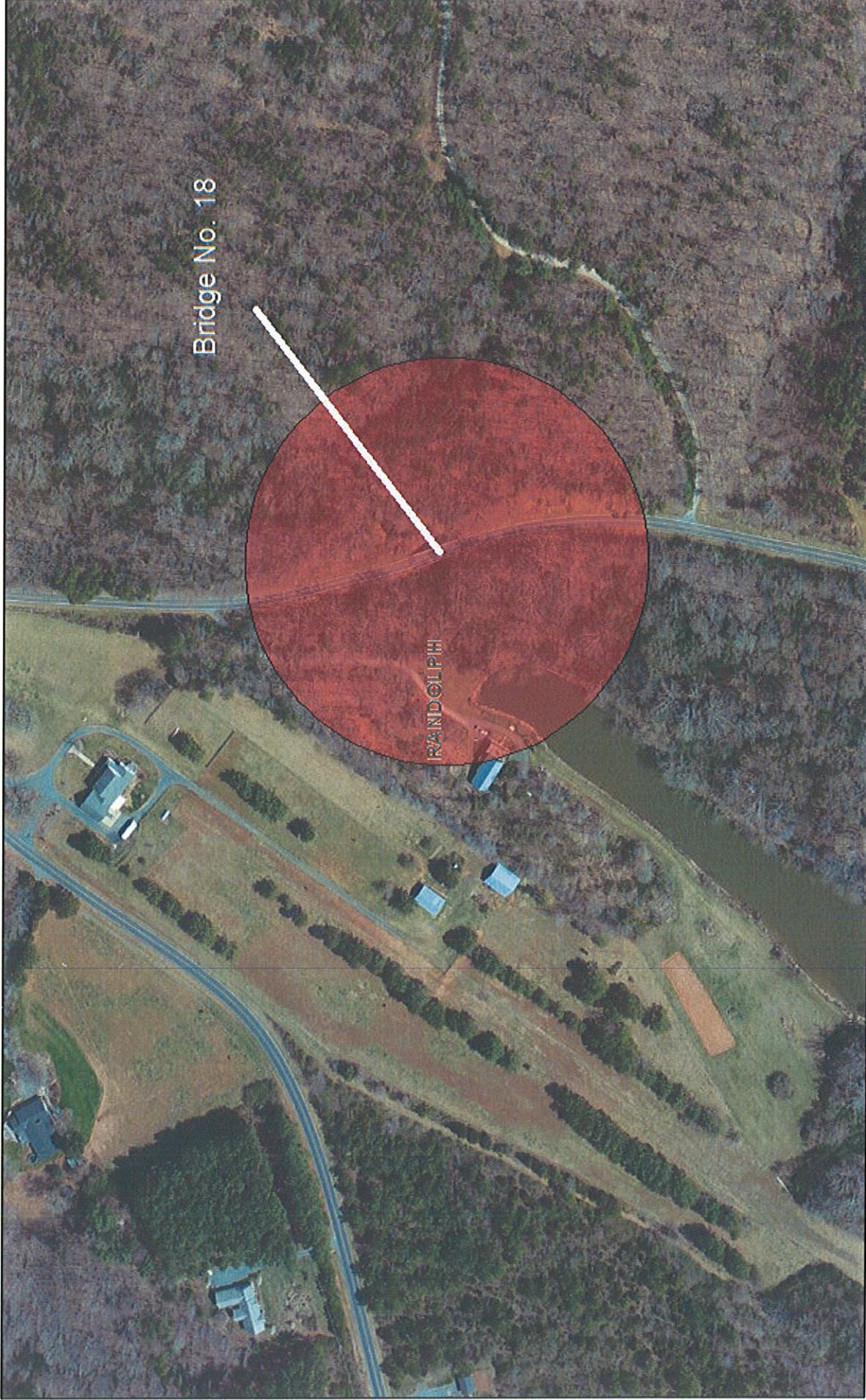
- <all other values>
- NR Individual Listing
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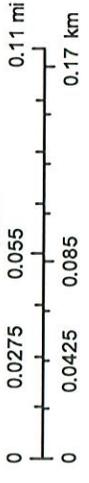
NC HPOweb, Randolph County



March 28, 2013

- ◆ <all other values>
- NIR Individual Listing
- NIR I istina. Gone

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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

APPENDIX C: LOCAL OFFICIAL INPUT FORMS

NC Department of Transportation Community Studies Group, Human Environment Section Local Planner Input Form for STIP Project B-4794 COMMUNITY IMPACT ASSESSMENT	
Teresa Gresham Kimley-Horn and Associates Teresa.gresham@kimley-horn.com Phone: (919) 677-2194	Hal Johnson Randolph County Planning Director hcjohnson@co.randolph.nc.us 336-318-6555
Please rate the overall impact on local Planning objectives if the bridge were closed for up to a year:	
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Low Impact <input type="checkbox"/> Moderate Impact <input type="checkbox"/> High Impact	
Check all that apply & provide a detailed explanation of your response in the field provided.	
<input type="checkbox"/>	Are there any known plans for development in the vicinity of the project? No.
<input type="checkbox"/>	Based on your knowledge of the project area, do you have any concerns with the condition/capacity of potential detour routes, or the location of resources along these routes? Low traffic road, so detour would impact very few people. School buses probably use it.
<input type="checkbox"/>	Are there any future time periods or events that you know of where bridge closure would be of particular concern? No.
<input type="checkbox"/>	Are there any adopted plans for either pedestrian, greenway, bicycle, or transit facilities in the area? Please provide a description of how the plan applies to the project area, the title of the plan, its year of adoption, and the current status of its implementation. County does not. Don't know if that's part of a bike path or not.
<input checked="" type="checkbox"/>	Are there any other adopted plans for growth that could directly affect this project? <i>Growth Management Plan.</i> This is a rural growth area, extreme low density anticipated.
<input type="checkbox"/>	Are you aware of any special populations/ communities (e.g. minority, low-income, Limited English Proficiency) existing around the project? Not aware of any.
<input type="checkbox"/>	Are there any FEMA buyout properties in the vicinity of the project? Don't think so.
<input type="checkbox"/>	Does the project lie within a VAD or EVAD District? Will check to see. A lot of lands in VAD, but not sure if there are any by bridge.
<input type="checkbox"/>	To your knowledge, are there any parcels in the immediate vicinity of the bridge that contain underground storage tanks or could otherwise potentially have contaminated soil or groundwater due to commercial or industrial use, e.g., dry cleaners or gas stations? (Past or Present) Don't know of any. National Forest on east side, rural on the west side.



**NC Department of Transportation Community Studies Group, Human Environment Section
Local Schools Input Form for
STIP Project B-4794 COMMUNITY IMPACT ASSESSMENT**

Teresa Gresham
Kimley-Horn and Associates
Teresa.gresham@kimley-horn.com
(919) 677-2194

Pat Smith
Randolph County Schools
Bus Routing Specialist
(336) 318-6111

Please rate the overall impact on school transportation services if the bridge were closed for up to a year:

- No Impact
- Low Impact
- Moderate Impact
- High Impact

Check all that apply & provide a detailed explanation of your response in the field provided.

<input checked="" type="checkbox"/>	How many school bus crossings over this bridge are there per day? (total # of daily buses, total # daily of trips) Three buses each morning/afternoon (6 total).
<input checked="" type="checkbox"/>	Based on your knowledge of the project area, do you have any concerns with the condition/capacity of potential detour routes, or the location of resources along these routes? Buses cannot cross Waynick Meadow Road bridge west of Lassiter Mill Road (just a small bridge with no sides), so have to use NC 49. Can use Oak Grove Church Road (even though 4 miles is dirt), but difficult to get to – 17 mile detour on NC 49/Toms Creek Road/Oak Grove Church Road/High Pine Church Road, or 18 miles on NC 49/High Pine Road.
<input checked="" type="checkbox"/>	Are there any future time periods or events that you know of where bridge closure would be of particular concern? School year – prefer construction during the summer, if possible.
<input checked="" type="checkbox"/>	If there any other concerns you have regarding the potential impact of this project on school transportation services, or any additional comments? Please be as specific as possible. Long routes anyway, and this would cause major rerouting. Have stops along Lassiter Mill Road.



**NC Department of Transportation Community Studies Group, Human Environment Section
Local EMS Input Form for
STIP Project B-4794 COMMUNITY IMPACT ASSESSMENT**

<p>Teresa Gresham Kimley-Horn and Associates Teresa.gresham@kimley-horn.com (919) 677-2194</p>	<p>Jared Byrd Randolph County Emergency Services (336) 318-6943</p>
---	--

Please rate the overall impact on Emergency Response services if the bridge were closed for up to a year:

No Impact
 Low Impact
 Moderate Impact
 High Impact

Check all that apply & provide a detailed explanation of your response in the field provided.

<input checked="" type="checkbox"/>	<p>If there are concerns please specify. Be as specific as possible. (e.g. location in a high call volume area, closure could affect response to schools, weight restrictions, expected new development in the area, coordination with partner agency required to facilitate service)</p> <p>Low call volume area. Fire department comes from NC 49, so would be more of a detour – may be able to use a contingency where they would use another fire department (which would then be closer).</p>
<input checked="" type="checkbox"/>	<p>Based on your knowledge of the project area, do you have any concerns with the condition/capacity of potential detour routes, or the location of resources along these routes?</p> <p>Southern part of Oak Grove Church Road is dirt.</p>
<input type="checkbox"/>	<p>Are there any future time periods or events that you know of where bridge closure would be of particular concern?</p> <p>No.</p>
<input checked="" type="checkbox"/>	<p>Is there anyone else you feel should be contacted regarding this project (i.e. local officials or stakeholders)?</p> <p>Farmer Fire Department</p>

