

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	<u>B-4812</u>
W.B.S. No.	<u>38582.1.FD2</u>
Federal Project No.	<u>BRZ-1520(16)</u>

A. Project Description:

The purpose of this project is to replace Rutherford County Bridge No. 35 on SR 1520 (Rock Road) over Hollands Creek. (Figure 1) The replacement structure will consist of a double barrel, 9-foot wide by 9-foot high reinforced concrete box culvert that is approximately 52 feet in length. The culvert size is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing grade.

The approach roadway improvements will extend approximately 350 feet from the north end of the new culvert and 325 feet from the south end of the new culvert. The approaches will be widened to include a 30-foot pavement width providing two 11-foot wide lanes and four feet of full-depth paved shoulder. Two-foot turf shoulders will be provided on each side, extending up to five feet where guardrail is required (total shoulder width of 6 to 9 feet). 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.

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 35 has a sufficiency rating of 73.98 out of a possible 100 for a new structure. The bridge was built in 1952 and is considered functionally obsolete due to deck geometry appraisal of 2 out of 9 according to Federal Highway Administration (FHWA) standards.

Bridge No. 35 is a single-span, 30.5-foot long bridge with a current width between the rails of 24 feet and a clear roadway width of 23.5 feet. The approach roadway width is 22 feet.

The substructure of Bridge No. 35 has timber elements that are 64 years old. In 2007, repairs were made to keep the bridge open. These repairs included splicing exterior timber piles and placing timber subcaps at both abutments. Portions of some timber piles are encased in concrete.

The substandard substructure and deck geometry are unacceptable and cannot be addressed by maintenance activities. 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 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:

The estimated costs, based on 2016 prices, are as follows:

Structure	\$ 120,000
Roadway Approaches	367,000
Structure Removal	18,000
Misc. & Mob.	141,000
Eng. & Contingencies	104,000
Total Construction Cost	\$ 750,000
Right-of-way Costs	47,000
Utility Costs	84,000
Total Project Cost	\$ 881,000

Estimated Traffic:

Current (2015)-	2,400 vpd
Year 2040 -	2,000 vpd (assumes R-2233 to be complete)
TTST -	1%
Dual -	3%

Accidents: The NCDOT Traffic Safety Systems Section evaluated a recent five-year period (February 2010 through January 2015) and found three accidents occurring in the vicinity of the project. It does not appear that these accidents were associated with the alignment or geometry of the bridge or its approach roadway. Two of the accidents occurred at the SR 1520 (Rock Road) intersection with SR 1537 (Water Works Road) just south of the bridge.

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

Pedestrian and Bicycle Accommodations: This portion of SR 1520 is not a part of a designated bicycle route nor is it listed in the STIP as a bicycle project. There is no indication of substantial bike or pedestrian usage. No bicycle or pedestrian facilities are required for this project.

The closest available detour route along Rock Road crosses the 8-mile Rutherford County Thermal Belt Rail-Trail approximately 2,000 feet north of the bridge. The NCDOT Rail Division recommends signage be installed during construction to warn motorists and pedestrians of the crossing.

Bridge Demolition: Bridge No. 35 includes a superstructure composed of steel and timber and a substructure composed of timber piles and abutments with concrete encasement around piles. Based on standard demolition practices, it should be possible to remove the bridge with no resulting debris in the water.

Alternatives Discussion:

No Build – The no build alternative would result in eventually closing the road, which is unacceptable given the volume of traffic served by SR 1520.

Rehabilitation – The bridge was built in 1952 and is reaching the end of its useful life. Rehabilitation would require replacing the components which would constitute effectively replacing the bridge.

Replace in Place with an Off-site Detour – Bridge No. 35 will be replaced with a culvert on the existing alignment. Traffic will be detoured off-site (Figure 1) during the construction period.

NCDOT Guidelines for Evaluation of Off-site Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the off-site detour. The off-site detour for this project would include SR 1520 (Rock Road), SR 1539 (Old Gilberttown Road), and US 64. The detour for the average road user would result in approximately 2 minutes additional travel time (1.2 miles additional travel). Up to a 12-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that on the basis of delay alone, the SR 1520/SR 1539/US 64 detour is acceptable. NCDOT Division 13 has indicated the condition of all roads, bridges and intersections on the off-site 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 because of the availability of an acceptable off-site detour.

New Alignment – Given that the alignment for SR 1520 is acceptable, a new alignment was not considered as an alternative.

Structure Type: The current structure is a bridge built in 1952 with reconstruction in 1973. The drainage area is 2.0 square miles. The reason for building a bridge was not because a culvert would not work but because the design, materials and labor were not practical in the time when this structure was built. Based on the drainage area and design discharges, a 2 @ 9-foot wide by 9-foot high reinforced concrete box culvert was determined to be adequate from a hydraulics standpoint. The culvert will be buried 1.0 foot below the streambed and will be designed such that the slope, low flow velocities and low flow channel designs are consistent with the existing stream. Because culverts generally cost less, require less maintenance throughout their service life and last longer than bridges, a culvert is the preferred structure type.

Adjacent STIP Project: STIP Project No. R-2233BB (proposed Rutherfordton Bypass) proposes to close SR 1537 (Water Works Road) south of the bridge and add a connection from Rock Road to Old US 221 north of the bridge. According to the 2016-2025 STIP, right of way acquisition is scheduled in FY 2017 and construction is scheduled to begin in FY 2020.

Other Agency Comments:

NCDOT sought input from the following agencies as part of the project development for B-4812: U.S. Army Corps of Engineers, US Fish and Wildlife Service, Federal Highway Administration, US Environmental Protection Agency, Eastern Band of Cherokee Indians, NC Department of Natural and Cultural Resources -Division of Parks and Recreation, NC Department of Environmental Quality-Division of Water Resources, Rutherford County, Rutherford County EMS, Rutherford County Schools, Town of Rutherfordton, and Town of Ruth.

The **N.C. Wildlife Resources Commission** in a standardized letter provided a request that they prefer any replacement structure to be a spanning structure.

Response: Because culverts generally cost less, require less maintenance throughout their service life and last longer than bridges, a culvert is the preferred structure type. The culvert will be buried 1.0 foot below the streambed and will be designed such that the slope, low flow velocities and low flow channel designs are consistent with the existing stream.

Rutherford County noted the aerial sewer and water lines that cross near the bridge may need to be relocated or protected during project construction.

Public Involvement:

A letter dated February 10, 2015 was sent by the Project Development and Environmental Analysis (PDEA) Unit to all property owners affected directly by this project. Property owners were invited to comment.

Mr. Daniel Mitchem, northwest quadrant property owner, contacted the PDEA Project Development Engineer. He provided additional contact information but did not have specific project comments. Mr. Mitchem’s property will be impacted by R-2233BB.

No additional comments have been received to date. Based on the lack of responses, a Public Meeting was determined unnecessary.

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> 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> 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? | <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> |

- | | | | |
|------|---|--------------------------|--------------------------|
| (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:

Indiana bat

Biological Conclusion: Unresolved

According to the NCDOT publication Bat Survey Protocols (NCDOT 2007), Indiana bats have been documented in Rutherford County only in winter months, during which the species hibernates primarily in caves and mines, but may also roost in bridges and abandoned buildings. No caves or mines exist within the study area; however, the bridge over Hollands Creek provides marginally suitable roosting habitat. A review of the NCNHP database on March 20, 2015 revealed no known occurrences of this species within 10 miles of the project study area. Surveys for the Indiana bat within the project study area will be conducted by the NCDOT-Biological Surveys Group. Construction authorization will not be requested until Endangered Species Act (ESA) compliance is satisfied for this species.

Northern long-eared bat

Biological Conclusion: Unresolved

It has not been determined if habitat for the Northern long-eared bat is present within the project study area. A review of the NCNHP database on March 24, 2015 revealed no known occurrences of this species within 10 miles of the project study area. The NCDOT-Biological Surveys Group will be responsible for further habitat assessment, and, if needed, surveys for the Northern long-eared bat. Construction authorization will not be requested until ESA compliance is satisfied for this species.

G. CE Approval

TIP Project No.	<u>B-4812</u>
W.B.S. No.	<u>38582.1.FD2</u>
Federal Project No.	<u>BRZ-1520(16)</u>

Project Description:

The purpose of this project is to replace Rutherford County Bridge No. 35 on SR 1520 (Rock Road) over Hollands Creek. (Figure 1) The replacement structure will consist of a double barrel, 9-foot wide by 9-foot high reinforced concrete box culvert that is approximately 52 feet in length. The culvert size is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing grade.

The approach roadway improvements will extend approximately 350 feet from the north end of the new culvert and 325 feet from the south end of the new culvert. The approaches will be widened to include a 30-foot pavement width providing two 11-foot wide lanes and four feet of full-depth paved shoulder. Two-foot turf shoulders will be provided on each side, extending up to five feet where guardrail is required (total shoulder width of 6 to 9 feet). 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.

Categorical Exclusion Action Classification:

 TYPE II(A)
 X TYPE II(B)

FHWA approval is not required for Type II(B) PCE's when the only unfavorable threshold criteria response is due to habitat for the Northern Long-Eared Bat and/or Indiana Bat.

Approved:

08-08-2016 Stacy Oberhausen
 Date Stacy Oberhausen, PE - Project Development Group Supervisor
 Project Development & Environmental Analysis Unit

8-8-16 Tracy Walter
 Date Tracy Walter, PE - Project Planning Engineer
 Project Development & Environmental Analysis Unit

8-8-16 Robin Pugh
 Date Robin Pugh, AICP - Consultant Project Manager
 Simpson Engineers & Associates

8-8-16 David B. Simpson, Jr.
 Date David B. Simpson, Jr., PE - Consultant Project Engineer
 Simpson Engineers & Associates

or Type II(B) projects only:

8-8-16 N/A
 Date N/A
 John F. Sullivan, III, PE - Division Administrator
 Federal Highway Administration



PROJECT COMMITMENTS

Rutherford County
Bridge No. 35 on SR 1520 (Rock Road)
Over Hollands Creek
Federal Aid Project No. BRZ-1520(16)
W.B.S. No. 38582.1.FD2
TIP Project No. B-4812

Division 13 Construction, Resident Engineer's Office

Rutherford County Schools will be contacted at least one month prior to road closure to reroute school buses.

Rutherford County EMS and Rutherfordton Fire Department will be contacted at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

Prior to construction, signage will be installed along SR 1520 in proximity to the Thermal Belt Rail-Trail to make motorists aware of the potential presence of pedestrians and cyclists. Signage will also be installed along the rail-trail in proximity to SR 1520 to warn pedestrians and cyclists about the increased volume of vehicular traffic.

Before construction, the historic marker (Rutherford County's first courthouse) will be removed and stored by Traffic Services. It will be replaced upon completion of the project.

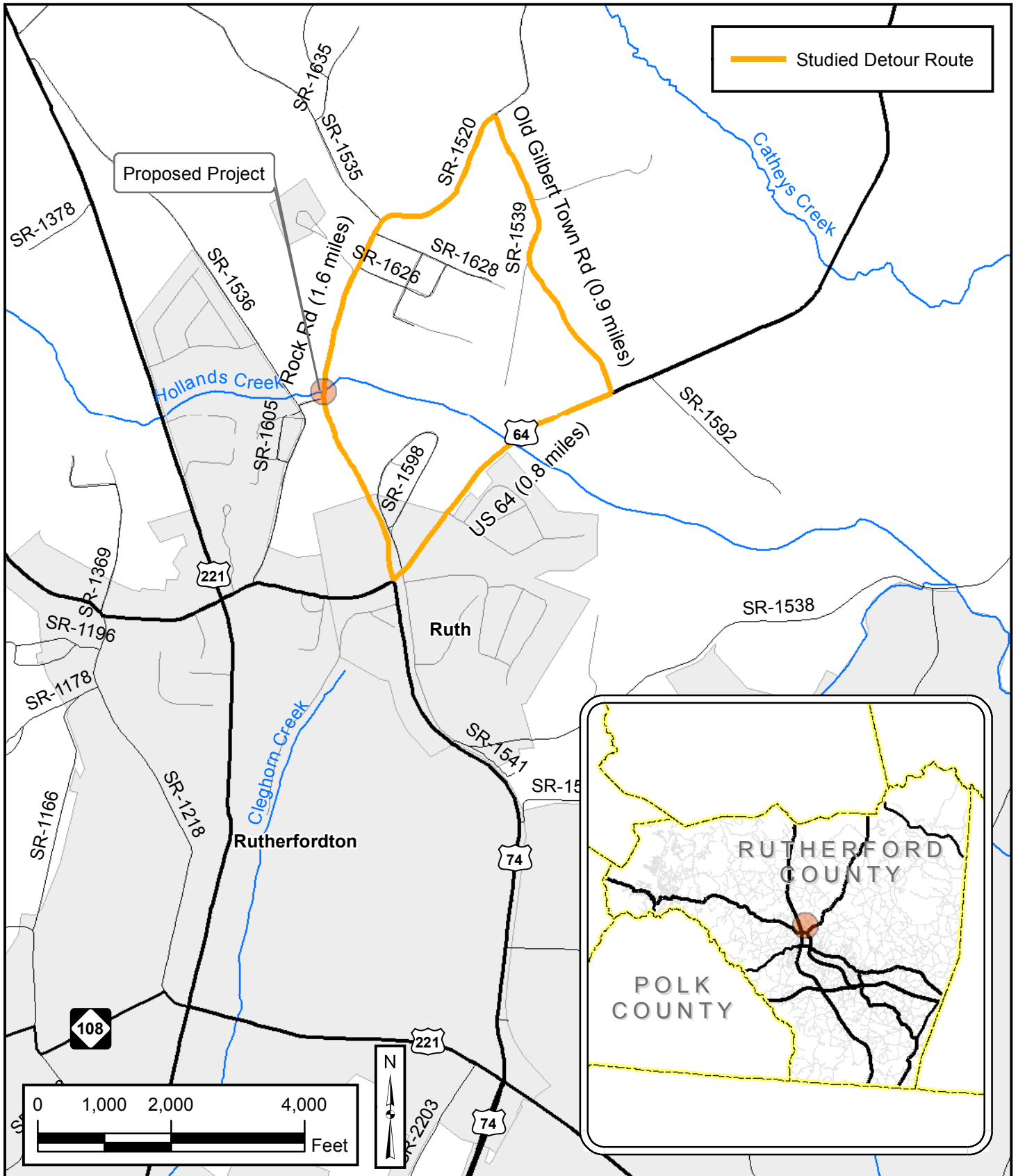
This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located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

Hydraulic Unit

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine the 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).

Natural Environment Section

Construction authorization will not be requested until Endangered Species Act (ESA) compliance is satisfied for the Indiana bat and the Northern Long-eared bat.



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

VICINITY MAP
BRIDGE REPLACEMENT
BRIDGE NO 35 OVER
HOLLANDS CREEK
 RUTHERFORD COUNTY
 TIP PROJECT B-4812

County: RUTHERFORD	
Div: 13	TIP# B-4812
WBS: 38582.1.FD2	
Date: FEB 2015	

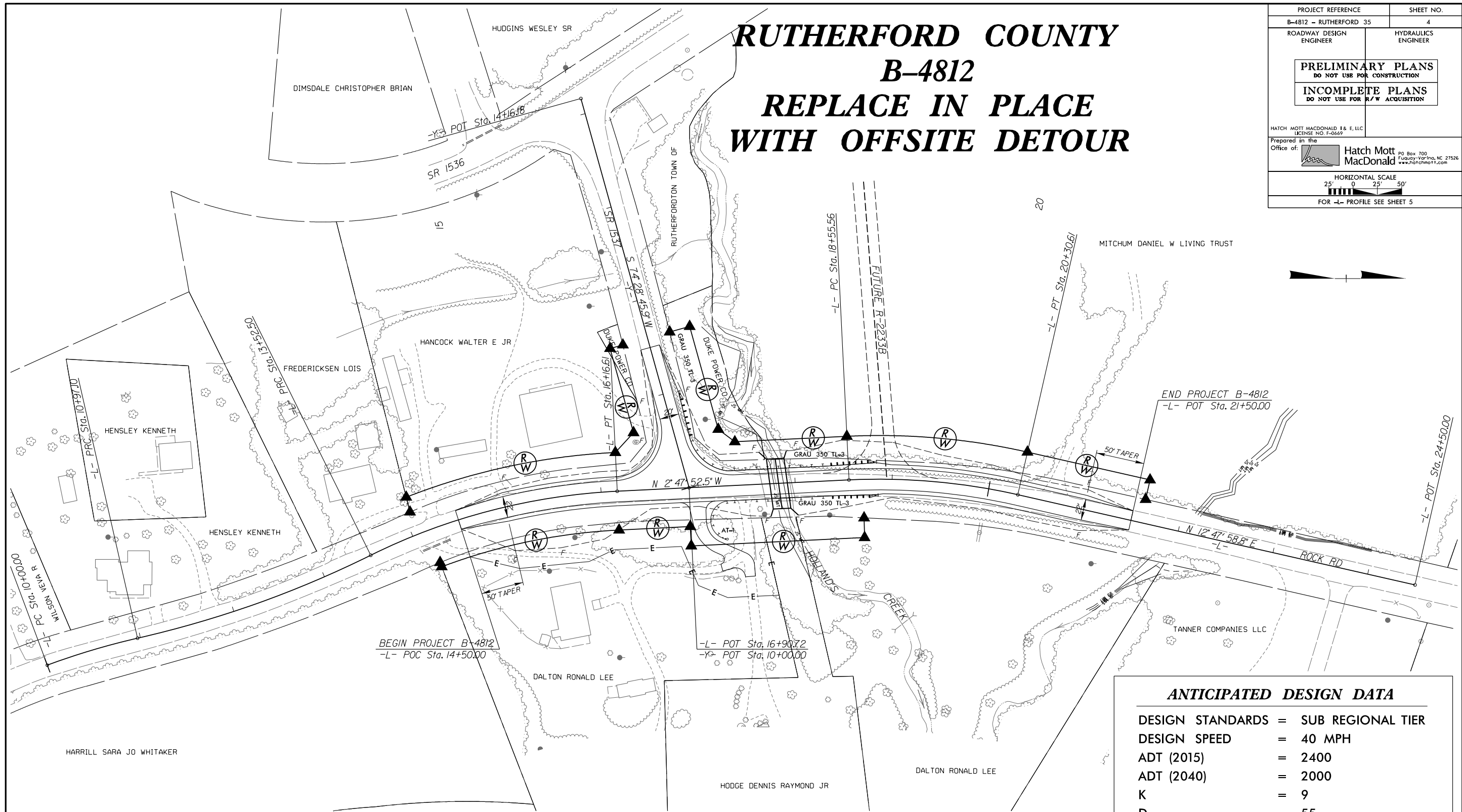
Figure
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RUTHERFORD COUNTY

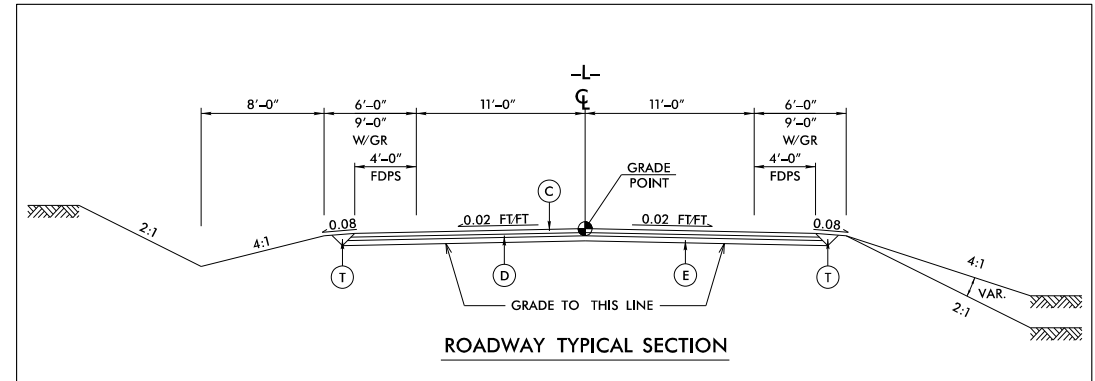
B-4812

REPLACE IN PLACE WITH OFFSITE DETOUR

PROJECT REFERENCE B-4812 - RUTHERFORD 35	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
HATCH MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	
Prepared in the Office of: Hatch Mott MacDonald P.O. Box 700 Fayetteville, NC 27526 www.hatchmott.com	
HORIZONTAL SCALE 25' 0 25' 50' FOR -L- PROFILE SEE SHEET 5	



PI Sta 10+48.62 Δ = 7° 37' 16.5" (RT) D = 7° 50' 55.5" L = 97.10' T = 48.62' R = 730.00'	PI Sta 12+25.40 Δ = 13° 29' 13.6" (LT) D = 5° 16' 50.6" L = 255.40' T = 128.29' R = 1,085.00'	PI Sta 14+86.45 Δ = 23° 32' 02.4" (RT) D = 8° 54' 38.5" L = 264.11' T = 133.94' R = 643.00'	PI Sta 19+43.63 Δ = 15° 35' 51.3" (RT) D = 8° 54' 38.5" L = 175.04' T = 88.07' R = 643.00'
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ANTICIPATED DESIGN DATA

DESIGN STANDARDS	= SUB REGIONAL TIER
DESIGN SPEED	= 40 MPH
ADT (2015)	= 2400
ADT (2040)	= 2000
K	= 9
D	= 55
DUAL	= 3
TTST	= 1
MIN. RADIUS	= 485
MAX GRADE	= 13%
K SAG	= 64
K CREST	= 44
SE MAX	= 06
CLASSIFICATION	= LOCAL RURAL
TERRAIN	= MOUNTAINOUS
DESIGN EXCEPTION	= NONE

7/5/2016 10:15:04 AM
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Ph:56855