

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

STIP Project No.	B-4980
W.B.S. No.	40082.1.1
Federal Project No.	n/a

A. Project Description:

The purpose of this project is to replace Alexander County Bridge No. 291 on SR 1348 (Old NC 90) over Duck Creek (see **Figure 1**). Bridge No. 291 is a triple-span, 96.75-foot long, one-lane bridge on a horizontal tangent with a clear roadway width of 17 feet. The west approach is a horizontal tangent. The east approach has a horizontal “S” curve. The replacement structure will be a 130-foot bridge at approximately the same grade and elevation. The new bridge width will include two 10-foot lanes with 3-foot, 11-inch shoulders and a 1-foot wide vertical barrier rail (see **Figure 2**). The bridge length 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 structure.

The proposed approach roadway will extend approximately 150 feet east and 130 feet west from the new bridge. The approaches will include two 10-foot travel lanes with 3-foot shoulders (up to 6 feet with guardrail). The roadway will be designed with Sub-Regional Tier Guidelines with a 50-mile per hour (mph) design speed. Project design plans are shown in **Figure 3**.

Traffic will be detoured off-site during construction using Blair Road (SR 1301) and Dover Church Road (SR 1302) (see **Figure 1**). The off-site detour is approximately three miles and takes roughly five minutes of additional travel time.

The project is included in the 2016-2025 State Transportation Improvement Program (STIP). Right of Way (ROW) Acquisition is anticipated in the 2018 fiscal year and construction in the 2019 fiscal year, with costs of \$20,000 and \$925,000, respectively, and a total cost of \$945,000.

B. Purpose and Need:

NCDOT Bridge Management Unit records (September 15, 2014) indicate Bridge No. 291 has a sufficiency rating of 35 out of a possible 100 for a new structure and is in poor condition.

According to Federal Highway Administration (FHWA) standards, the bridge meets the criteria for “structurally deficient<sup>1</sup>” due to having a rating of 4 for the condition of the deck, superstructure, and substructure. It also meets the criteria

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<sup>1</sup> “Structurally deficient” means that the bridge is in relatively poor condition, or has insufficient load-carrying capacity. The insufficient load capacity could be due to the original design or to deterioration.

for “functionally obsolete<sup>2</sup>” due to the deck geometry rating of 2. The total number of points is 9<sup>3</sup>. With a clear roadway width of 17 feet (one 14.5-foot lane), the existing bridge accommodates one-way traffic and is posted as a one-lane bridge.

Bridge No. 291 was built in 1921 and is in need of replacement. This is a state-funded bridge replacement project.

The bridge superstructure has reinforced concrete deck girders. The substructure has reinforced concrete abutments and interior bents. The concrete components are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities; therefore, the bridge is approaching the end of its useful life. The posted weight limit for the bridge is 20 tons for single vehicles and 27 tons for tractor-trailer semi-trucks.

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

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<sup>2</sup> “Functionally obsolete” means that the bridge is safe, but needs to be replaced to meet current and future traffic demands. It is narrow, has inadequate under-clearances, has insufficient load-carrying capacity, is poorly aligned with the roadway, and/or can no longer adequately service today’s traffic.

<sup>3</sup> Bridge Inspection Evaluation codes: “Critical” is 0-3; “Poor” is 4; “Fair” is 5-6; and “Good” is 7-9.

- 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 most recent estimated costs for the project are as follows:

Structure (bridge and bridge approaches)	\$ 454,050
Roadway Approaches	\$ 170,495
Structure Removal	\$ 27,975
Misc. & Mob.	\$ 149,480
Eng. & Contingencies	\$ 123,000
Total Construction Cost (March 2016)	\$ 925,000
Right-of-way Costs (March 2016)	\$ 17,975
Right-of-way Utility Costs (March 2016)	\$ 23,346
<b>Total Project Cost</b>	<b>\$ 966,321</b>

**Estimated Traffic:**

Current (2014) - 400 vpd  
 Design Year (2040) - 800 vpd  
 TTST - 1%  
 Dual - 4%

**Accidents:** Traffic Safety Systems Management Unit has evaluated a recent ten-year period and found one accident occurring in the vicinity of the project. This

accident was related to an overturned vehicle, with a presence of drugs/alcohol and a vehicle speed estimated at 65 mph. This crash was not fatal. A Bridge and Approach Investigation Checklist was performed on March 30, 2015 that determined 45 mph is a comfortable passenger car speed across the existing alignment.

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

**Pedestrian and Bicycle Accommodations:** SR 1348 is not part of a designated bicycle route, nor is it listed in the State Transportation Improvement Program (STIP) as a bicycle project. There are no sidewalks or pedestrian paths located along the project corridor. No recommendations are being made for bicycle and pedestrian facilities on the bridge.

**Bridge Demolition:** Bridge No. 291 is constructed of concrete and should be possible to remove with no resulting debris in the water based on standard demolition practices.

#### **Alternatives Discussion:**

**No Build** – The No Build Alternative would result in eventually closing the road, which is unacceptable given the adjacent residences and volume of traffic served by SR 1348 (Old NC 90).

**Rehabilitation** – The bridge was constructed in 1921 with concrete components. Continual rehabilitation would require replacing the components, which would constitute effectively replacing the bridge.

**Replace in Place with Offsite Detour (Alternative 1)** – Bridge No. 291 will be replaced on the existing alignment. Traffic will be routed along an off-site detour while the new bridge is being constructed. The Division 12 office has indicated that the condition of all roads, bridges and intersections on the off-site detour are acceptable without improvement and concurs with use of this detour. **This alternative is the Preferred Alternative.**

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 off-site detour. Traffic will be detoured off-site during construction using Blair Road (SR 1301) and Dover Church Road (1302). The off-site detour is approximately three miles in length and takes roughly five minutes of additional travel time. A six-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 detour is acceptable. The replacement of the bridge is not

expected to affect traffic demands on the detour route. NCDOT will provide construction schedules to the Alexander County Emergency Services Director and School Transportation Coordinator to help minimize impacts to their services.

**Replace in Place with On-site Detour (Alternative 2)** – Alternative 2 replaces the bridge on a new alignment approximately 50 feet north of the existing location. Traffic would be maintained on the existing roadway while the new bridge is being constructed. This alternative is not the preferred alternative because the costs would be more than Alternative 1 and it includes the potential for a residential relocation. This alternative was eliminated from further study due to the higher costs and increased impacts as compared with Alternative 1.

#### **Other Agency Comments:**

On December 17, 2014, NCDOT has sought input from the following agencies as part of the project development for B-4980: US Environmental Protection Agency (USEPA), US Army Corps of Engineers (USACE), US Fish and Wildlife Service (USFWS), US Department of Agriculture, Federal Highway Administration (FHWA), NC Division of Water Resources (NCDWR), and NC Division of Parks and Recreation. During preparation of the Community Impact Assessment (April 2015), Alexander County Emergency Management Services, Alexander County School System, and Alexander County Planning/Engineering Department were contacted for comments on the project.

The **United States Department of Agriculture** provided guidance and support regarding the Farmland Protection Policy Act (FPPA) and this project's impacts on farmland. However, because this project is state-funded, the Farmland Protection Policy Act does not apply. To comply with NC Executive Order No. 96, the Preservation of Prime Agricultural and Forest Lands, which requires all state agencies to consider the impact of land acquisition and construction projects on prime farmland soils as designated by the US Natural Resources Conservation Service (NRCS), the amount of prime and important farmland soil to be converted was considered. No new ROW will be acquired for this project; therefore, impacts are not anticipated.

**The Alexander County Engineering Department** responded in an email, dated December 29, 2014, that NC 64/90 serves the area and parallels Old NC 90. Emergency Services to residents on the west side of Duck Creek may experience an increase in response times.

**Response:** NCDOT will provide construction schedules to the Alexander County Emergency Services Director to minimize impacts to their services.

**The Alexander County Schools Transportation Coordinator** noted that three school buses cross the bridge twice a day and that there would be a moderate impact to transportation services if the bridge were closed up to a year. There were no concerns voiced about the potential detour route other than the additional time of travel.

**Response:** NCDOT will provide construction schedules to the Alexander County School Transportation Coordinator to minimize impacts to their services.

**Public Involvement:**

On December 10, 2014, property owner notification letters were mailed out to residents in the direct study area to inform them of possible natural systems surveys on their property. No comments were received in response to the notification letters. In November 2016, project newsletters were mailed to residents along the project and the detour route to inform them about the proposed project, the Preferred Alternative, and the schedule for right of way acquisition and construction (included in the **Appendix**).

Based on there being no substantive responses to the notification letter or newsletter, 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>  <b>X</b>  </u>
(2) Does the project involve habitat where federally listed endangered or threatened species may occur? (See additional documentation in Section F.)	<input checked="" type="checkbox"/>	<u>          </u>
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
(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>  <b>X</b>  </u>	<input type="checkbox"/>
(5) Will the project require the use of U. S. Forest Service lands?	<input type="checkbox"/>	<u>  <b>X</b>  </u>

- |     |  |                          |                     |
|-----|--|--------------------------|---------------------|
| (6) | Will the quality of adjacent water resources be adversely impacted by proposed construction activities?            | <input type="checkbox"/> | <u>  <b>X</b>  </u> |
| (7) | Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)? | <input type="checkbox"/> | <u>  <b>X</b>  </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>  <b>X</b>  </u> |
| (9) | Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?                 | <input type="checkbox"/> | <u>  <b>X</b>  </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>  <b>X</b>  </u> |
| (11) | Does the project involve Coastal Barrier Resources Act resources?  | <input type="checkbox"/>            | <u>  <b>X</b>  </u> |
| (12) | Will a U. S. Coast Guard permit be required?   | <input type="checkbox"/>            | <u>  <b>X</b>  </u> |
| (13) | Could the project result in the modification of any existing regulatory floodway? (See <b>additional documentation in Section F.</b> )                   | <input checked="" type="checkbox"/> | <u>          </u>   |
| (14) | Will the project require any stream relocations or channel changes?  | <input type="checkbox"/>            | <u>  <b>X</b>  </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>  <b>X</b>  </u> |
| (16) | Will the project require the relocation of any family or business?  | <input type="checkbox"/> | <u>  <b>X</b>  </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>  <b>X</b>  </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? <b>(See additional documentation in Section F.)</b> | <input type="checkbox"/> | <input checked="" 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? <b>(See additional documentation in Section F.)</b>   | <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?    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:** On July 24, 2015, the Northern long-eared bat (NLEB) was added to the U.S. Fish and Wildlife Service (USFWS) list of protected species for Alexander County. The NLEB is federally threatened and its Biological Conclusion in the Natural Resources Technical Report was unresolved. NCDOT-NES submitted an e-mail to USFWS on November 29, 2016, noting that the project is in compliance with the 4(d) rule for the NLEB. Compliance with Section 7 for the NLEB has therefore been achieved.

**Response to Question 13:** Alexander County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). The effective FEMA floodplain mapping indicates that this crossing of Duck Creek is located within a flood hazard zone designated as Zone AE, for which 100-year base flood elevations have been established in a Detailed Flood Study. The Hydraulic 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 Hydraulic Unit upon project completion certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

**Response to Question 25:** The roadway will essentially be at the same location and elevation; however, approximately 0.28 acre of temporary construction easement is needed to construct the project. No new right-of-way is needed and no relocations are anticipated.

**Response to Question 29:** An eligible archaeological site (31AX39) was found on SR 1348, southeast of the bridge. Beyond the edge of pavement, no construction is planned west of Station 18+10.00

to the south side of SR 1348. The site boundaries will be marked on the design plans and in the field to delineate the site and protect it from construction. If impacts become unavoidable due to a design change or based on an unanticipated discovery during construction, NCDOT will initiate consultation in compliance with Section 106 of the National Historic Preservation Act and will coordinate with SHPO/OSA to develop a Memorandum of Agreement.

CE Approval

STIP Project No.	<u>B-4980</u>
W.B.S. No.	<u>40082.1.1</u>
Federal Project No.	<u>n/a</u>

Project Description:


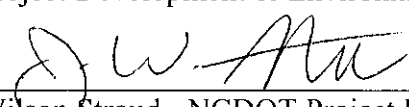

The purpose of this project is to replace Alexander County Bridge No. 291 on SR 1348 (Old NC 90) over Duck Creek (see **Figure 1**). Bridge No. 291 is a triple-span, 96.75-foot long, one-lane bridge on a horizontal tangent with a clear roadway width of 17 feet. The west approach is a horizontal tangent. The east approach has a horizontal “S” curve. The replacement structure will be a 130-foot bridge at approximately the same grade and elevation. The new bridge width will include two 10-foot lanes with 3-foot, 11-inch shoulders and a 1-foot wide vertical barrier rail (see **Figure 2**). The bridge length 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 structure.

The proposed approach roadway will extend approximately 150 feet east and 130 feet west from the new bridge. The approaches will include two 10-foot travel lanes with 3-foot shoulders (up to 6 feet with guardrail). The roadway will be designed with Sub-Regional Tier Guidelines with a 50-mile per hour (mph) design speed. Project design plans are shown in **Figure 3**.

Categorical Exclusion Action Classification:

         TYPE II(A)  
  x   TYPE II(B)

Approved:

<u>12/26/16</u>	
Date	Beverly Robinson, CPM - NCDOT Project Development Western Region Group Supervisor Project Development & Environmental Analysis Unit
<u>12-22-16</u>	
Date	Wilson Stroud - NCDOT Project Planning Engineer Project Development & Environmental Analysis Unit
<u>12-22-16</u>	
Date	Kristina Miller, PE - Consultant Project Manager Rummel, Klepper and Kahl, LLP. (RK&K)

## PROJECT COMMITMENTS

T.I.P. Project No. B-4980  
Replacement of Bridge No. 291 on SR 1348 (Old NC 90)  
Over Duck Creek  
Alexander County  
WBS Element 40082.1.1

### Hydraulic Unit – FEMA Coordination

The Hydraulic Unit will coordinate with the NC Floodplain Mapping Program (FPM), to determine status of project with regard to applicability of NCDOT's Memorandum of Agreement with FPM to this project or whether approval of a Conditional Letter of Map Revision (CLOMR) and a subsequent final Letter of Map Revision (LOMR) will be required.

### Division 12 Construction – FEMA Coordination

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

### Division 12 Construction, Resident Engineer's Office – Off-site Detour

NCDOT will provide construction schedules to the Alexander County Emergency Services Director and School Transportation Coordinator to help minimize potential impacts to their services.

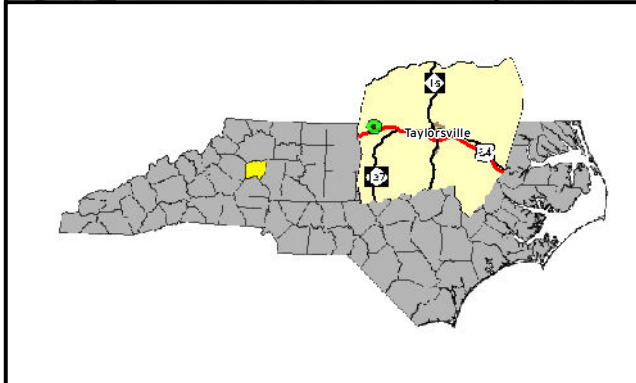
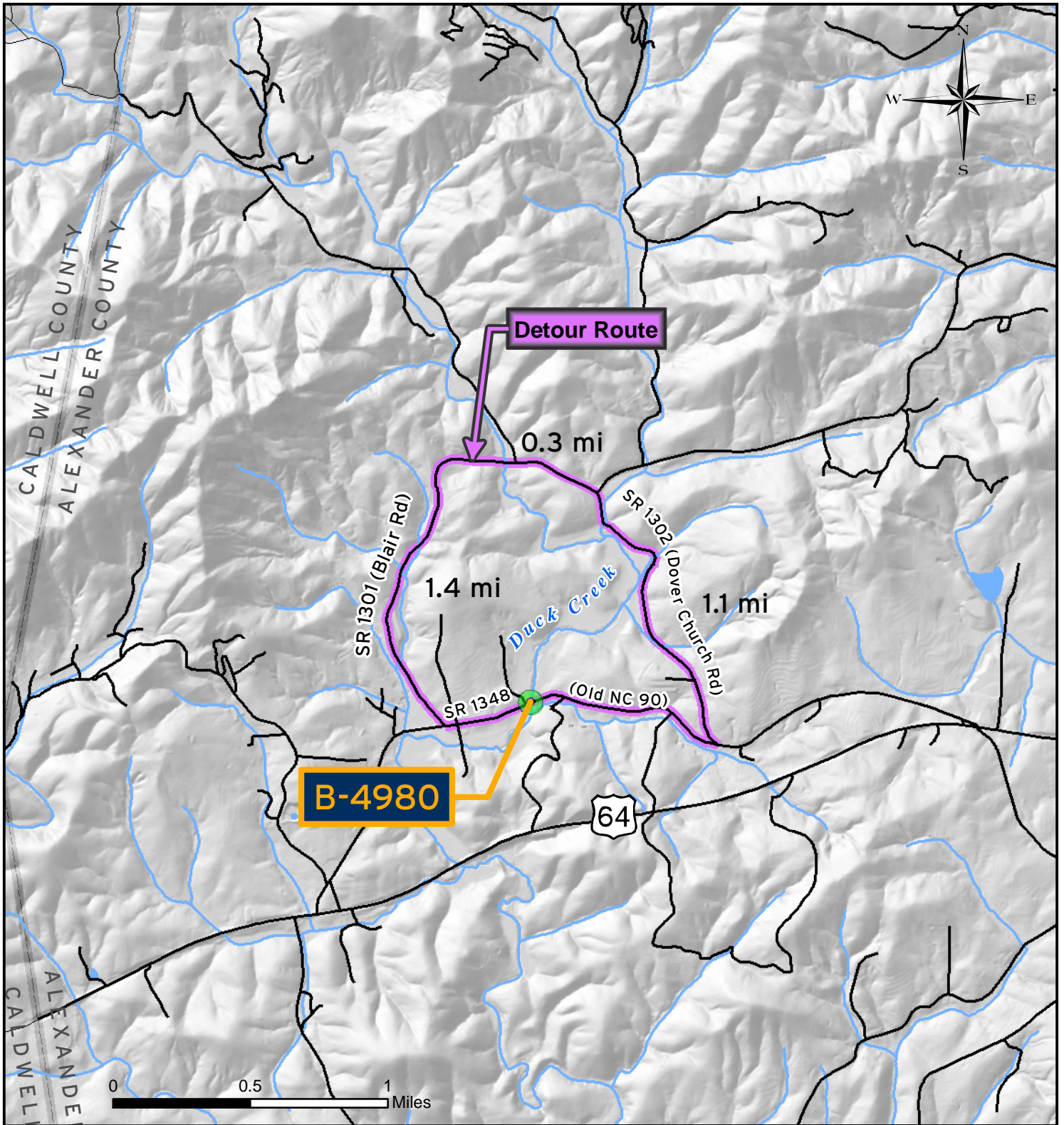
### Roadway Design Unit and Division 12 Construction, Resident Engineer's Office – Archaeological Site Boundary


An eligible archaeological site (31AX39) was found on SR 1348, southeast of the bridge. NCDOT will mark the site boundaries on the design plans and in the field and protect it from construction. If impacts become unavoidable due to a design change or based on an unanticipated discovery during construction, NCDOT will initiate consultation in compliance with Section 106 National Historic Preservation Act and will coordinate with SHPO/OSA to develop a Memorandum of Agreement.

### Roadway Design Unit, Hydraulic Unit, PDEA Unit:

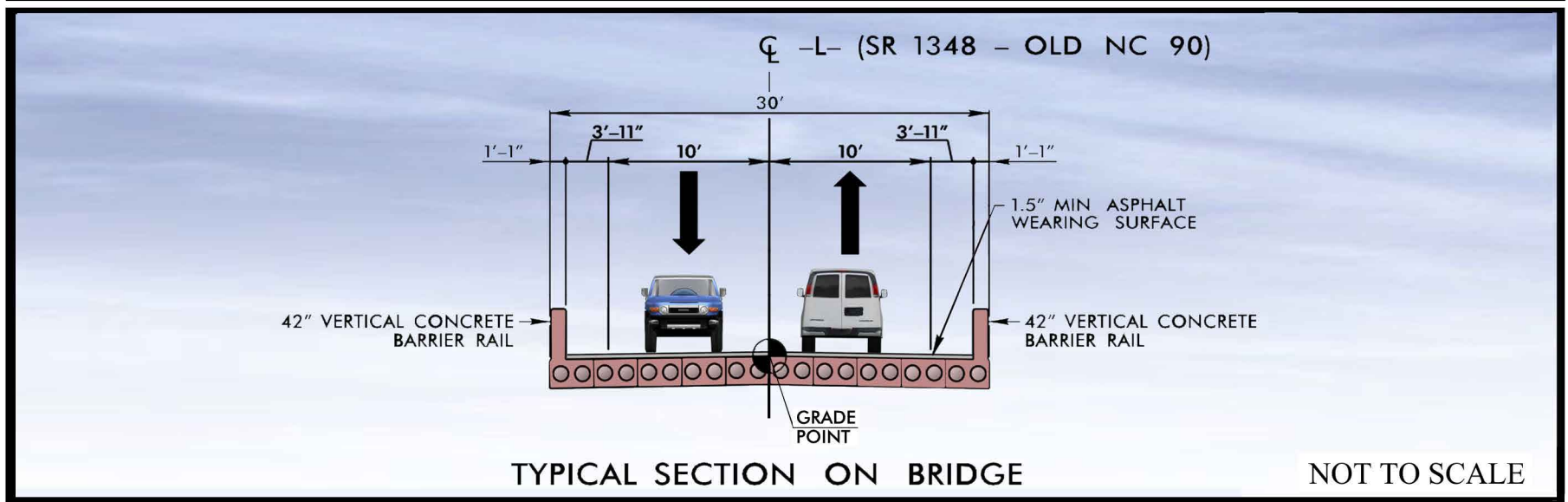
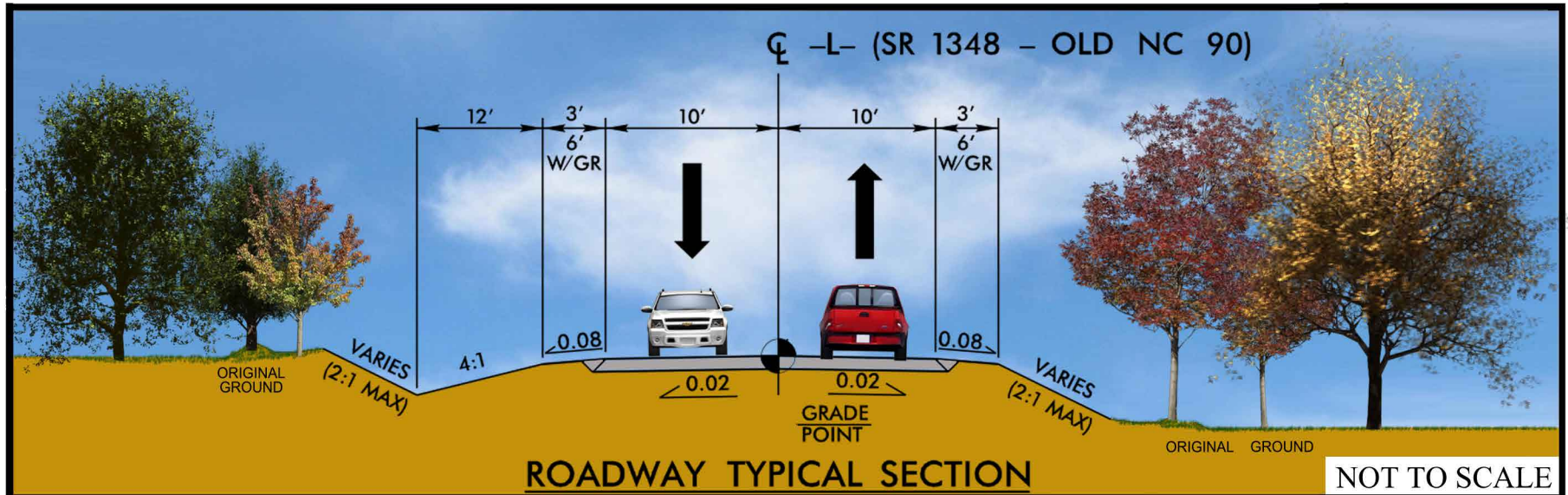
The existing bridge accommodates agricultural access under the bridge along the east side of Duck Creek. The proposed design for the project also accommodates that access. During final design plans, if the bridge length changes, then the need for accommodating agricultural access will be evaluated. Agricultural access will not be provided under the bridge during construction.

## FIGURES



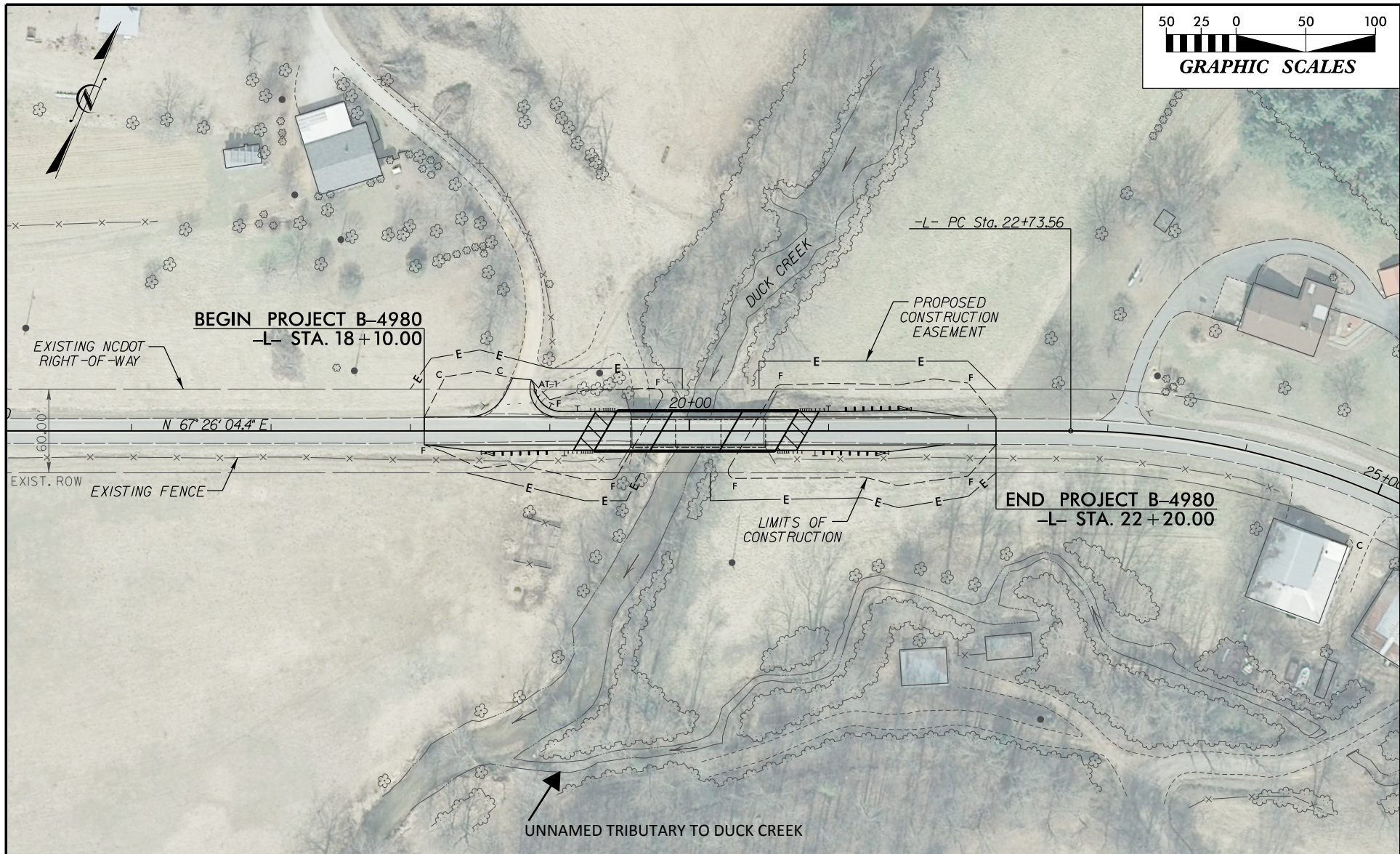
	<p><b>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT &amp; ENVIRONMENTAL ANALYSIS UNIT</b></p>
	<p><b>B-4980 REPLACE BRIDGE NO. 291 ON SR 1348 OVER DUCK CREEK ALEXANDER COUNTY</b></p>
<p><b>VICINITY MAP</b></p>	<p><b>FIGURE 1</b></p>





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

B-4980  
 REPLACE BRIDGE NO. 291 ON SR 1348 (OLD NC 90)  
 OVER DUCK CREEK  
 ALEXANDER COUNTY



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

**B-4980**  
**REPLACE BRIDGE NO. 291 ON SR 1348 (OLD NC 90)**  
**OVER DUCK CREEK**  
**ALEXANDER COUNTY**

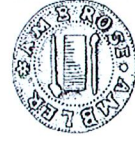
PRELIMINARY DESIGN

FIGURE 3

## APPENDIX



**NO NATIONAL REGISTER OF HISTORIC PLACES  
ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES  
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-4980** County: **Alexander**  
 WBS No: **40082.1.1** Document: **PCE**  
 F.A. No: Funding:  State  Federal  
 Federal Permit Required?  Yes  No Permit Type: **Nationwide 3/14**

**Project Description:** This project is for an intensive archaeological survey and evaluation for the replacement of Bridge No. 291 on SR 1348 (Old NC 90) over Duck Creek in Alexander County, North Carolina. As specified by the NCDOT, the survey corridor (Area of Potential Effects [APE]) for archaeology is centered upon the bridge structure and measures 1400 feet in length (700 feet from each bridge end-point) and 300 feet in width (150 feet laterally from each side of the SR 1348 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. (Attach any notes or documents as needed)
- No subsurface archaeological investigations were required for this project.
- Subsurface investigations did not reveal the presence of any archaeological resources.
- Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

**\*\*There are no National Register of Historic Places listed archaeological sites within the project's Area of Potential Effects. One archaeological site, 31AX39, is partially situated within the APE. This archaeological resource is considered eligible for the NRHP but is not a listed resource. Consultation resulted in a finding that no effects would occur to 31AX39 during the construction and replacement of Bridge No. 291.**

14-12-0006

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

An archaeological survey and evaluation for replacement of Bridge No. 291 on SR 1348 (Old NC 90) over Duck Creek in Alexander County was conducted on March 11, 12, 17, 30, 31, and April 1, 2015 by Melissa McKay and John Kesler of TRC Environmental Corporation (TRC). During the course of the survey, two previously unidentified archaeological sites were located within the project APE, 31AX39 and 31AX40. 31AX39 is a prehistoric and historic site with Woodland, Mississippian, and 20<sup>th</sup> century components. 31AX39 is recommended eligible for the National Register of Historic Places (NRHP), and avoidance is recommended. If the site cannot be avoided, data recovery investigations may be required for this project. 31AX40 is a Woodland Period site recommended not eligible for the NRHP.

**SUPPORT DOCUMENTATION**

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

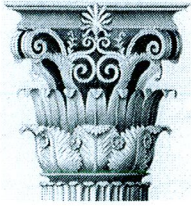
Other: **Cultural Review**

Signed

  
NCDOT ARCHAEOLOGIST

  
Date

Pages 3-21 were redacted for resource protection.

14-12-0006  
Revised 11-14-2016

## HISTORIC ARCHITECTURE AND LANDSCAPES NO HISTORIC PROPERTIES PRESENT OR AFFECTED 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

<b>Project No:</b>	B-4980	<b>County:</b>	Alexander
<b>WBS No.:</b>	40082.1.1	<b>Document Type:</b>	
<b>Fed. Aid No:</b>		<b>Funding:</b>	X State    Federal
<b>Federal Permit(s):</b>	X Yes    No	<b>Permit Type(s):</b>	Not specified in review request
<b>Project Description:</b> Replace Bridge No. 291 on SR 1348 (Old NC 90) over Duck Creek (previously identified as Middle Little River, revised 11-14-2016) (off-site detour planned).			

### SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- There are no properties within the project's area of potential effects.
- There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- There are no historic properties present or **affected** by this project. (Attach any notes or documents as needed.)

**Date of field visit:** 23 February 2015

**DESCRIPTION OF REVIEW ACTIVITIES, RESULTS, AND CONCLUSIONS:** HPOWeb reviewed on 22 December 2014 and yielded no NR, SL, DE, LD, or SS properties in the Area of Potential Effects (APE). The APE for historic architectural resources extends 900 feet from either end of the existing bridge (E-W) and 200 feet to either side of the SR 1348 (Old NC 90) centerline (N-S) to encompass anticipated construction activities. Alexander County current GIS mapping, aerial photography, and tax information indicated an APE of cultivated fields, woodland, and developed parcels with resources dating mostly to the late-twentieth century (viewed 22 December 2014). Bridge No. 291, constructed in 1921, is not eligible for the National Register according to the NCDOT Historic Bridge Survey as it is not representative of any distinctive engineering or aesthetic type. The presence of several pre-1960 resources dictated a field investigation, carried out on 23 February 2015.

Four frame outbuildings associated with a circa-1972 house approximately 325 east of the existing bridge (#1704 Old NC 90) likely date to the mid-twentieth century and are unexceptional examples of their types. West of the bridge a circa-1946 house and its associated frame barn (#57 Little Spring Road) also lack architectural distinction, and the house

is somewhat altered. To its north stands a circa-1940 house (#197 Little Spring Road) that is substantially altered and also an unremarkable example of a common form. No NR-listed properties are located along the proposed off-site detour route. A finding of "no historic properties present or affected" will satisfy both Section 106 and GS 121-12(a) compliance requirements.

**Should any aspect of the project design change, including the addition of improvements along the proposed off-site detour, please notify NCDOT Historic Architecture as further review may be necessary.**

### SUPPORT DOCUMENTATION

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

### FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes – **NO HISTORIC PROPERTIES PRESENT OR AFFECTED**



NCDOT Architectural Historian

*original review 12 March 2015*  
*revised 14 November 2016*  
Date

Bridge No. 291 Replacement, Alexander County  
WBS No. 40082.1.1  
Tracking No. 14-12-0006



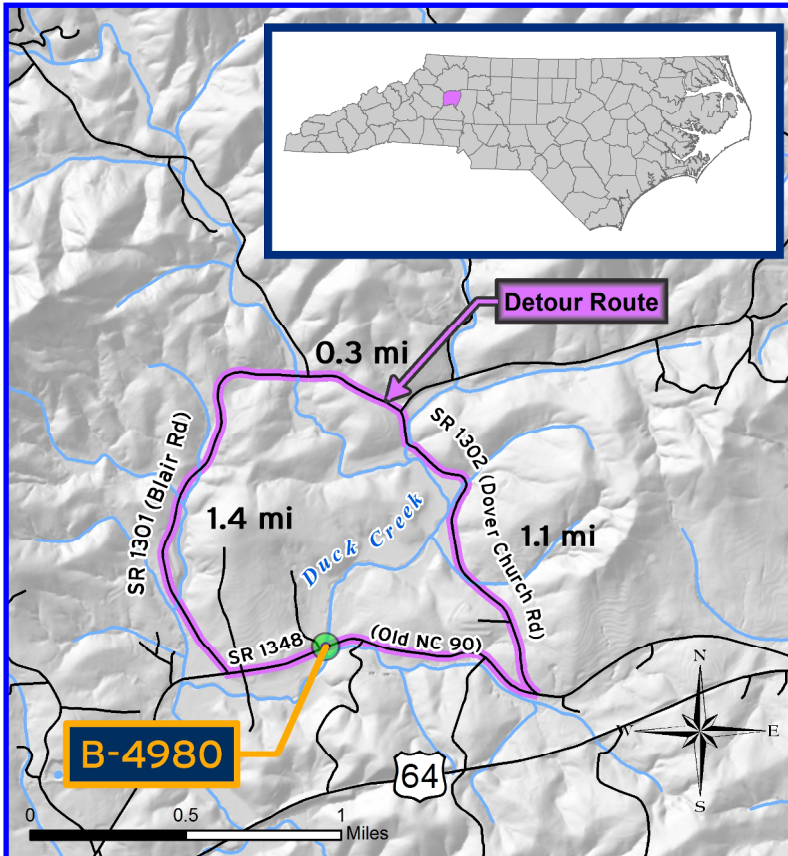
# Bridge No. 291 Replacement Project

State Transportation Improvement Program (STIP) No. B-4980

## Bridge No. 291 on S.R. 1348 (Old N.C. 90) over Duck Creek

### Project Description

The North Carolina Department of Transportation (NCDOT) is proposing to replace Bridge No. 291 on Old N.C. 90 (S.R. 1348) over Duck Creek in Alexander County. Bridge No. 291 was built in 1921 and is reaching the end of its useful life. The purpose of the project is to provide a safer and more durable structure at this location.



Looking east at Bridge No. 291 on Old N.C. 90



Bridge No. 291 over Duck Creek

### Preferred Alternative

After evaluating the environmental impacts, cost estimates, traffic volumes, accident data, and system linkage, NCDOT has selected the “replace-in-place” option with an off-site detour as the Preferred Alternative. This alternative will rebuild the bridge at its current location and elevation. Traffic will be maintained on an off-site detour that uses Blair Road (S.R. 1301) and Dover Church Road (S.R. 1302). The off-site detour is approximately three miles. No homes and businesses will be displaced, but some property acquisition will be required adjacent to the bridge for temporary construction easements.

### Construction

Traffic will be maintained on an off-site detour while the bridge is replaced. Construction of the new bridge will take about six months to complete.

*Connecting people, products, and places safely and efficiently, with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina.*





## **Bridge No. 291 on S.R. 1348 (Old N.C. 90) over Duck Creek in Alexander County (STIP No. B-4980)**

North Carolina Department of Transportation  
Project Development and Environmental Analysis Unit  
Attn: Wilson Stroud  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

**Important Information  
Please Read!**

### **Schedule for Bridge No. 291**

- December 2016 Completion of Environmental Studies
- Fiscal Year 2018 Right-of-Way Acquisition Begins
- Fiscal Year 2019 Construction Begins

### **Do you want to share your thoughts on the project?**

Please feel free to mail, email or fax your questions or comments to a project team member by **December 5, 2016**.

Aquellas personas que hablan español y no hablan inglés, o tienen limitaciones para leer, hablar o entender inglés, podrían recibir servicios de interpretación si los solicitan llamando al 1-800-481-6494.

#### **Wilson Stroud**

NCDOT-PD&EA Unit  
1548 Mail Service Center  
Raleigh, NC 27699-1548  
Phone: 919-707-6045  
Email: [wstroud@ncdot.gov](mailto:wstroud@ncdot.gov)

#### **Kristina Miller, PE**

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