STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 27, 2006

US Army Corps of Engineers
Regulatory Branch
6508 Falls of the Neuse Road/ Suite 120
Raleigh, NC 27615

ATTENTION: Mr. John T. Thomas, Jr.
NCDOT Coordinator

Dear Sir:

Subject: **Nationwide Permit 23 and 33 Application** for the replacement of Bridge No. 316 over Cove Creek on SR 1149 (Howard Edmisten Road), Watauga County. Federal Aid Project No. BRZ-1149(3), State Project No. 8.2752001, Division 11, TIP No. B-3922, WBS #33356.1.1.

Please see the enclosed Preconstruction Notification (PCN), permit drawing and Categorical Exclusion for the above referenced project. Bridge No. 316, built in 1964 over Cove Creek, will be replaced on new location approximately 370 feet west (downstream) of the existing structure. The new bridge will be a three span structure totalling155 feet in length. There will be 0.0002 acre of permanent impacts from one drilled pier in the water and 0.0048 acre of impacts from the causeway needed to access the interior pier. The existing bridge will be used to maintain traffic during construction. There are no wetlands on the project site.

IMPACTS TO WATERS OF THE UNITED STATES

General Description: This project is located in the Watauga River Basin within USGS hydrologic unit 06010103 (sub-basin 040201). The proposed bridge replacement is located over Cove Creek, which has been assigned a Division of Water Quality best usage classification of "C".

Permanent Impacts: There will be 0.0002 acre of permanent impacts to Cove Creek due to one drilled pier in the stream.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Temporary Impacts: There will be 0.0048 acre of temporary impact to Cove Creek due to a causeway construction to access the interior pier.

Bridge Demolition: Bridge No. 316 contains six spans totaling 96 ft with a clear roadway width of 19.2 ft. The bridge has an asphalt-wearing surface on a timber floor supported by eight lines of continuous steel I-beams. The end bents and bents 2 and 4 consist of timber posts and concrete sills. The bridge will be removed without any components dropping into Cove Creek. All guidelines for bridge demolition and removal will be followed in addition to Best Management Practices for the Protection of Surface Waters and BMP's for Bridge Demolition and Removal.

Utilities: No impacts to Cove Creek from utilities are anticipated as a result of demolition or construction.

PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended.

As of July 24, 2006 the U.S. Fish and Wildlife Service (USFWS) lists six federally protected species and one species protected for similarity of appearance for Watauga County (Table 1).

Table 1. Federally-protected species for Watauga County.

Common Name	Scientific Name	Habitat	Biological Conclusion	Status
Bog turtle	*Clemmys muhlengergii*	No	Not Subject	T(S/A)
Virginia big –eared bat	*Corynorhinus townsendii virginianus*	No	No Effect	Endangered
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	No	No Effect	Endangered
Spruce-fir moss spider	*Microhexura montivaga*	No	No Effect	Endangered
Spreading avens	*Geum radiatum*	No	No Effect	Endangered
Roan Mountain bluet	*Houstonia montana*	No	No Effect	Endangered
Heller's blazing star	*Liatris helleri*	No	No effect	Threatened

Notes:

- Endangered species are in danger of extinction throughout all or a significant portion of its range.
- Threatened species are likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
- T(S/A): Threatened due to similarity of appearance (e.g., American alligator)--a species that is threatened due to similarity of appearance with other rare species and is listed for its protection. These species are not biologically endangered or threatened and are not subject to Section 7 consultation.

Descriptions and biological conclusions for each of these species are presented in the attached Categorical Exclusion. Field surveys for the listed species were conducted in May 2001. A biological conclusion of "No Effect" has been rendered for the Carolina northern flying squirrel, spruce-fir moss spider, spreading avens, Roan Mountain bluet and Heller's blazing star due to lack of habitat for these species. The maximum elevation within the project study area is 2,640 feet above MSL, significantly below the reported minimum elevation requirements for each of these species. Habitat requirements for the Virginia big-eared bat include caves, caverns and some bridges that are not made with treated timber. The existing bridge is made with creosote treated timber.

AVOIDANCE, MINIMIZATION AND MITIGATION

Avoidance and Minimization:
Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States". The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional stages; minimization measures were incorporated as part of the project design.

- Best Management Practices will be followed for this project as outlined in "NCDOT's Best Management Practices for Construction and Maintenance Activities".
- There will be minimum impacts to Cove Creek in the form of one pier in the water.
- The existing bridge will be maintained for an onsite detour.

Mitigation:
There will be no need for mitigation for this project. Permanent impacts are from one pier in the water.

REGULATORY APPROVALS

Section 404 Permit: It is anticipated that the temporary causeway will be authorized under Section 404 Nationwide Permit 33. We are therefore requesting the issuance of a Nationwide Permit 33 for this diversion. The remaining aspects of the project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that these activities be authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095; January 15, 2002).

Section 401 Permit: We anticipate 401 General Certification numbers 3403 and 3366 will apply to this project. All general conditions of the Water quality Certifications will be met. Therefore, in accordance with 15A NCAC 2H, Section .0500(a) and 15A NCAC 2B.0200 we are providing two copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their notification.

Thank you for your assistance with this project. If you have any questions or need additional information please call Carla Dagnino at (919) 715-1456

Sincerely,

E. L. Lucas

for Gregory J. Thorpe, Ph.D
Environmental Management Director, PDEA

w/ attachment

Mr. John Hennessy, NCDWQ (2 copies)
Ms. Marla Chambers, NCWRC
Ms. Marella Buncick, USFWS
Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Michael A. Pettyjohn, P.E. Division 11 Engineer
Mr. Heath Slaughter, Division 11 Environmental Officer

w/o attachment

Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Derrick Weaver, PDEA Project Planning Engineer
Mr. Scott McLendon, USACE, Wilmington

Office Use Only: Form Version May 2002

USACE Action ID No. _____ **DWQ No.** _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:
   - ☒ Section 404 Permit
   - ☐ Section 10 Permit
   - ☒ 401 Water Quality Certification
   - ☐ Riparian or Watershed Buffer Rules
   - ☐ Isolated Wetland Permit from DWQ

2. Nationwide, Regional or General Permit Number(s) Requested: NW23, NW33.

3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here: ☒

4. If payment into the North Carolina Wetlands Restoration Program (NCWRP) is proposed for mitigation of impacts (verify availability with NCWRP prior to submittal of PCN), complete section VIII and check here: ☐

5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here: ☐

II. Applicant Information

1. Owner/Applicant Information
   Name: NC Department of Transportation
   Mailing Address: 1548 Mail Service Center
   Raleigh, NC 27699-1548
   Telephone Number: (919)-733-3141 Fax Number: (919)-715-5501
   E-mail Address:

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)
   Name: NA
   Company Affiliation:
   Mailing Address:
   Telephone Number: Fax Number:
   E-mail Address:

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Replacement of bridge No. 316 on SR 1149 Over Cove Creek

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-2905

3. Property Identification Number (Tax PIN): N/A

4. Location
   County: Ashe Nearest Town: Valle Crucis
   Subdivision name (include phase/lot number): N/A
   Directions to site (include road numbers, landmarks, etc.): Follow 321 west from Boone and take a left onto SR 1149.

5. Site coordinates, if available (UTM or Lat/Long): 36°14.89'N, 81°49.33'W
   (Note – If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)

6. Property size (acres): 300 ft by 800 feet = 5.5 acres

7. Nearest body of water (stream/river/sound/ocean/lake): Cove Creek

8. River Basin: Watauga River Basin
   (Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at http://h2o.enr.state.nc.us/admin/maps/.)

9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The project vicinity consists of forested areas, agricultural areas and residential/urbanized areas..

10. Describe the overall project in detail, including the type of equipment to be used: The project will consist of replacing the old bridge with a new 155 ft 3-span span bridge downstream of the existing bridge. The traffic will be maintained on site at the existing bridge location. Construction equipment will consist of heavy duty trucks, earth moving equipment, cranes, etc.

Explain the purpose of the proposed work: The existing bridge is considered functionally obsolete and "structurally deficient". The replacement of this inadequate structure will result in a safer and more efficient traffic operations.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules.

NA

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

NA

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. The applicant must also provide justification for these impacts in Section VII below. All proposed impacts, permanent and temporary, must be listed herein, and must be clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) must be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream

mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

Provide a written description of the proposed impacts: This project will have 0.0002 acre of permanent impacts to Cove Creek from one pier in the water and 0.0048 acre of temporary impact to Cove Creek from a causeway constructed to access the pier.

1. Individually list wetland impacts below: No Wetlands

Wetland Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Located within 100-year Floodplain** (yes/no)	Distance to Nearest Stream (linear feet)	Type of Wetland***
NA					

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

** 100-Year floodplains are identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at http://www.fema.gov.

*** List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

List the total acreage (estimated) of all existing wetlands on the property: 0 acre
Total area of wetland impact proposed: 0 acre

2. Individually list all intermittent and perennial stream impacts below:

Stream Impact Site Number (indicate on map)	Type of Impact*	Impact (acre)	Stream Name**	Average Width of Stream Before Impact	Perennial or Intermittent? (please specify)
	Permanent	0.0002	Cove Creek	20-30 feet	Perennial
	Temporary fill	0.0048	Cove Creek	20-30 feet	Perennial

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain), stabilization activities (cement wall, rip-rap, crib wall, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included.

** Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the USGS at 1-800-358-9616, or online at www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (linear distance in feet) to all streams on site: 0.0002 acre

3. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.) below:

Open Water Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Name of Waterbody (if applicable)	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)
NA				

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: fill, excavation, dredging, flooding, drainage, bulkheads, etc.

4. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): ☐ uplands ☐ stream ☐ wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): NA

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): NA

Size of watershed draining to pond: NA Expected pond surface area: NA

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts.

See Permit Application.

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on March 9, 2000, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCWRP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at http://h2o.enr.state.nc.us/ncwetlands/strmgide.html.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.
   No mitigation needed

2. Mitigation may also be made by payment into the North Carolina Wetlands Restoration Program (NCWRP). Please note it is the applicant's responsibility to contact the NCWRP at (919) 733-5208 to determine availability and to request written approval of mitigation prior to submittal of a PCN. For additional information regarding the application process for the NCWRP, check the NCWRP website at http://h2o.enr.state.nc.us/wrp/index.htm. If use of the NCWRP is proposed, please check the appropriate box on page three and provide the following information:
   Amount of stream mitigation requested (linear feet): NA
   Amount of buffer mitigation requested (square feet): NA
   Amount of Riparian wetland mitigation requested (acres): NA
   Amount of Non-riparian wetland mitigation requested (acres): NA

Amount of Coastal wetland mitigation requested (acres): NA

IX. Environmental Documentation (required by DWQ)

Does the project involve an expenditure of public (federal/state) funds or the use of public (federal/state) land?

Yes ☒ No ☐

If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)? Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.

Yes ☒ No ☐

If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter.

Yes ☒ No ☐

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify_____)?

Yes ☐ No ☒ If you answered "yes", provide the following information:

Identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
Total			

* Zone 1 extends out 30 feet perpendicular from near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Conservation Easement, Riparian Buffer Restoration / Enhancement, Preservation or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0260.

NA

XI. Stormwater (required by DWQ)

Describe impervious acreage (both existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property.

NA

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.

NA

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes ☐ No ☒

Is this an after-the-fact permit application?

Yes ☐ No ☒

XIV. Other Circumstances (Optional):

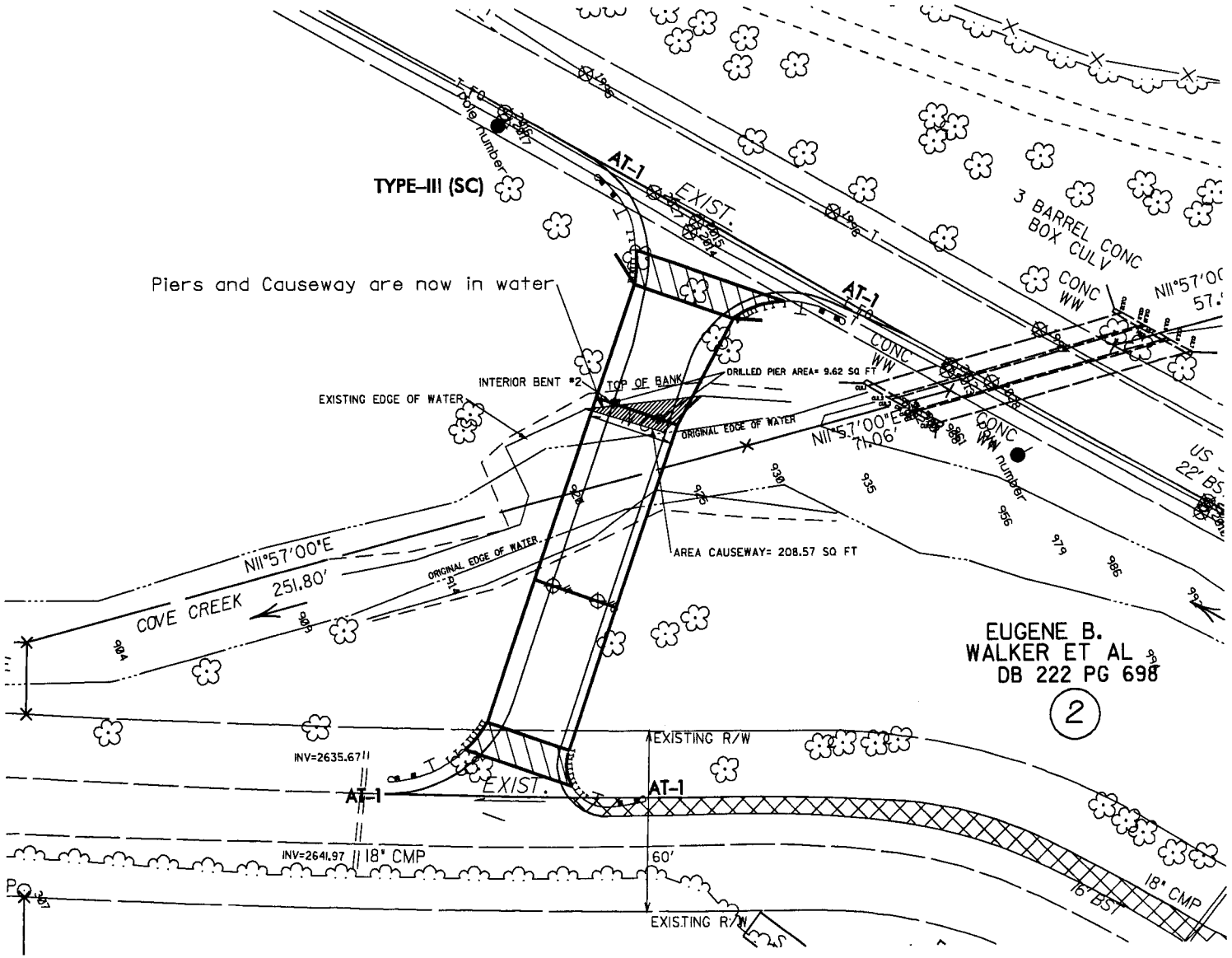
It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

NA

E. L. Lusk 7-27-06

Applicant/Agent's Signature **Date**

(Agent's signature is valid only if an authorization letter from the applicant is provided.)


TYPE–III (SC)
Piers and Causeway are now in water
AT-1
EXIST.
3 BARREL CONC BOX CULV
CONC WW
INTERIOR BENT #2
TOP OF BANK
DRILLED PIER AREA= 9.62 SQ FT
EXISTING EDGE OF WATER
ORIGINAL EDGE OF WATER
N11°57'00"E 71.06'
AREA CAUSEWAY= 208.57 SQ FT
N11°57'00"E
251.80'
COVE CREEK
EUGENE B. WALKER ET AL
DB 222 PG 698
2
EXISTING R/W
INV=2635.67
INV=2641.97
18" CMP
60'
16 BST
EXISTING R/W

Watauga County
Bridge No. 316 on SR 1149 (Howard Edmisten Road)
Over Cove Creek
Federal Aid Project No. BRZ-1149 (3)
State Project No. 8.2752001
T.I.P. No. B-3922

CATEGORICAL EXCLUSION
UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

APPROVED:

6/19/03
DATE

Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation

6/23/03
DATE

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

Watauga County

Bridge No. 316 on SR 1149 (Howard Edmisten Road)

Over Cove Creek

Federal Aid Project No. BRZ-1149 (3)

State Project No. 8.2752001

T.I.P. No. B-3922

CATEGORICAL EXCLUSION

June 2003

Document Prepared By:

Rummel, Klepper & Kahl, LLP

Kimberly S. Leight

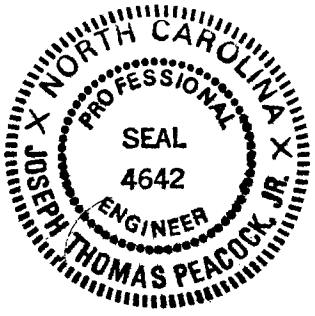
Kimberly S. Leight

Project Manager

J. T. Peacock, Jr. 6-18-2003

J. T. Peacock, Jr., P.E.

Associate



For the North Carolina Department of Transportation

Robert Andrew Joyner, P.E.

Project Manager

Consultant Engineering Unit

TABLE OF CONTENTS

LIST OF TABLES

RECEIVED
JUL 27 2006
RALEIGH REGULATORY FIELD OFFICE

PROJECT COMMITMENTS

Watauga County
Bridge No. 316 on SR 1149 (Howard Edmisten Road)
Over Cove Creek
Federal Aid Project No. BRZ-1149 (3)
State Project No. 8.2752001
T.I.P. No. B-3922

DESIGN SERVICES UNIT, DIVISION 11

- The North Carolina Wildlife Resources Commission (WRC) has prohibited any in-stream work and land disturbance activities within 25 feet (7.6 meters) of Cove Creek associated with this project during brown trout spawning season of October 15 through April 15.

STRUCTURE DESIGN UNIT

- The implementation of any of the alternatives will require an approval under Section 26a of the Tennessee Valley Authority (TVA) Act.

Watauga County

Bridge No. 316 on SR 1149 (Howard Edmisten Road)

Over Cove Creek

Federal Aid Project No. BRZ-1149 (3)

State Project No. 8.2752001

T.I.P. No. B-3922

INTRODUCTION: The replacement of Bridge No. 316 is included in the 2004-2010 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) and in the Federal Aid Bridge Replacement Program. The location of this bridge is shown on Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

In March 1997, the Bridge Maintenance Unit records indicated that Bridge No. 316 received a sufficiency rating of 30.4 due to it being a 14-ton single vehicle bridge and needing replacement. In the same year, a crutch bent was added at the mid span of each span to increase the loading capacity of the bridge and allow larger vehicles accessibility across the bridge. Bridge No. 316 was re-inspected in September 2001 and given a sufficiency rating of 59.8. This bridge is considered functionally obsolete and "structurally deficient". The replacement of this inadequate structure will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

The project is located in Watauga County on SR 1149 (Howard Edmisten Road), approximately 15 feet [4.6 meters (m)] south of the junction of US 321. The area surrounding the proposed project is mountainous with topography varying from nearly level along Cove Creek to very steep east of SR 1149. Land use is best described as residential and agricultural.

SR 1149 (Howard Edmisten Road) is classified as a rural local route in the Statewide Functional Classification System.

In the vicinity of the bridge, SR 1149 is a 16-foot (4.9 m) paved, 2-lane roadway. The roadway grade is relatively flat through the project area. The roadway is situated approximately 17 feet (5.2 m) from crown to bed above Cove Creek at Bridge No. 316.

The current (2002) traffic volume of 300 vehicles per day (VPD) is expected to increase to 600 VPD by the year 2025. The project volume includes 1-percent truck-tractor semi-trailer (TTST) and 2 percent dual-tired vehicles (DT). The speed limit in the project area is not posted; therefore it is a statutory 55 miles per hour.

There were no accidents reported in the vicinity of Bridge No. 316 during the 3-year period beginning January 01, 1998 through December 31, 2000.

Bridge No. 316 contains six spans totaling 96 feet (29.3 m) with a clear roadway width of 19.2 feet (5.9 m). The bridge has an asphalt-wearing surface on a timber floor supported by eight lines of continuous steel I-beams. The end bents and bents 2 and 4 consist of timber posts and concrete sills. The weight limit on this bridge is not posted. Bridge No. 316 was built in 1964 and is in fair condition. Photos of the existing bridge are shown on Figures 4a and 4b.

Overall, utility impacts are anticipated to be low and any specific impacts will be coordinated with appropriate utility personnel during construction. There are underground telephone services along US 321 including fiber optic cables. There are also aerial electrical and telephone cables located at Bridge No. 316. There are no water, sewer, or natural gas lines in the area.

There is a triple barrel culvert under US 321 approximately 300 feet (91.4 m) west of the SR 1149 intersection.

Two school buses cross Bridge No. 316 three times daily on their routes. According to the Watauga County Board of Education, special accommodations will be needed if the existing bridge is closed during construction (See letter February 13, 2001 in Appendix).

III. ALTERNATIVES

A. Project Description

The replacement structure will consist of a multiple-span bridge, approximately 85 to 330 feet (25.9 to 100.6 m) long and 24 feet (7.3 m) wide. Alternatives 1 and 2 will have a standard spill-through abutment on the south side and a vertical spill-through abutment on the north side. Alternative 3 will have a vertical spill-through abutment on the south side and a standard spill-through abutment on the north side. This structure provides two 10-foot (3.0-m) lanes with 2-foot (0.6-m) shoulders on each side. The

proposed approach roadway will consist of a 20-foot (6.1-m) pavement width to provide two 10-foot (3.0-m) lanes with 2-foot (0.6-m) shoulders on each side (See Figure 3).

The recommended bridge length is based on a preliminary hydraulic review. The final design of the bridge will be such that the proposed roadway and structure will be placed at approximately the same elevation. The bridge length will be maximized. All alternatives follow these general guidelines and are therefore acceptable. The new structure will satisfy economic constraints, improve existing conditions, accommodate design flows, and minimize environmental impacts on any sensitive natural ecosystem that may be in the vicinity of the project study area.

B. Build Alternatives

The alternatives studied for replacing Bridge No. 316 are shown on Figure 2 and described below:

Alternative 1 – replaces the bridge with an 85-foot (25.9-m) long bridge on a new location approximately 40 feet (12.2 m) west (downstream) of the existing structure. The existing Bridge No. 316 will be used to maintain traffic during construction. The approach work will extend approximately 95 feet (28.9 m) south of the bridge to approximately 35 feet (10.7 m) north of the bridge for a total distance of 215 feet (65.5 m). The design speed is 30 miles per hour (mph) [48.3 kilometers per hour (km/h)]. A design exception will not be necessary for this alternative. This alternative is not recommended since it does not improve the existing horizontal alignment or the skewed intersection at US 321. Temporary widening of US 321 must be constructed to accommodate traffic and to construct the north end of the bridge.

Alternative 2– replaces the bridge with a 105-foot (32-m) long bridge on a new location approximately 240 feet (73.2 m) west (downstream) of the existing structure. The existing Bridge No. 316 will be used to maintain traffic during construction. The approach work will extend approximately 180 feet (54.9 m) south of the bridge and approximately 25 feet (7.6 m) north of the bridge for a total distance of 310 feet (94.5 m). The design speed is 30 mph (48.3 km/h). A design exception will not be necessary for this alternative. This alternative does improve the existing alignment; however, it is not recommended because it does not improve the skewed intersection at US 321.

Alternative 3 – replaces the bridge with a 330-foot (100.6-m) long bridge on a new location approximately 1,500 feet (457.2 m) west (downstream) of the existing structure. The existing Bridge No. 316 will be used to maintain traffic during construction. The approach work will extend approximately

470 feet (143.3 m) south of the bridge and approximately 70 feet (21.3 m) north of the bridge for a total distance of 870 feet (265.2 m). An additional 140-foot (42.7-m) "tie-in" to existing SR 1149 will be required making the total length for Alternative 3 approximately 1,010 feet (307.8 m). The design speed is 30 mph (48.3 km/h). A design exception will not be necessary for this alternative. This alternative is not recommended because of the longer bridge and additional roadway will increase the cost.

Alternative 4 (Preferred) – replaces the bridge with a 120-foot (36.6-m) long bridge on new location approximately 370 feet (112.8 m) west (downstream) of the existing structure. The existing bridge will be used to maintain traffic during construction. The approach work will extend approximately 40 feet (12.2 m) south of the bridge and approximately 45 feet (13.7 m) north of the bridge for a total distance of 205 feet (62.5 m). The design speed is 30 mph (48.3 km/h). A design exception will not be necessary for this alternative.

C. Alternatives Eliminated from Further Study

The No-Build or "Do Nothing" alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1149 (Howard Edmisten Road).

"Rehabilitation" of the existing structure is not feasible due to its age and deteriorated condition.

A box culvert was considered but is not a feasible alternative for this location. The proposed project is located in flood Zone AE with base flood elevations determined; therefore, the proposed roadway and structure will be placed at approximately the same elevation. The bridge length will be maximized.

Alternatives that involved replacing the bridge in its existing location and providing an off-site detour during construction were eliminated from further consideration because they do not improve the existing alignment or the skewed intersection at US 321.

D. Preferred Alternative

Alternative 4 replacing the existing bridge on a new location approximately 370 feet (112.8 m) west is the preferred alternative. Alternative 4 was selected because it improves the skew of the intersection at US 321 and SR 1149. It is also the least expensive alternative (See Section IV). The bridge can be replaced without the taking of productive farmlands in the creek bottoms. Traffic can be

maintained on the existing bridge. A 24-foot (7.3 m) wide bridge should be adequate as SR 1149 is and will remain a dead end road serving a small number of landowners.

The NCDOT Division 11 Engineer concurs with Alternative 4 as the Preferred Alternative.

IV. ESTIMATED COSTS

The estimated costs, based on current prices (2002), are as follows:

Table 1.0 Estimated Costs per Alternative

	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Preferred)
Structure	$135,000	$170,760	$519,480	$201,600
Roadway Approaches	247,560.50	218,515	218,925	235,050
Structure Removal	16,128	16,128	16,128	16,128
Misc. and Mobilization	179,311.50	182,597	339,467	98,222
Temporary On-Site Detour	0	0	0	0
Engineering & Contingencies	97,000	87,000	206,000	74,000
TOTAL CONSTRUCTION COST	$675,000	$675,000	$1,300,000	$625,000
Right of Way / Utilities	$32,600	$31,600	$42,400	$31,200
TOTAL PROJECT COST	$707,600	$706,600	$1,342,400	$656,200

The estimated cost of the project, shown in the 2004-2010 North Carolina Department of Transportation's Transportation Improvement Program (TIP) is $ 640,000, including $ 40,000 for right-of-way and $ 600,000 for construction.

V. NATURAL RESOURCES

The information contained in this section is based on the Natural Systems Report (November 2001) prepared by Environmental Services Inc.

A. Methodology

The project study area was visited, walked and visually surveyed for significant features on May 3, 2001. The project study area encompasses the various alternatives under consideration and is separated into two sections, Section 1 and Section 2. Section 1 is approximately 5.59 acres [2.26 hectares (ha)] in areal extent, and includes the existing structure and Alternatives 1, 2 and 4. This section is

approximately 700 feet (213.4 m) in length and 450 feet (137.2 m) in width. Section 2 is approximately 7.41 acres (3.0 ha) in areal extent and includes Alternative 3. This section is approximately 1,150 feet (350.5 m) in length and 300 feet (91.4 m) in width, extending from US 321 south to SR 1149. Impacts were calculated for each alignment using a width of approximately 60 feet (18.3 m); actual impacts will occur within construction limits and will be less than those calculated for this report. Special concerns evaluated in the field include potential habitat for protected species, streams, wetlands, and water quality protection.

Plant community descriptions are based on a classification system utilized by the North Carolina Natural Heritage Program (NHP) (Schafale and Weakley 1990). When appropriate, community classifications were modified to better reflect field observations. Vascular plant names follow nomenclature found in Radford *et al.* (1968). Jurisdictional areas were identified using the three parameter approach (hydrophytic vegetation, hydric soils, wetland hydrology) following U.S. Army Corps of Engineers (COE) delineation guidelines (DOA 1987). Jurisdictional areas were characterized according to a classification scheme established by Cowardin *et al.* (1979). Habitat used by terrestrial wildlife and aquatic organisms, as well as expected population distributions, were determined through field observations, evaluation of available habitat, and supportive documentation (Martof *et al.* 1980, Webster *et al.* 1985, Menhinick 1991, Hamel 1992, Rohde *et al.* 1994, Palmer and Braswell 1995). Water quality information for area streams and tributaries was derived from available sources (DEM 1989, DEM 1993, DENR 2000, DENR 2001a). Quantitative sampling was not undertaken to support existing data.

The most current FWS listing of federally protected species with ranges which extend into Watauga County was obtained prior to initiation of the field investigation (list date February 26, 2001, updated through January 29, 2003). In addition, NHP records documenting presence of federal or state listed species were consulted before commencing the field investigation and periodically updated (most recent review date October 10, 2001).

B. Physiography and Soils

The project study area is located in the Mountain physiographic province. Topography is characterized by nearly level along Cove Creek to very steep at the eastern edge of Section 1. Elevations in the project study area range from approximately 2,640 feet (804.7 m) above mean sea level (MSL) along Cove Creek to approximately 2,800 feet (853.4 m) above MSL at the eastern end of Section 1 (USGS Sherwood NC-TN, Valle Crucis NC quadrangle).

The project study area crosses three non-hydric soil mapping units (USDA unpublished). The Rosman fine sandy loam (Fluventic Haplumbrept) is a nearly level to gently sloping (0-3% slopes), well drained to moderately well drained soil found on floodplains, and is occasionally flooded. The Ashe-Chestnut Complex (Typic Dystrochrept-Typic Dystrochrept) is a very steep (50-95% slopes), well to excessively drained soil found on mountain slopes. The Chestnut-Edneyville Complex (Typic Dystrochrept-Typic Dystrochrept) is a steep to very steep (30-60% slopes), well-drained soil found on upland ridges and mountain slopes.

C. Water Resources

1. Waters Impacted

The project study area is located within the sub-basin 040201 of the Watauga River Basin (DEM 1993, DENR 2000). This area is part of USGS hydrologic unit 06010103 (USGS 1974). Two named stream channels are located within the project study area, Cove Creek and Phillips Branch (Section 1), as well as one unnamed tributary to Cove Creek (Section 2). Bridge No. 316 crosses Cove Creek approximately 15 feet (4.6 m) south of the intersection of SR 1149 and US 321. Cove Creek originates near the Town of Zionville and flows southwest to its confluence with the Watauga River. This stream has been assigned Stream Index Number (SIN) 8-15 from its source to the Watauga River by DWQ. The unnamed tributary to Cove Creek originates within the western section of the project study area, just north of US 321. This stream has not been assigned a SIN. Phillips Branch originates north of the project study area, between the geographic features of Ward Gap and Love Knob, and flows south to Cove Creek. This stream has been assigned SIN 8-15-11 from its source to its confluence with Cove Creek.

2. Water Resource Characteristics

Stream Characteristics

Cove Creek is a perennial stream with moderate flow over substrate consisting of sand, silt, gravel, cobble, and some areas with boulders. The main channel ranges from approximately 14 to 35 feet (4.3 to 10.7 m) in width with an average width of approximately 30 feet (9.1 m). The channel has an average bankfull depth of approximately 24 to 30 inches [61 to 76.2 centimeters (cm)]. A geomorphic characterization of the stream section within the project study area indicates Cove Creek is a "B" channel (Rosgen 1996). This section has moderate sinuosity, little available floodplain, and well developed riffle/plunge pool sequences over cobble and gravel substrate (Rosgen 1996). Bank failure was noted within the project study area. Bank heights above the stream range from 2 to 6 feet (0.6 to 1.8 m).

The unnamed tributary to Cove Creek is a perennial stream with slow flow over substrate consisting of sand and gravel. The channel is approximately 4 to 6 feet (1.2 to 1.8 m) wide with an average bankfull depth of 8 inches (20.3 cm). A geomorphic characterization of the channel indicates this channel is an "E" type stream channel. The channel has been previously channelized, but has formed a new floodplain. The "E" designation indicates the channel is moderately sinuous with a gentle to moderately steep channel gradient and very low width/depth ratio (Rosgen 1996). Bank height is approximately 6 feet (1.8 m) above the floodplain.

Best Usage Classifications and Water Quality

Classifications are assigned to waters of the State of North Carolina based on the existing or contemplated best usage of various streams or segments of streams in the basin. Cove Creek, from its origin to its confluence with the Watauga River, has a best usage classification of **C** (DEM 1993, DENR 2001a). The designation **C** indicates freshwaters that support aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. Secondary recreation refers to any activity involving human body contact with waters on an infrequent or incidental basis. The unnamed tributary to Cove Creek has no separate Best Usage Classification, so shares the classification of its receiving water, **C**. Phillips Branch has been assigned a Best Usage Classification of **C** (DEM 1993, DENR 2001a) from its source to its confluence with Cove Creek.

No Outstanding Resource Waters (**ORW**), High Quality Waters (**HQW**), **WS-I**, or **WS-II** Waters occur within 3.0 miles (4.8 km) of the project study area. However, approximately 2.3 miles (3.7 km) downstream from the project study area Cove Creek flows into the Watauga River. The Watauga River at its confluence with Cove Creek, has been designated SIN 8-(1) and has a Best Usage Classification of

B Tr HQW. The **B** classification indicates fresh waters that support primary recreation as well as any other usage supported by the **C** classification. Primary recreation is any activity involving human body contact with water on an organized or frequent basis. The supplemental classification **Tr** is used for trout waters characterized as waters suitable for natural trout propagation and maintenance of stocked trout. The supplemental classification **HQW** indicates high quality waters that are rated excellent based on biological and physical/chemical characteristics.

Neither Cove Creek, its unnamed tributaries, nor Phillips Branch is designated as a North Carolina Natural and Scenic River, nor as a National Wild and Scenic River.

Cove Creek is a Designated Public Mountain Trout Water (DPMTW) and is stocked. Cove Creek, its unnamed tributary, and Phillips Branch are not considered Trout Waters by DWQ.

There is one permitted point source discharger on Cove Creek. The Old Cove Creek School (NPDES NC 0067008) is located approximately 2.4 miles (3.9 km) upstream from the project study area. The school has a permitted discharge of 0.01 million gallons per day (MGD) [0.04 million liters per day (MLD)]. There are no permitted dischargers downstream from the project study area on Cove Creek or any upstream on Phillips Branch or the unnamed tributary to Cove Creek.

In 1988, 1994 and 1999, benthic macroinvertebrate samples were taken approximately 1.8 miles (2.9 km) upstream of the project study area at the US 321 over Cove Creek. Benthic samples were also taken in 1994 and 1999 from a sampling location approximately 2.3 miles (3.7 km) downstream of the project study area at SR 1121 (Old Watauga River Road) over the Watauga River (DENR 2000), just upstream from its confluence with Cove Creek. Both locations received a bioclassification of Good for each sample (DENR 2000).

Another measure of water quality being used by DWQ is the North Carolina Index of Biotic Integrity (NCIBI), which assesses biological integrity using the structure and health of the fish community. No fish community structure sampling has been reported for the Watauga River Basin during 1999 (DENR 2000).

3. Anticipated Impacts to Water Resources

After construction activities are completed, abandoned approaches associated with the existing structure and/or temporary detours will be removed and revegetated in accordance with NCDOT guidelines.

Short-term impacts to water quality, such as sedimentation and turbidity, can be anticipated from construction-related activities. Best Management Practices (BMP's) can minimize impacts during construction, including implementing stringent erosion and sedimentation control measures, and avoiding using wetlands as staging areas can minimize construction impacts. Additional measures which can be taken to minimize water quality impacts include avoiding the placement of live concrete directly into the stream channel and keeping heavy equipment operations from being conducted in the stream channel.

Other impacts to water quality that are anticipated as a result of this project include: changes in water temperature as a result of increased exposure to sunlight, increased shade due to the construction of the bridges, and changes in stormwater flows due to changes in the amount of impervious surface adjacent to the stream channels. However, due to the limited amount of overall change in the surrounding areas, impacts are expected to be temporary in nature.

In-stream construction activities will be scheduled to avoid and minimize impacts to aquatic resources/organisms. In a letter dated August 6, 2001, the North Carolina Wildlife Resources Commission (WRC) stated it would require a trout moratorium from October 15 through April 15 due to the presence of wild brown trout (*Salmo trutta*).

No adverse long-term impacts to water resources are expected to result from any of the alternatives being considered. New location alternatives will result in limited clearing of some canopy along the stream bank, resulting in potential for localized increase in sunlight and stream temperature. All alternatives for the proposed project include a channel spanning structure, which will allow for continuation of present stream flow within the existing channel, thereby protecting stream integrity.

4. Impacts Related to Bridge Demolition and Removal

Section 402-2 of NCDOT's Standard Specifications for Roads and Structures is labeled **Removal of Existing Structure**. This section outlines restrictions and Best Management Practices for Bridge Demolition and Removal (BMP-BDRs), as well as guidelines for calculating maximum potential fill in the creek resulting from demolition.

The superstructure of the bridge consists of a timber floor on continuous I-beams. The deck, curbs and pile end bents will be removed in such a manner that no components will be placed or dropped into Cove Creek. The substructure includes a combination of driven timber piles and timber piles with concrete sills. The two concrete sills are located in the streambed. The removal of the sills has the potential to result in temporary fill in Cove Creek of up to 10 cubic yards (7.6 cubic meters) of material.

D. Biotic Resources

1. Plant Communities

Five distinct plant communities were identified within the project study area: Maintained/Disturbed Areas, Agricultural Land, Piedmont/Low Mountain Alluvial Forest, Cove Forest, and Rocky Bar. These communities total approximately 10.80 acres (4.37 ha), which does not include the approximately 1.42 acres (0.57 ha) of impervious surface present within the project study area nor the approximately 0.78 acre (0.32 ha) of open water areas associated with Phillips Branch, Cove Creek and its unnamed tributary. These communities are described below:

a. Man-Dominated Communities

Maintained/Disturbed Areas – The Maintained/Disturbed Areas cover approximately 5.15 acres (2.1 ha) (39.6 percent) of the project study area and include areas subject to anthropogenic disturbance and include roadsides, maintained residential yards, powerline right-of-way corridors, and areas where other human related activities dominate. Roadsides and powerline rights-of-way are maintained by mowing and/or herbicides, and include herbaceous species such as wild rose (*Rosa* sp.), blackberry (*Rubus* sp.), various grasses, poison ivy (*Toxicodendron radicans*), and stinging nettle (*Urtica dioica*), as well as shrubs of tree species, including yellow buckeye (*Aesculus octandra*), American sycamore (*Platanus occidentalis*), and black locust (*Robinia psudoacacia*). Residential yards are dominated by various grasses, ornamental shrubs and trees including white pine (*Pinus strobus*), river birch (*Betula nigra*), flowering dogwood (*Cornus florida*), and eastern hemlock (*Tsuga canadensis*).

Agricultural Land – Agricultural Land covers approximately 3.80 acres (1.5 ha) (29.2 percent) of the project study area and includes areas used for crop production. At the time of the field investigation, most of the agricultural fields were fallow, with either no cover crops, or a cover crop of winter wheat.

Piedmont/Low Mountain Alluvial Forest – The Piedmont/Low Mountain Alluvial Forest covers approximately 0.37 acre (0.15 ha) (2.8 percent) of the project study area and is associated with the

floodplain of the unnamed tributary to Cove Creek and areas adjacent to Cove Creek in Section 2. The Piedmont/Low Mountain Alluvial Forest community is located in river and stream floodplains in which separate fluvial landforms and associated vegetation zones are too small to distinguish (Schafale and Weakley 1990). This community is characterized by location in a floodplain and the presence of red maple (*Acer rubrum*) and black willow (*Salix nigra*), with blackberry and wild rose.

b. Other

Cove Forest – The Cove Forest covers approximately 1.35 acres (0.55 ha) (10.4 percent) of the project study area limited to the slopes at the eastern edges of Section 1. Tree species within these areas includes yellow poplar (*Liriodendron tulipifera*), silky dogwood (*Cornus amomum*), black cherry (*Prunus serotina*), black locust, and scattered white pine. Midstories within the areas is generally open with saplings of overstory species, as well as ironwood (*Carpinus caroliniana*), red maple, and sugar maple (*Acer saccharum*), with a sparse herbaceous layer including Solomon's seal (*Polygonatum biflorum*).

2. Wildlife

The study project area was visually surveyed for signs of terrestrial and aquatic wildlife. Little evidence of wildlife was observed during the field effort. The project study area is surrounded by roadways, intact forests, and residential yards. Streams such as Cove Creek and Phillips Branch provide little or no cover and food within the project study area. Other expected wildlife species are those adapted to ecotones between the maintained roadsides and adjacent natural forest.

Few bird species were observed within or adjacent to the project study area. Bird species observed include Carolina chickadee (*Poecile carolinensis*), American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*), common yellowthroat (*Geothlypis trichas*), and red-winged blackbird (*Agelaius phoeniceus*). Other species expected within and around the project study area include turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*), yellow-bellied sapsucker (*Sphyrapicus varius*), and American crow (*Corvus brachyrhynchos*).

Few mammals or mammal signs were observed within the project study area. Mammals observed include raccoon (*Procyon lotor*), domestic dog (*Canis familiaris*), and groundhog (*Marmota monax*). Other species expected include eastern cottontail (*Sylvilagus floridanus*), Virginia opossum (*Didelphis virginiana*), red fox (*Vulpes vulpes*), and gray squirrel (*Sciurus carolinensis*).

No terrestrial reptiles were observed within the project study area. Expected reptile species include eastern garter snake (*Thamnophis sirtalis*), ringneck snake (*Diadophis punctatus*), black rat snake (*Elaphe obsoleta*), and eastern box turtle (*Terrapene carolina*).

No terrestrial amphibians were observed within the project study area. Terrestrial amphibians expected to occur within the project study area include slimy salamander (*Plethodon* spp.), Fowler's toad (*Bufo woodhouseii*), spring peeper (*Pseudacris crucifer*), and northern cricket frog (*Acris crepitans*).

3. Aquatic Communities

Limited kick-netting, seining, dip-netting, and visual observation of stream banks and channel within the project study area were conducted on Phillips Branch and the unnamed tributary to Cove Creek. Fish species documented in Cove Creek within the project study area include white sucker (*Catosomus commersoni*), central stoneroller (*Campostoma anomalum*), rock bass (*Ambloplites rupestris*), northern hogsucker (*Hypentelium nigricans*), margined madtom (*Noturus insignis*), and whitetail shiner (*Notropis galacturus*). Expected species include brown trout (*Salmo trutta*).

Aquatic invertebrate surveys consisted of kick-net surveys, limited bottom sampling, and walking all streambanks in the project study area to locate freshwater mussel middens. Visual observation of streambanks of Phillips Branch, the unnamed tributary, and Cove Creek revealed no evidence of freshwater mussels. Kick-net surveys and limited bottom sampling conducted within the channel of Cove Creek yielded a variety of aquatic macroinvertebrates. Organisms collected were identified to Order and include mayflies (Ephemeroptera), stoneflies (Plecoptera), caddisflies (Trichoptera), flies (Diptera), water beetles (Coleoptera), dragonflies (Odonata), hellgrammites (Megalopera), snails (Class Gastropoda), aquatic worms (Class Oligochaeta), and crayfish (Decapoda). Identifications are based on McCafferty (1998) and Merritt *et al.* (1996).

No aquatic reptiles were observed within the project study area. Species expected to occur within the project study area include the northern water snake (*Nerodia sipedon*), queen snake (*Regina septemvittata*), painted turtle (*Chrysemys picta*), and common snapping turtle (*Chelydra serpentina*).

No aquatic amphibians were observed within the project study area. Species expected to occur within the project study area include red-spotted newt (*Notophthalmus viridescens*), bullfrog (*Rana catesbeiana*), and pickerel frog (*Rana palustris*).

4. Anticipated Impacts to Biotic Communities

a. Terrestrial Communities

Anticipated impacts to plant communities are estimated based on the acreage of each plant community present within the proposed right-of-way of 60 feet (18.3 m); actual impacts within construction limits will be less. A summary of potential plant community impacts is presented in Table 2.0.

Table 2.0 Plant Community Impacts per Alternative

PLANT COMMUNITY	ESTIMATED IMPACTS In acres (hectares)			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Preferred)
	Impacts	Impacts	Impacts	Impacts
Maintained/Disturbed Areas	0.20 (0.08)	0.21 (0.08)	0.32 (0.13)	0.17 (0.07)
Agricultural Lands	0.00	0.00	0.84 (0.34)	0.02 (0.01)
Piedmont/Low Mountain Alluvial Forest	0.00	0.00	0.02 (0.01)	0.00
Cove Forest	0.00	0.05 (0.02)	0.00	0.00
Rocky Bar and Shore	<0.01[a]	0.02 (0.01)	0.00	0.03 (0.01)
Total for Alts:	0.20 (0.08)	0.28 (0.11)	1.18 (0.48)	0.22 (0.09)

[a] – Calculated impacts are no greater than 0.004 acre (0.002 ha).

Each of the proposed alternatives includes construction on new location. Alternative 1 contains the least amount of potential permanent impact (0.20 acre) (0.08 ha), with the majority of impact occurring within the Maintained/Disturbed Areas. Alternative 1 contains the least amount of potential impact to a natural community (<0.01 acre of Rocky Bar). Alternative 2 contains the median amount of potential permanent impact (0.28 acre) (0.11 ha), with the majority of impact occurring within the Maintained/Disturbed Areas. Alternative 2 includes the largest amount of potential impact to natural communities (0.07 acre) (0.03 ha). Alternative 3 contains the largest amount of potential permanent impact (1.18 acres) (0.48 ha), with the majority of impact occurring within Agricultural Lands. Alternative 3 includes the median amount of potential impact to a natural community (0.02 acre) (0.01 ha). Alternative 4 contains a median amount of potential permanent impact (0.22 acre) (0.09 ha), with the majority of impact occurring within the Maintained/Disturbed Areas.

Due to the limited extent of infringement on natural communities, the proposed bridge replacement will not result in significant loss or displacement of known terrestrial animal populations. Wildlife movement corridors are currently limited within the project study area and are not expected to be significantly impacted by the proposed project.

b. Wetland Communities

Anticipated impacts to wetlands and open water areas are estimated based on the amount of each jurisdictional area within the proposed right-of-way width of 60 feet (18.3 m); actual areas within construction limits will be less. Open water areas of Cove Creek (R3UB2H) are included in this table. During bridge removal, Best Management Practices (BMP's), including erosion control measures will be used. Therefore, it is anticipated that removing the existing bridge will result in no impact to surrounding surface waters. A summary of potential jurisdictional impacts is presented in Table 3.0 and shown on Figure 6:

Table 3.0 Estimated Impacts to Jurisdictional Areas per Alternative

JURISDICTIONAL AREAS	ESTIMATED IMPACTS			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Preferred)
R3UB2H in acres (hectares)	0.05 (0.02)	0.04 (0.02)	0.04 (0.02)	0.07 (0.03)
PSS in acres (hectares)	<0.01[a]	0.02 (0.01)	0.00	0.00
TOTAL FOR ALTS:	0.05 (0.02)	0.06 (0.02)	0.04 (0.02)	0.07 (0.03)
Stream Channel Impacts (feet)	60 (18.3)	60 (18.3)	60 (18.3)	60 (18.3)
TOTAL FOR ALTS:	60 (18.3)	60 (18.3)	60 (18.3)	60 (18.3)

[a] – Calculated impacts are no greater than 0.004 acre (0.002 hectare).

Alternative 1 contains a median amount of open water (0.05 acre) (0.02 ha) and includes a small area of jurisdictional wetlands (< 0.01 acre) (0.002 ha). Alternative 2 contains the largest area of potential wetland impact (0.02 acre) (0.01 ha); Alternative 2 contains less open water area than Alternative 1 (0.04 acre vs. 0.05 acre) (0.016 ha vs. 0.020 ha). Alternative 2 crosses Cove Creek at a narrower point than Alternative 1. Neither Alternative 1 nor Alternative 2 cross Cove Creek perpendicularly. Alternative 3 contains the least total amount of potential impact to jurisdictional wetlands and surface waters (0.04 acre) (0.02 ha), because no jurisdictional wetlands are impacted, and the alternative crosses Cove Creek perpendicular to the channel. Alternative 4 contains the largest amount of open water impact

(0.07 acre) (0.03 ha) of all the alternatives. Neither Phillips Branch nor the unnamed tributary to Cove Creek are impacted by any alternative.

Wetlands subject to review under Section 404 of the Clean Water Act (33 U.S.C. 1344) are defined by the presence of three primary criteria: hydric soils, hydrophytic vegetation, and evidence of hydrology at or near the surface for a portion (12.5 percent) of the growing season (DOA 1987). Based on the three-parameter approach, jurisdictional wetlands are present within the eastern portion of the project study area, approximately 60 feet (18.3 m) downstream from the existing bridge (See Figure 6). The wetland area is adjacent to Cove Creek which is approximately 0.13 acre (0.05 ha) in areal extent and coincides with the Rocky Bar and Shore community. Although hydrology with this area is driven by Cove Creek, this wetland is considered palustrine as defined by Cowardin et al., (1979). This area exhibits characteristics of a palustrine scrub-shrub wetland (PSS). Soils within this area exhibited hydric characteristics (Munsell color 10YR3/2 with 30 percent 10 YR6/8 redoximorphic concentrations). Vegetation within this area was hydrophytic in nature, and included soft rush, stinging nettle, as well as scattered saplings of silky willow and sugar maple. Evidence of jurisdictional hydrology was noted within one inch (2.54 cm) of the soil surface.

The jurisdictional wetland area scored a 21, indicating a low value system. Although this area is located immediately adjacent to a perennial stream channel, its small size and low diversity of vegetation indicate it has low value for water storage and wildlife.

c. Aquatic Communities

Potential down-stream impacts to aquatic habitat will be avoided by bridging Cove Creek to maintain regular flow and stream integrity. In addition, temporary impacts to downstream habitat from increased sediment during construction are expected to be reduced by limiting the in-stream work to an absolute minimum, except for the removal of the portion of the substructure below the water. Best Management Practices for the protection of surface waters should be strictly enforced to reduce impacts. BMP-BDRs will be followed to minimize impacts due to anticipated bridge demolition.

E. Special Topics

1. "Waters of the United States": Jurisdictional Issues

Surface waters within the embankments of Phillips Branch, Cove Creek, and its unnamed tributary are subject to jurisdictional consideration under Section 404 of the Clean Water Act as "Waters of the United States" (33 CFR 328.3). The waters in Cove Creek within the project study area exhibit

characteristics of riverine, upper perennial, unconsolidated sand bottom, permanently flooded waters (R3UB2H) (Cowardin *et al.* 1979). The waters within the unnamed tributary to Cove Creek exhibit characteristics of a riverine, intermittent, unconsolidated sand bottom, intermittently flooded waters (R4UB2J) (Cowardin *et al.*, 1979). Phillips Branch exhibits the characteristics of riverine, upper perennial, unconsolidated sand bottom, permanently flooded waters excavated (R3UB2H) (Cowardin *et al.*, 1979).

2. Permits

a. Section 404 of the Clean Water Act

This project is being processed as a Categorical Exclusion (CE) under Federal Highway Administration (FHWA) guidelines. Generally, Nationwide Permit (NWP) #23 [33 CFR 330.5(a)(23)] has been issued by the U.S. Army Corps of Engineers (COE) for CEs due to expected minimal impact. DWQ has issued a General 401 Water Quality Certification for NWP #23. However, use of this permit will require written notice to DWQ. In the event that NWP #23 will not suffice, minor impacts attributed to bridging and associated approach improvements are expected to qualify under General Bridge Permit 031. Notification to the Wilmington COE office is required if this general permit is utilized. NWP #33 may be used if temporary structures, work and discharges, including cofferdams are necessary for this project. Bridge replacement or construction over navigable waters used for commerce or that have a maintained navigation channel may require United States Coast Guard (USCG) authorization pursuant to 33 CFR 114-115.

b. Section 401 Water Quality Certification

Section 401 of the CWA delegates authority to the states to issue a 401 Water Quality Certification for all projects that require a Federal Permit, such as a Section 404 Permit. Generally, DWQ has issued a General 401 Water Quality Certification for NWP #23. However, use of this permit will require written notice to DWQ.

c. Bridge Demolition and Removal

Section 402-2 of NCDOT's Standard Specifications for Roads and Structures is labeled **Removal of Existing Structure**. This section outlines restrictions and Best Management Practices for Bridge Demolition and Removal (BMP-BDRs), as well as guidelines for calculating maximum potential fill in the creek resulting from demolition. This project is designated as a Case 2; therefore, no work at all is permitted in the water during the moratorium period associated with fish migration, spawning, and larval recruitment in a nursery area. After construction activities are completed, abandoned approaches

associated with the existing structure and/or temporary detours will be removed and revegetated in accordance with NCDOT guidelines.

d. Coast Guard

Bridge replacement or construction over navigable waters used for commerce or that have a maintained navigation channel may require U.S. Coast Guard (USCG) authorization pursuant to 33 CFR 114-115. Cove Creek is not designated as a navigable river.

e. Tennessee Valley Authority

The Watauga River is a headwater tributary of the Holston River, which in turn flows into the Tennessee River (DENR 2000). The proposed project is therefore also under the authority of the Tennessee Valley Authority (TVA). The implementation of any of the three alternatives would require an approval under Section 26a of the TVA Act (49 Stat. 1079, 16 U.S.C. sec. 831y-1) (See letter dated March 26, 2002 in the Appendix).

f. Designated Public Mountain Trout Water

Watauga County is among the twenty-five mountain counties designated as having trout waters. Cove Creek is a Designated Public Mountain Trout Water (DPMTW) and is stocked by WRC. Cove Creek, its unnamed tributary, and Phillips Branch are not considered Trout Waters by DWQ. The WRC has prohibited any in-stream work and land disturbance activities within 25 feet (7.6 meters) of Cove Creek associated with this project during brown trout spawning season of October 15 through April 15.

g. Special Waters

No Outstanding Resource Waters (**ORW**), High Quality Waters (**HQW**), **WS-I**, or **WS-II** Waters occur within 3.0 miles (4.8 km) of the project study area. Cove Creek is not designated as North Carolina Natural and Scenic River, nor as National Wild and Scenic Rivers.

3. Buffer Rules

No buffer rules currently apply to the Watauga River Basin.

4. Mitigation

Avoidance – Due to the presence of surface waters within both sections of the project study area, avoidance of impacts is not possible. Alternative 3 avoids impacts to jurisdictional wetlands;

Alternatives 1, 2 and 4 may each impact less than 0.02 acre (0.01 ha) of jurisdictional wetland area. Wetland and stream impacts are previously discussed in Section V.D.4.b.

Minimization – The alternative corridors presented were developed in part to demonstrate minimization of stream impacts. Impacts to the stream will be minimized during demolition by saw cutting the bridge deck longitudinally, and for each side, detaching existing beams from the substructure and lifting the span out continuously, thereby ensuring that no debris is deposited in the creek in the process.

Mitigation - Compensatory mitigation is not proposed for this project due to the limited nature of project impacts. However, utilization of BMPs is recommended in an effort to minimize impacts including avoiding placing staging areas within wetlands. Temporary impacts associated with the construction activities could be mitigated by replanting disturbed areas with native species and removal of temporary fill material upon project completion.

F. Rare and Protected Species

1. Federally Endangered and Threatened Species

Species with the federal classification of Endangered (E) or Threatened (T), or officially proposed (P) for such listing, are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The following federal protected species are listed for Watauga County (FWS list dated February 26, 2001 updated through January 29, 2003):

Common Name	Scientific Name	Status
Bog turtle	*Clemmys muhlenburgii*	T(S/A)
Spruce-fir moss spider	*Microhexura montivaga*	E
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	E
Spreading avens	*Geum radiatum*	E
Roan Mountain bluet	*Houstonia montana*	E
Heller's blazing star	*Liatris helleri*	T

Bog Turtle - The bog turtle is a small turtle reaching an adult size of approximately 3 to 4 inches (7.6 to 10.2 cm). This otherwise darkly-colored species is readily identifiable by the presence of a bright orange or yellow blotch on the sides of the head and neck (Martof *et. al.* 1980). The bog turtle is typically found in bogs, marshes, and wet pastures, usually in association with aquatic or semi-aquatic vegetation and

small, shallow streams over soft bottoms (Palmer and Braswell 1995). In North Carolina, bog turtles have a discontinuous distribution in the Mountains and western Piedmont. NHP records do not indicate that bog turtle has been documented within 3.0 miles (4.8 km) of the project study area.

> **BIOLOGICAL CONCLUSION:** The bog turtle is listed as Threatened due to Similarity of Appearance [T(S/A)]. Potential habitat for this species does not exist within the project study area. Also, T(S/A) species are not subject to Section 7 consultation and a biological conclusion is not required. **NO EFFECT.**

Carolina Northern Flying Squirrel - The Carolina northern flying squirrel is an isolated, endangered subspecies of the more wide-ranging northern flying squirrel. Flying squirrels are nocturnal and have a loose, fully furred fold of skin on each side of the body between the wrists and the ankles that enable the squirrels to glide from trees to other trees or to the ground for foraging. Carolina northern flying squirrel can be distinguished from the similar southern flying squirrel (*G. volans*) by its larger size from 10.2 to 12.0 inches (25.9 to 30.5 cm) total length and by having gray rather than white bases of the ventral hairs (Weigl 1987).

The Carolina northern flying squirrel typically occurs in spruce-fir forests and mature hardwood forest adjacent to spruce-fir forests at elevations above 4,000 feet (1,219 m) (Weigl 1987). Endemic to the Appalachians of western North Carolina and eastern Tennessee, this subspecies is known from the Great Smoky Mountains, Roan Mountain, and Mount Mitchell. NHP records do not indicate that Carolina northern flying squirrel has been documented within 3.0 miles (4.8 km) of the project study area.

> **BIOLOGICAL CONCLUSION:** The proposed project is not expected to affect Carolina northern flying squirrel since elevations within the project study area are a maximum of 2,640 feet (804.7 m) above MSL, significantly below the reported minimum elevation of 4,000 feet (1,219.2 m) for this species. Suitable habitat for this species, consisting of high elevation spruce-fir and mature hardwood forest, was not identified within the project study area. **NO EFFECT.**

Spruce-fir Moss Spider – The spruce-fir moss spider is a small arachnid, ranging in size from 0.10 to 0.15 inches (0.25 to 0.38 cm) with light brown, yellow brown, to reddish brown coloration. Typical habitat for this species appears to be associated with moist, well-drained moss mats growing on rocks and boulders in well-shaded situations in mature, high-elevation conifer forests dominated by Fraser fir, often with scattered red spruce (USFWS 1998). This species is known from the highest elevations at or above

5,400 feet (1,646 m) above MSL on the southern Appalachian Mountains in western North Carolina and eastern Tennessee (Coyle 1981, 1997, 1999; Harp 1991, 1992). NHP records do not indicate that spruce-fir moss spider has been documented within 3.0 miles (4.8 km) of the project study area.

BIOLOGICAL CONCLUSION: The proposed project is not expected to affect spruce-fir moss spider since elevations within the project study area are a maximum of 2,640 feet (804.7 m) above MSL, significantly below the reported minimum elevation of 5,400 feet (1,646 m) above MSL for this species. Suitable habitat for this species, consisting of damp moss mats on rock outcrops in high elevation Fraser fir and red spruce forest, was not identified within the project study area. **NO EFFECT.**

Spreading Avens - Spreading avens is an erect, densely hairy, perennial herb up to 20 inches (50.8 cm) tall. A basal rosette of odd-pinnately compound leaves is produced from a horizontal rhizome. These leaves are long stalked and terminated by a large kidney-shaped lobe; tiny leaflets are usually present below the terminal lobe (Kral 1983). Small, sessile, serrated leaves are found on the flowering stem. Lanceolate sepals and relatively long petal lengths of 0.5 to 0.8 inches (1.3 to 2.0 cm) help differentiate spreading avens from related species (Massey *et al.* 1983). Bright yellow, five-petaled flowers approximately 2.4 to 3.1 inches (6.1 to 7.9 cm) across are produced from June to August; these are followed between July and October by hairy achenes with a persistent, straight style approximately 0.2 inches (0.51 cm) long (Massey *et al.* 1983). Vegetative parts may emerge in May and persist through October.

Spreading avens usually occurs at elevations greater than 5,000 feet (1,524 m) above MSL in mountain grass balds or in grassy clearings in heath balds as well as in crevices of granitic rock. This species cannot tolerate shading or crowding (Kral 1983). Spreading avens is found in a few northwestern counties of North Carolina, and in nearby counties of Tennessee. NHP records do not indicate that spreading avens has been documented within 3.0 miles (4.8 km) of the project study area.

BIOLOGICAL CONCLUSION: The proposed project is not expected to affect spreading avens since elevations within the project study area are a maximum of 2,640 feet (804.7 m) above MSL, significantly below the reported minimum elevation of 5,000 feet (1,524 m) for this species. Suitable habitat for this species, consisting of balds or rock outcroppings, was not identified within the project study area. **NO EFFECT.**

Roan Mountain Bluet - Roan Mountain bluet, formerly treated as a variety of the summer bluet (*Houstonia* [=*Hedyotis*] *purpurea*), is a low, erect to spreading perennial herb with a squarish stem typically growing to 6 inches (15.2 cm) high. The leaves are opposite, sessile, rounded basally but taper to a pointed tip and have smooth, toothless margins. Small, deep purple, tubular flowers are produced on small terminal clusters in May and August with fruiting occurring in August and September (USFWS 1996). This species differs from the more common *H. purpurea* by having larger, smooth-edged leaves, and by larger flowers, capsules, and seeds (Weakley 1993).

Roan Mountain bluet is endemic to the high Blue Ridge Mountains of North Carolina and Tennessee, mostly from 4,200 to 6,300 feet (1,280 to 1,920 m) above MSL in elevation. It grows in crevices of rock outcrops as well as in thin, gravelly soils of grassy balds near summit outcrops (Weakley 1993). NHP records do not indicate that Roan Mountain bluet has been documented within 3.0 miles (4.8 km) of the project study area.

> **BIOLOGICAL CONCLUSION:** The proposed project is not expected to affect Roan Mountain bluet since elevations within the project study area are a maximum of 2,640 feet (804.7 m) above MSL, significantly below the reported minimum elevation of 4,200 feet (1,280 m) for this species. Suitable habitat for this species, consisting of balds, was not identified within the project study area. **NO EFFECT.**

Heller's Blazing Star - Heller's blazing star is an erect herbaceous perennial with glabrous stems that reaches heights of 4 to 20 inches (10.2 to 50.8 cm). The leaves are simple, linear to lanceolate, alternate, and arranged spirally along the stem. Leaf size is variable, with a gradual decrease in size up the stem. The inflorescence consists of compact heads arranged in a raceme-like fashion along the stem. The heads typically contain seven to ten tubular florets which may be purple to lavender in color. Heller's blazing star is distinguished from related species by shorter height and relatively short pappus (modified calyx lobes) half or less the length of the corolla tube (USFWS 1989). Flowers are produced from July to September, with fruiting occurring from August to October (Massey *et al.* 1983).

Heller's blazing star has been found on rocky summits at high elevations in the mountains of western North Carolina. This species typically is found in full sun growing in shallow, acidic soils on or around granitic outcrops, ledges, and cliff faces (Kral 1983, Massey *et al.* 1983). Heller's blazing star is reported to occur at elevations between approximately 3,500 to 6,200 feet (1,066.8 to 1,889.8 m) above MSL.

NHP records do not indicate that Heller's blazing star has been documented within 3.0 miles (4.8 km) of the project study area.

BIOLOGICAL CONCLUSION: The proposed project is not expected to affect Heller's blazing star since elevations within the project study area are a maximum of 2,640 feet (804.7 m) above MSL, below the reported minimum elevation of 3,500 feet (1066.8 m) for this species. Suitable habitat for this species, consisting of rocky summits exposed to full sunlight, was not identified within the project study corridor. **NO EFFECT.**

2. Federal Species of Concern

The February 26, 2001 FWS list (updated January 29, 2003) also includes a category of species designated as "Federal species of concern" (FSC). The FSC designation provides no federal protection under the ESA for the species listed. The presence of potential suitable habitat (Amoroso 1999, LeGrand and Hall 1999) within the project study area has been evaluated for the following FSC species listed for Watauga County:

Table 4.0 Federal Species of Concern

Common Name	Scientific Name	State Status	Potential Habitat
Southern Appalachian saw-whet owl	*Aegolius acadicus*	SC(PT)	N
Hellbender	*Cryptobranchus alleganiensis*	SC	N
Cerulean warbler	*Dendroica cerulea*	SR	Y
Southern Appalachian red crossbill	*Loxia curvirostra*	SR(PSC)	N
Alleghany woodrat	*Neotoma magister*	SC	Y
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	SC	N
Kanawha minnow	*Phenacobius teretulus*	SC	N
Southern water shrew	*Sorex palustris punctulatus*	SC	N
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	SC(PSC)	Y
Appalachian cottontail	*Sylvilagus obscurus*	SR	N
Green floater	*Lasmigona subviridus*	E	Y
Diana fritillary butterfly	*Speyeria diana*	SR	Y
Frasier fir	*Abies fraseri*	C	N
Mountain bittercress	*Cardamine clematitis*	C	N
Tall larkspur	*Delphinium exaltatum*	E-SC	N
Glade spurge	*Euphorbia purpurea*	C	N

Table 4.0 Federal Species of Concern			
Common Name	Scientific Name	State Status	Potential Habitat
Bent avens	*Geum geniculatum*	T	N
Butternut	*Juglans cinerea*	W5	Y
Gray's lily	*Lilium grayi*	T-SC	N
Bog bluegrass	*Poa paludigena*	E	N
A Liverwort	*Porella wataugensis*	SR-L	N

*E-Endangered, T-Threatened, SC- Special Concern, C –Candidate, SR – Significantly Rare, W – Watch List, P_ - Proposed, L - Limited

NHP files do not document any FSC occurrences within the project study area. NHP files do document two FSC occurrences within 3.0 miles (4.8 km) of the project study area; one occurrence of hellbender and one of green floater. The hellbender record is a 1995 occurrence from the Watauga River, approximately 1.5 miles (2.4 km) upstream from its confluence with Cove Creek. The green floater record is a 1992 occurrence from the Watauga River, from immediately upstream of its confluence with Cove Creek at the SR 1121 (Old Watauga River Road) bridge going upstream. No other FSC species has been documented as occurring within 3.0 miles (4.8 km) of the project study area.

3. Summary of Anticipated Impacts

Due to the federal status of the bog turtle [T(S/A)], this species is not subject to Section 7 consultation and a biological conclusion is not required. This project is not expected to affect the bog turtle nor the five other listed federally threatened and endangered species. Potential habitat occurs for six of the twenty listed federal species of concern.

VI. CULTURAL RESOURCES

A. Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at Title 36 CFR Part 800. Section 106 requires that for federally funded, licensed, or permitted projects having an effect on properties listed in or eligible for inclusion in the National Register of Historic Places, the Advisory Council on Historic Preservation be given the opportunity to comment.

B. Historic Architecture

A field survey of the Area of Potential Effect (APE) was conducted on October 18, 2001. All structures within the APE were photographed, and later reviewed by the State Historic Preservation Office (HPO). In a concurrence form dated November 11, 2001, the State Historic Preservation Officer (SHPO) concurred that there are no historic architectural resources either listed in or eligible for listing on the National Register of Historic Places within the APE (see form in Appendix).

C. Archaeology

The State Historic Preservation Officer (SHPO) recommended that a comprehensive survey be conducted by an archaeologist to identify the presence and significance of archaeological remains that may be damaged or destroyed by the proposed project (see letter dated August 27, 2001 in Appendix). An archeological survey of the project area was performed by NCDOT archaeologists on September 20, 2002. No archaeological sites were identified within the Area of Potential Effect (APE). Therefore, a finding of no historic properties is appropriate for this project. Not further archaeological work is recommended for the proposed project (see letter dated April 24, 2003 in Appendix).

VII. SECTION 4(f) RESOURCES

Section 4(f) of the Department of Transportation Act of 1966, as amended, states in part "The Secretary may approve a transportation project or program requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land of a historic site of national, state, or local significance (as determined by the Federal, State or local officials having jurisdiction over the park, recreation area, refuge, or site) only if –

(1) there is no prudent and feasible alternative to using land; and
(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from such use."

There are no impacts anticipated to publicly owned land in the project study area.

VIII. ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact on the local area. Replacement of an inadequate bridge will result in safer and more efficient traffic operations.

The project is considered to be a Federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of the current NCDOT standards or specifications.

The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project (Ashe County Planning Department, Mr. Brent Graybeal).

No adverse effect on individual families or communities is anticipated. Right-of-way acquisition will be limited. No relocatees are expected with implementation of the Preferred Alternative (Alternative 4).

No adverse effect on public facilities or services is anticipated. The project is not expected to adversely affect social, economic, or religious opportunities in the surrounding area.

The studied route does not contain any bicycle accommodations, nor is it a designated bicycle route; therefore, no bicycle accommodations have been included as part of this project.

No geodetic survey markers will be impacted.

This project has been coordinated with the United States Natural Resources Conservation Service (NRCS). The Farmland Protection Policy Act requires all Federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. There are soils classified as prime, unique, or having state or local importance in the vicinity of the project. Rosman fine sandy loam, 0 to 3 percent slopes, occasionally flooded, is classified as a prime farmland soil within the project study area. Approximately 1,000 feet (304.8 m) from Bridge No. 316, Saunook loam, 8 to 15 percent slopes, is classified as having state and local importance. The proposed project will have very minimal impacts to these soils.

This project is in an air quality "neutral" project, so it is not required to be included in the regional emissions analysis and a project level CO analysis is not required.

This project is located in Watauga County, which has been determined to be in compliance with the National Ambient Air Quality Standards. 40 CFR Part 51 is not applicable because the proposed project is located in an attainment area.

Noise levels could increase during construction but will be temporary. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality in compliance with 15 NCAC2D.0520. This evaluation completes the assessment requirements for highway traffic noise of Title 23, Code of Federal Regulations (CFR), Part 772 and for air quality (1190 Clean Air Act Amendments and the National Environmental Policy Act) and no additional reports are required.

A search was performed of the project study area utilizing the ASTM Standard Practice for Environmental Site Assessments (E 1527-97). This search included the NPL (National Priority List), CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System), RCRIS (Resource Conservation and Recovery Information), and UST (Petroleum Underground Storage Tank Database) as well as other applicable databases. The results of this search documented one UST site located within 0.5-mile (0.8-km) of the project study area. Cove Creek Amoco Station is located at 1182 HWY 321 North in Sugar Grove, NC, approximately 1000 feet from Bridge No. 316. It does not lie within the project study area and is not expected to be impacted by the proposed alternatives. No other mapped sites were found within the 0.5-mile (0.8-km) ASTM search radius.

Field surveys were performed and a Hydraulic Technical Memorandum was produced for this project in February 2001. Bridge No. 316 is located in a 100-year Federal Emergency Management Agency (FEMA) floodplain, Zone AE (See Figure 5). A detailed study was prepared and established a 100-year flood elevation of 2,642.5 feet (805.4 m) for Bridge No. 316. There is a USGS gage located approximately 2.9 miles (4.7 km) upstream at site 03478910 on Cove Creek near Sherwood, North Carolina. Watauga County is a participant in the National Flood Insurance Regulatory Program (FIRM). The approximate 100-year floodplain in the project area is shown on Figure 5. There are no other practical alternatives to crossing the floodplain area.

On the basis of the above discussion, it is concluded that no significant adverse environmental effects will result from implementation of the proposed project.

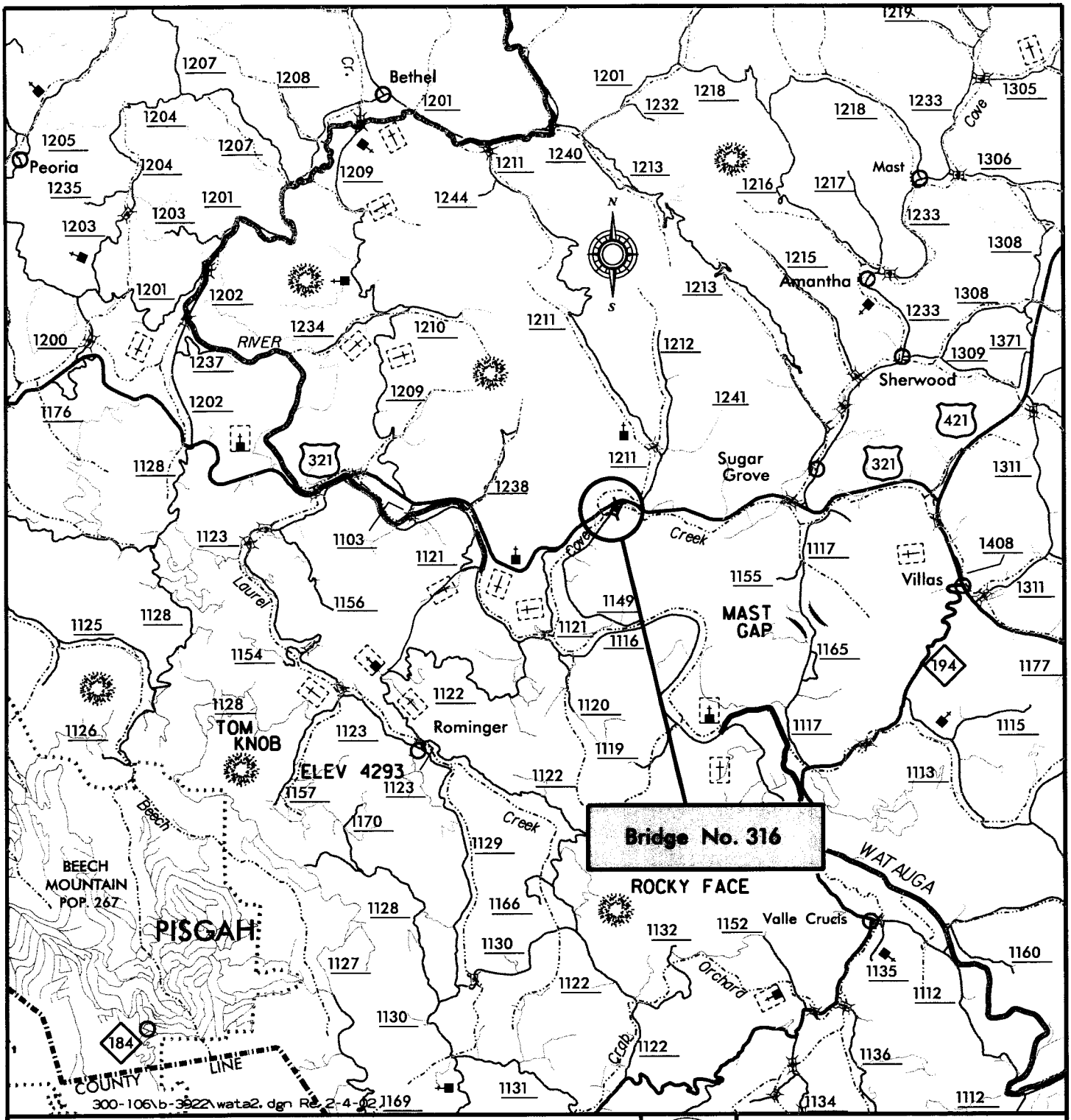
IX. PUBLIC INVOLVEMENT

Public involvement for this project initially involved compiling a database of property owners, area business persons and local public officials. This database was used to send out Newsletter No. 1 in October 2001 announcing the project and detailing the alternatives being considered. Alternative 4 was added after the mailing of Newsletter No. 1. No comments or questions were received from local public officials or citizens. A copy of the newsletter is included in the Appendix.

X. AGENCY COMMENTS

Agencies have commented upon the proposed bridge replacement. These comments were noted, considered in the planning, environmental and design processes, and included in the Appendix.

EXHIBITS



North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

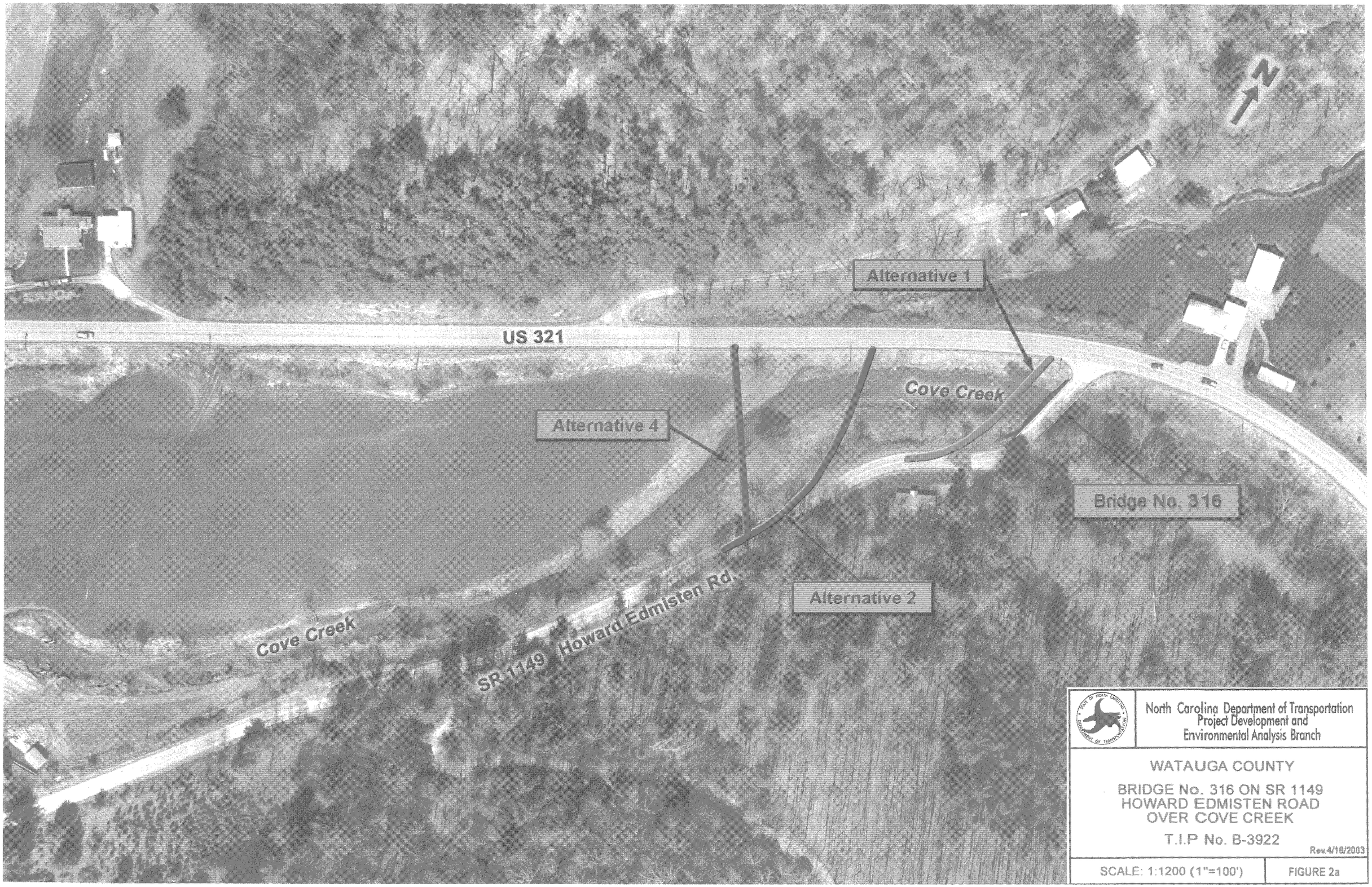
WATAUGA COUNTY

BRIDGE No. 316 ON SR 1149
HOWARD EDMINSTEN ROAD
OVER COVE CREEK

T.I.P. No. B-3922

FIGURE 1

36° 14.59', 81° 49.35' W



North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

WATAUGA COUNTY

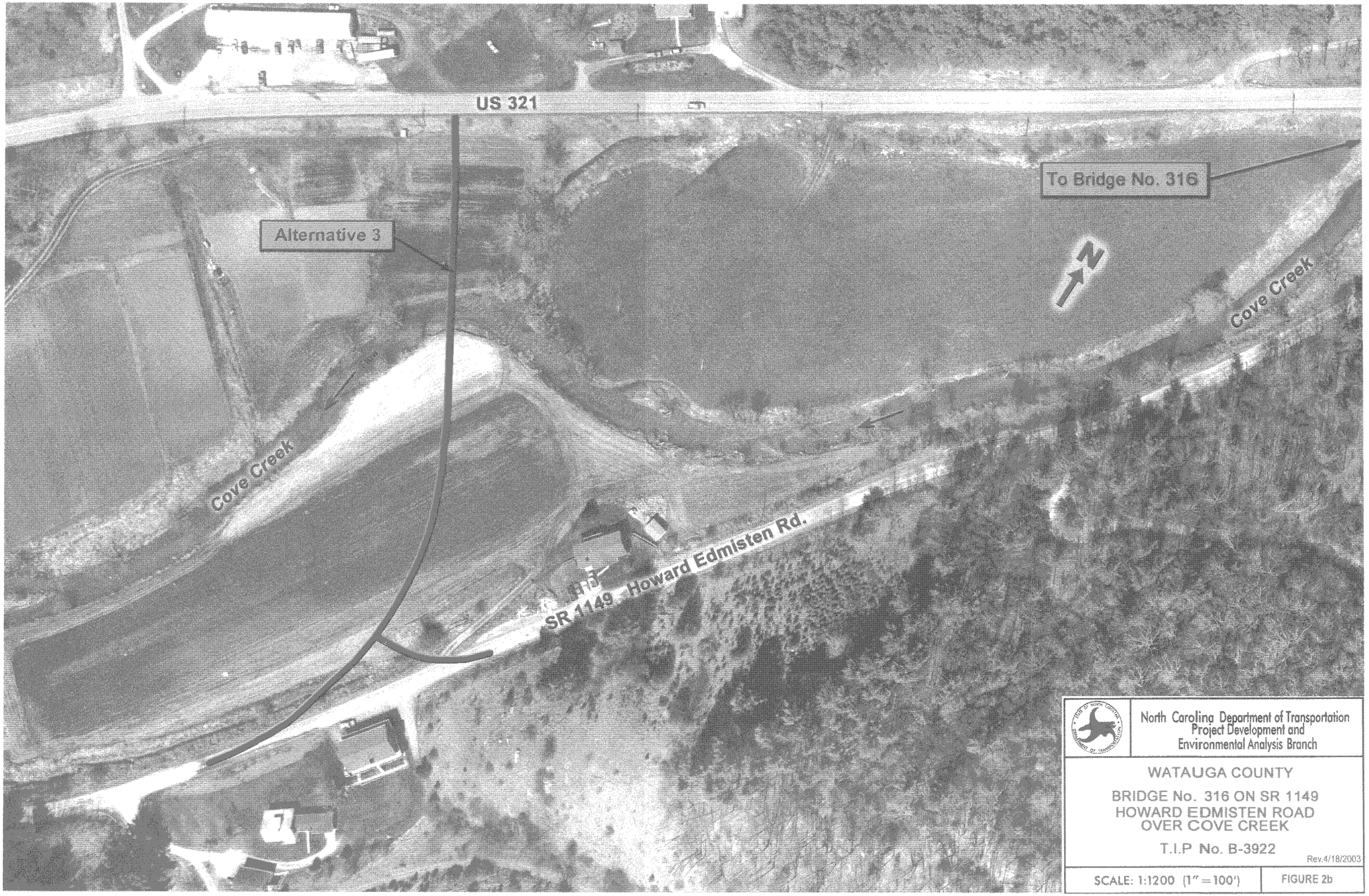
BRIDGE No. 316 ON SR 1149
HOWARD EDMISTEN ROAD
OVER COVE CREEK

T.I.P No. B-3922

Rev.4/18/2003

SCALE: 1:1200 (1"=100')

FIGURE 2a



North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

WATAUGA COUNTY

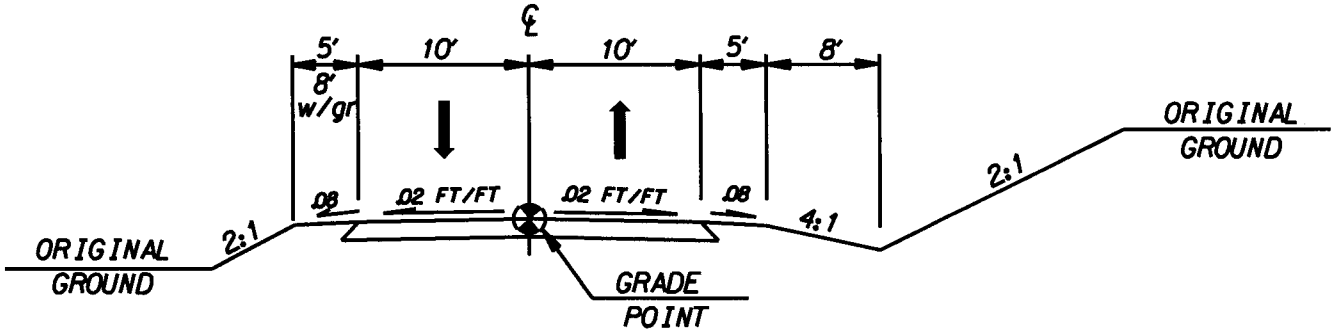
BRIDGE No. 316 ON SR 1149
HOWARD EDMISTEN ROAD
OVER COVE CREEK

T.I.P No. B-3922

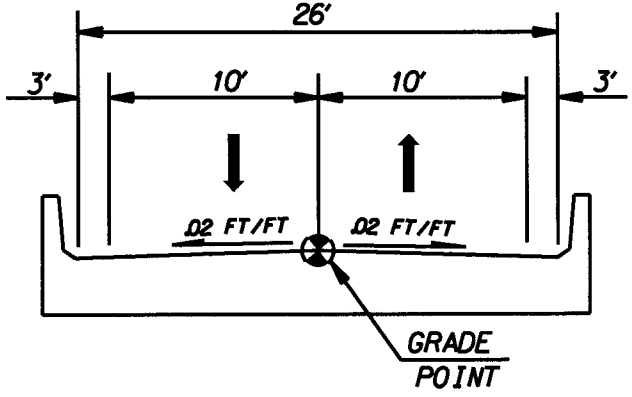
Rev.4/18/2003

SCALE: 1:1200 (1" = 100')

FIGURE 2b



ROADWAY TYPICAL SECTION



TYPICAL BRIDGE SECTION

EXISTING BRIDGE LENGTH IS 96 FT.

North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

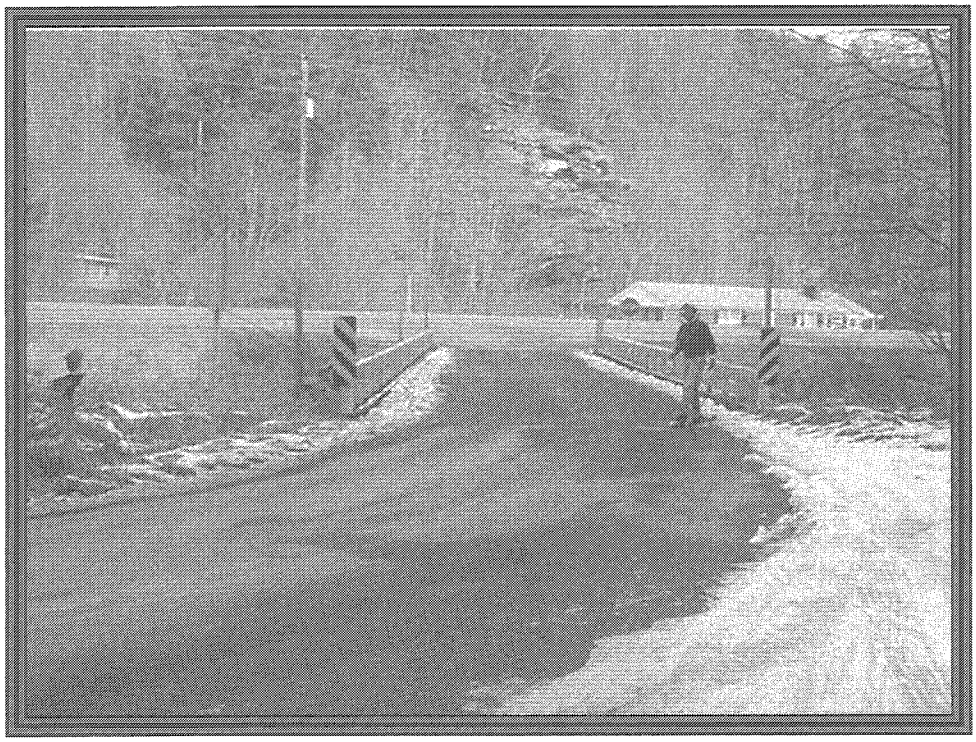
WATAUGA COUNTY

BRIDGE No. 316 ON SR 1149
HOWARD EDMISTEN ROAD
OVER COVE CREEK

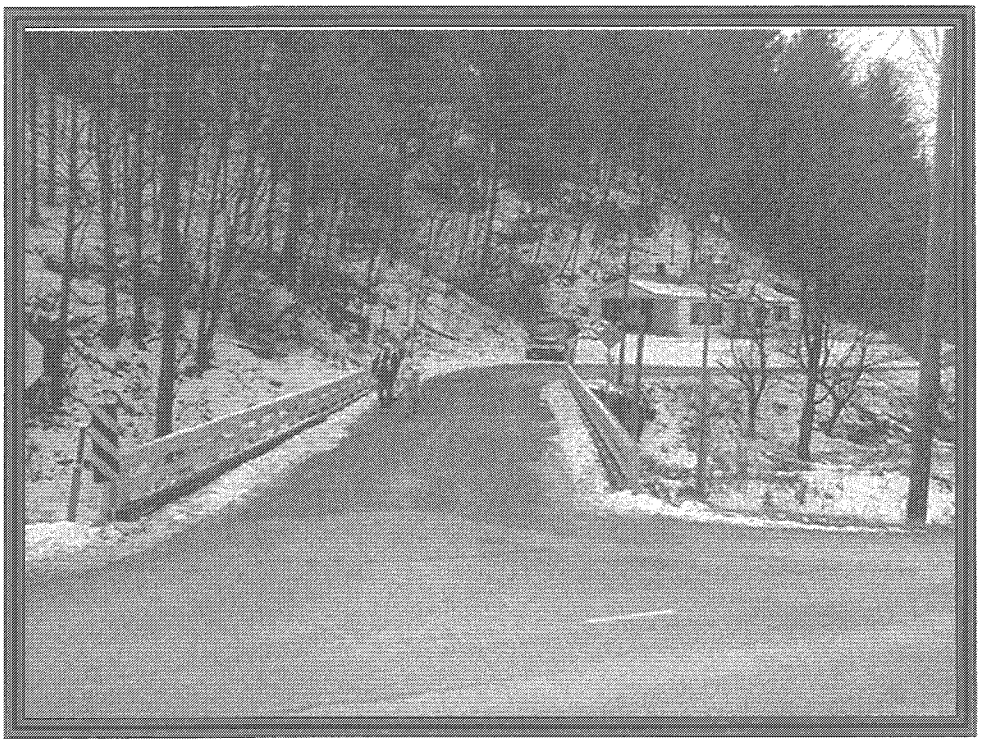
T.I.P. No. B-3922

FIGURE 3

WATAUGA COUNTY
BRIDGE No. 316
B-3922



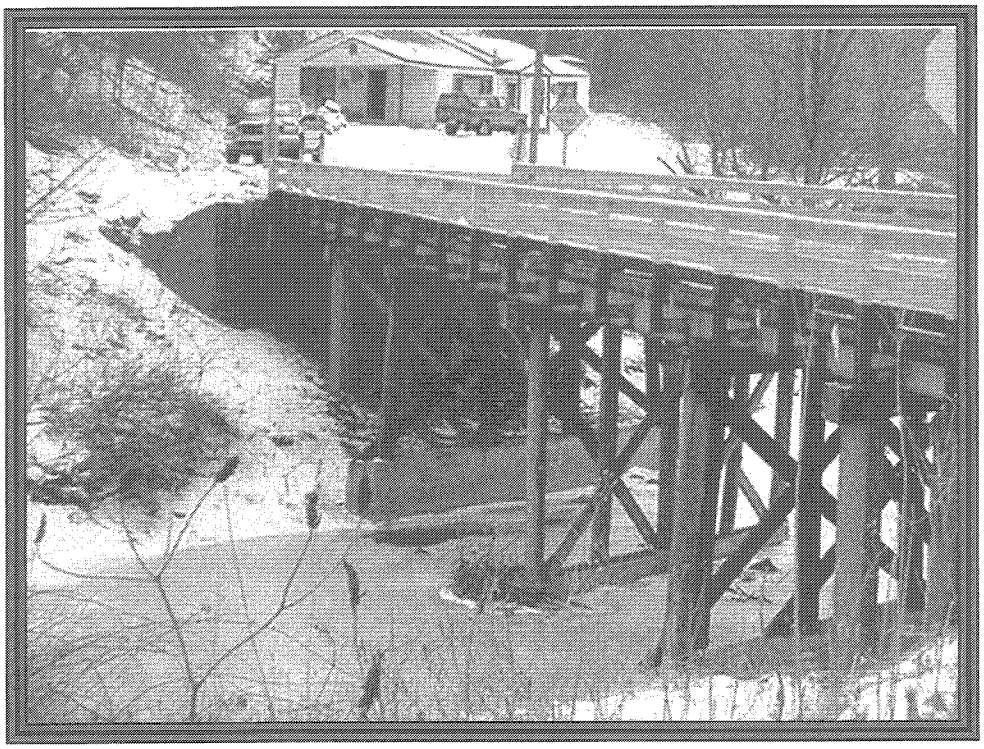
Looking Northeast



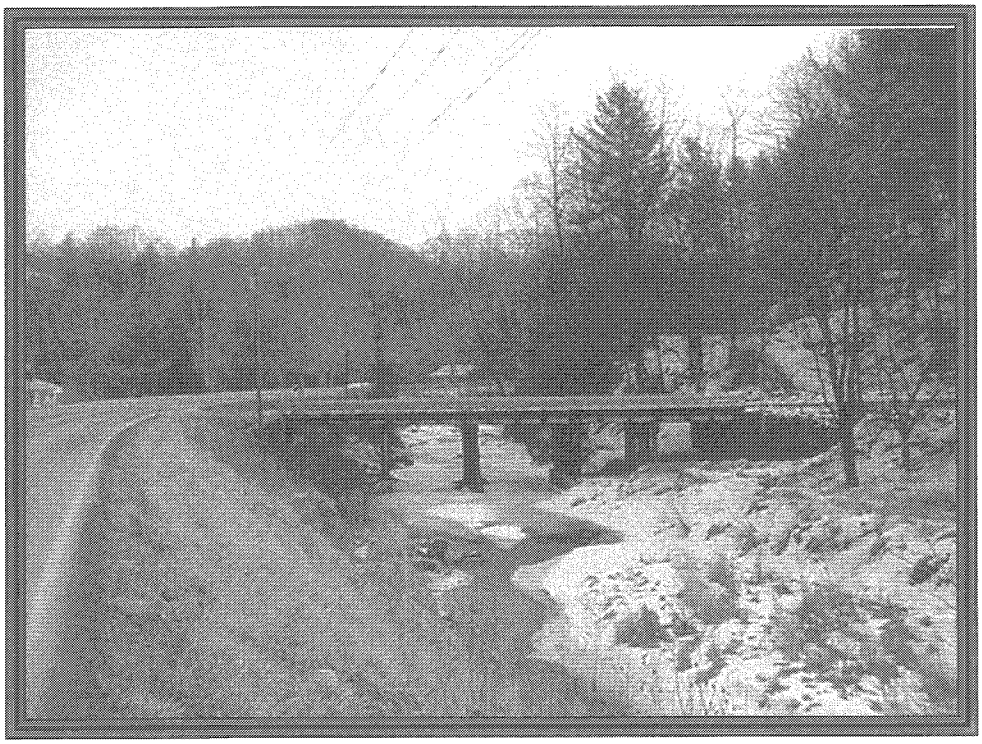
Looking Southwest

Figure 4a

WATAUGA COUNTY
BRIDGE No. 316
B-3922

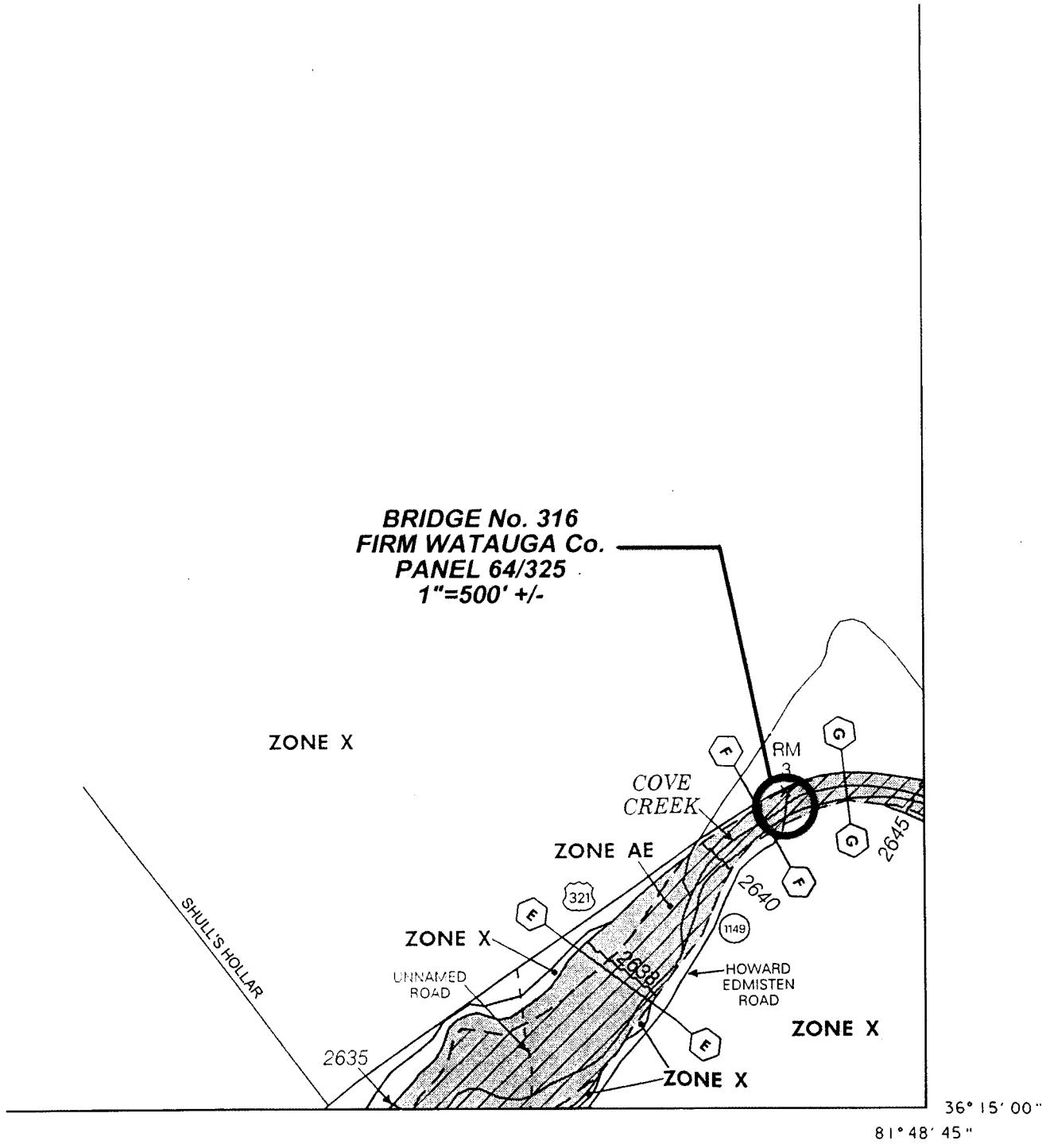


Looking East side



Looking at west side

Figure 4b



LEGEND

Zone AE:
In 100 Year Floodplain

Zone X:
Not in 100 Year Floodplain

North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

WATAUGA COUNTY

**BRIDGE No. 316 ON SR 1149
OVER COVE CREEK**

T.I.P. No. B-3922

**FEMA - FLOODPLAIN MAP
OF PROJECT AREA**

FIGURE 5

Jurisdictional Streams and Wetlands

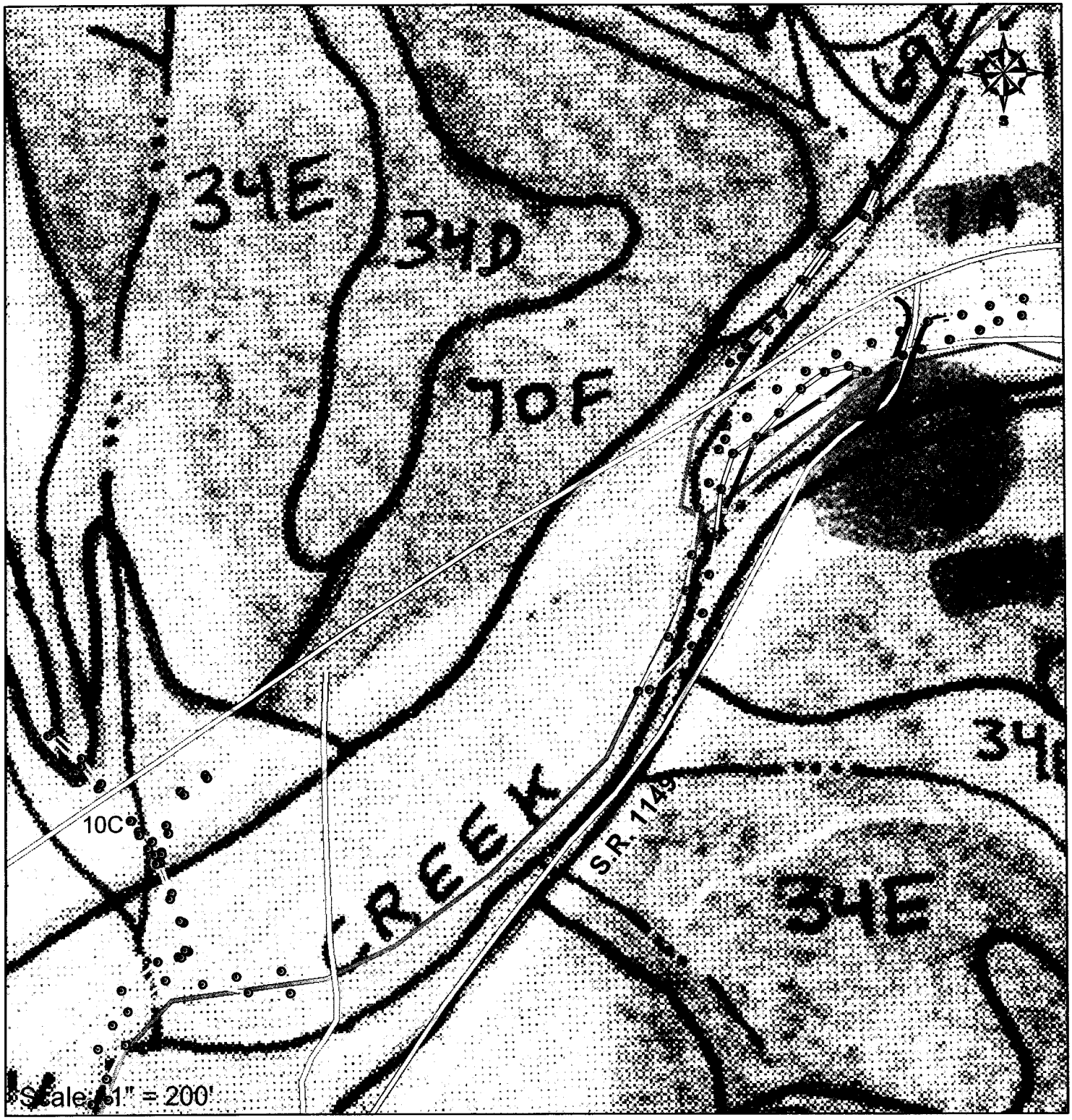
Figure 6

B-3922
Bridge No. 316
Watauga County
S.R. 1149 over Cove Creek

GPS Data

Stream Banks
Wetlands Boundaries
Stream GPS points
Wetland GPS points

Roads
Streams
Prime Farmland
State and Local Importance
1/2 Mile Bridge Buffer



APPENDIX

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

TO: Ms. Kim Leight
Rummel, Klepper & Kahl

FROM: Maryellen Haggard, Highway Project Coordinator
Habitat Conservation Program

DATE: August 6, 2001

SUBJECT: NCDOT Bridge Replacements in Ashe, Wilkes, Watauga, and Alleghany counties of North Carolina. TIP Nos. B-3300, B-3607, B-3714, B-3922, B-3925, B-3926, B-3928, B-4007, and B-4010

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).

On bridge replacement projects of this scope our standard recommendations 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. Wet concrete should not be allowed to contact stream water. This will lessen the chance of altering the stream's water chemistry and causing a fish kill.

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 Mr. Tim Savidge 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. In areas with significant fisheries for sunfish, seasonal exclusions may also be recommended.

11. 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.

12. 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.

13. 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.

14. 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.

15. 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.

16. All mechanized equipment operated near surface waters should be regularly inspected and maintained to prevent contamination of stream waters from 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 fish passage. The culvert or pipe invert should be buried at least 1 foot below the natural streambed. The installation of the culvert or pipe should insure that all waters flow without freefalling or damming on either end during low flow conditions. If culverts are long, notched baffles should be placed in reinforced concrete box culverts at 15 foot intervals to allow for the collection of sediments in the culvert, to reduce flow velocities, and to provide resting places for fish and other aquatic organisms moving through the structure.

2. When two pipes are installed, only the lower pipe should be buried 12" into the substrate so that all base flows continue uninterrupted in the lower pipe during normal and low flow conditions to maintain aquatic life passage. The bottom of the second pipe should be placed at grade or at bankfull elevation. The second pipe should remain dry during normal flows to allow for wildlife passage. Where disrupted, natural floodplain benching should be restored upstream and downstream of the second, "dry", pipe.

3. Culverts or pipes should be situated so that no channel realignment or widening is required. Widening of the stream channel at the inlet or outlet of structures usually causes a decrease in water velocity causing sediment deposition that will require future maintenance.

4. Riprap should not be placed on the streambed.

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 that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. B-3300 – Ashe County – Bridge No. 57 over Buffalo Creek. Buffalo Creek at this location in all likelihood contains wild trout. The bridge is located at a major intersection. A culvert would be a hindrance to fish as well as wildlife passage. We will require a trout moratorium from Oct. 15th - April 15th.

2. B-3607 – Ashe County – Bridge No. 503 over Buffalo Creek. Buffalo Creek at the bridge replacement in all likelihood contains wild trout. We will require a trout moratorium from Oct. 15th - April 15th.

3. B-3714 – Wilkes County – Bridge No. 83 over Mulberry Creek. Mulberry Creek supports small mouth bass and redbreast sunfish at this location. We will require a moratorium from May 1st - June 30th.

4. B-3922 – Watauga County – Bridge No. 316 over Cove Creek. Cove Creek is designated Public Mountain Trout Water. In addition to stocked fish, it contains some wild brown trout. We will require a trout moratorium from Oct. 15th - April 15th. The bridge should be replaced with another bridge. We are concerned that a box culvert will impede fish passage.

5. B-3925 – Watauga County – Bridge No. 35 over Meat Camp Creek. Meat Camp Creek is designated Public Mountain Trout Water. In addition to stocked fish, it contains some wild brown trout. We will require a trout moratorium from Oct. 15th - April 15th. The bridge should be replaced with another bridge. We are concerned that a box culvert will impede fish passage.

6. B-3926 – Watauga County – Bridge No. 36 over Meat Camp Creek. Same comments as B-3925.

7. B-3928 – Watauga-Ashe County – Bridge No. 334 over South Fork New River. We will require a small mouth bass/ rock bass moratorium from May 1st - June 30th. The South Fork New River is high quality water and designated "scenic" by the National Wild and Scenic Rivers System. The bridge should be replaced with another bridge. This is a popular canoe section; the new bridge should be at the appropriate height so boaters do not have to portage.

8. B-4007 – Alleghany County – Bridge No. 38 over Crab Creek. Crab Creek is in a High Quality Water Zone and is designated Hatchery Supported Water. We will require a trout moratorium from Oct. 15th - April 15th.

9. B-4010 – Ashe County – Bridge No. 7 over South Fork New River. We will require a small mouth bass/ rock bass moratorium from May 1st - June 30th. The South Fork New River is high quality water and designated "scenic" by the National Wild and Scenic Rivers System. The bridge should be replaced with another bridge.

We request that NCDOT routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. The NCDOT should install and maintain sedimentation control measures throughout the life of the project and prevent wet concrete from contacting water in or entering into these streams. We are comfortable with the bridge demolition proposed, but are concerned about aquatic life passage with the new structure. Replacement of bridges with spanning structures of some type, as opposed to pipe or box culverts, is recommended in most cases. Spanning structures allow wildlife passage along streambanks; reducing habitat fragmentation and vehicle related mortality at highway crossings.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (336) 527-1549. Thank you for the opportunity to review and comment on these projects.

300-104
ESM
KSL

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Gregory J. Thorpe, Ph.D.
Acting Director
Division of Water Quality

August 15, 2001

MEMORANDUM

To: Elmo Vance, NCDOT Project Development & Environmental Analysis Branch
Through: John Dorney, NC Division of Water Quality
From: Cynthia F. Van Der Wiele, NCDOT Coordinator

Subject: Scoping Comments for Eleven Bridge Replacement Projects

This memo is in reference to your correspondence dated July 23, 2001, in which you requested scoping comments for the above projects. The Division of Water Quality (DWQ) requests that the following topics be addressed:

1. Bridge projects shall comply with the requirements for Water Supply Watershed, High Quality Waters and Outstanding Resource Waters with regards to stormwater management, sedimentation and erosion control and buffer requirements.
2. Ensure that sediment & erosion control measures are not placed in wetlands.
3. Borrow/waste areas should avoid wetlands to the maximum extent practicable. Prior to the approval of any borrow/waste site in a wetland, the contractor must obtain a 401 certification from DWQ.
4. The DWQ prefers that the structures that will be replacing the eleven deficient bridges will be bridges. All structures shall be installed in such a manner that the original stream profiles are not altered (i.e. the depth of the channel must not be reduced by a widening of the streambed). Existing stream dimensions are to be maintained above and below locations of culvert extensions.
5. All work shall be performed during low flow conditions.
6. Disturbance of the stream channels must be limited to only what is necessary to perform the bridge demolition and removal. Heavy equipment must be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into the stream.
7. All mechanized equipment operated near surface waters should be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
8. Written concurrence of 401 Water Quality Certification may be required for these projects (e.g., applications requesting coverage under NW 14 or Regional General Permit 198200031). Please be aware that 401 certification may be denied if wetland or water impacts have not been avoided and minimized to the maximum extent practicable.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Cynthia Van Der Wiele at (919) 733.5715.

Pc: Eric Alsmeyer, USACE Raleigh Field Office
Steve Lund, USACE Asheville Field Office
Tom McCartney, USFWS Raleigh Field Office
Marella Buncick, USFWS Asheville Field Office
MaryEllen Haggard, NCWRC
File Copy

Vance

North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

August 27, 2001

MEMORANDUM

To: William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch

AUG 29 2001

From: David Brook
Deputy State Historic Preservation Officer

Re: Replace Bridge No. 316 on SR 1149 over Cove Creek, B-3922, Watauga County, ER 02-7215

Thank you for your letter of July 23, 2001, concerning the above project. Since there is no current architectural survey for the project area, we recommend that an architectural historian with NCDOT identify and evaluate all properties over fifty years of age within the project area and report the findings to us. The project area is at the location of a previously recorded archeological site.

We recommend that a comprehensive survey be conducted by an archaeologist to identify the presence and significance of archaeological remains that may be damaged or destroyed by the proposed project. Potential effects on unknown resources should be assessed prior to the initiation of construction activities.

A list of archaeological consultants who have conducted or expressed an interest in conducting contract work in North Carolina is available on our website, http://www.arch.dcr.state.nc.us/consults.htm. The archaeologists listed, or any other archaeologist, may be contacted to conduct the investigation.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

DB:kgc

cc: T. Padgett, NCDOT

RECEIVED
AUG 31 2001
RUMMEL, KLEPPER & KAHL
RALEIGH, NC

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 •733-8653
Restoration	515 N. Blount St, Raleigh , NC	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 •715-4801
Survey & Planning	515 N. Blount St, Raleigh, NC	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 •715-4801

E Vance
34

Federal Aid # BRZ-1149(3) *TIP* # B-3922 *County*: Watauga

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: Replace Bridge No. 316 on SR 1149 over Cove Creek

On 11/1/2001, representatives of the

- [x] North Carolina Department of Transportation (NCDOT)
- [x] Federal Highway Administration (FHWA)
- [x] North Carolina State Historic Preservation Office (HPO)
- [ ] Other

Reviewed the subject project at

- [ ] Scoping meeting
- [x] Historic architectural resources photograph review session/consultation
- [ ] Other

All parties present agreed

- [ ] There are no properties over fifty years old within the project's area of potential effects.
- [x] 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.
- [x] There are properties over fifty years old within the project's Area of Potential Effects (APE), but based on the historical information available and the photographs of each property, the property identified as #1-7 is considered not eligible for the National Register and no further evaluation of it is necessary.
- [x] There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- [x] All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- [x] There are no historic properties affected by this project. (*Attach any notes or documents as needed*)

Signed:

Mary Pope Furr — 11/1/2001
Representative, NCDOT — Date

Mickey C Denson — 11/1/01
FHWA, for the Division Administrator, or other Federal Agency — Date

Claudia R Brown — 11-1-01
Representative, HPO — Date

David Brook — 11-1-01
State Historic Preservation Officer — Date

If a survey report is prepared, a final copy of this form and the attached list will be included.

North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Division of Historical Resources
David J. Olson, Director

April 24, 2003

MEMORANDUM

TO: Matt Wilkerson, Archaeology Supervisor
Office of Human Environment
Department of Transportation

FROM: David Brook RJE for David Brook

SUBJECT: Archaeological Survey, Replacement of Bridge No. 316 on SR 1149 over Cove Creek B-3922, Watauga County, ER 02-7215

Thank you for your letter of March 21, 2003, transmitting the archaeological survey report by Caleb Smith for the above project.

During the course of the survey, no sites were located within the project area. Mr. Smith has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since the project will not involve significant archaeological resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

cc: ✓ Caleb Smith, NCDOT

Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

March 26, 2002

Ms. Elizabeth Workman
Environmental Specialist
Rummel, Klepper & Kahl LLP
5800 Faringdon Place, Suite 105
Raleigh, North Carolina 27609-3960

Dear Ms. Workman:

BRIDGE REPLACEMENT, SR 1149 (HOWARD EDMINSTEN ROAD) OVER COVE CREEK, TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROJECT B-3922, BRIDGE NO. 316, WATAUGA COUNTY, NORTH CAROLINA

Thank you for your letter of January 15, 2002, which transmitted the newsletter on the Replacement of Bridge No. 316 Over Cove Creek. The federal categorical exclusion document or other environmental document prepared for this project should note that implementation of any of the three alternatives would require an approval under Section 26a of the TVA Act. At this time, we are not aware of any unusual environmental concerns present at the bridge replacement site.

When completed, TVA wishes to receive a copy of the federal categorical exclusion documents to assist in its environmental review of the same actions. Inclusion of information related to wetlands and potential mitigation, Floodplain Management Executive Order, National Historic Preservation Act compliance, and Endangered Species Act compliance would lower TVA's review costs and greatly facilitate TVA's eventual approval of the projects. Other issues to be discussed would vary according to project location and impacts but may include, as appropriate, state-listed species (biodiversity impacts) and visual impacts.

Should you have any questions, please contact Harold M. Draper at (865) 632-6889 or hmdraper@tva.gov.

Sincerely,

Jon M. Loney, Manager
NEPA Administration
Environmental Policy and Planning

cc: Mr. William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Watauga County Board of Education

OFFICE OF THE SUPERINTENDENT
MARGARET E. GRAGG EDUCATION CENTER
P.O. BOX 1790 BOONE N.C. 28607

TEL: (828) 264-7190
FAX: (828) 264-7196

February 13, 2001

Elizabeth Mack
Rummel, Klepper & Kahl
5800 Faringdon Place
Suite 105
Raleigh, NC 27609-3960

Dear Ms. Mack:

In response to your correspondence concerning bridge replacement projects, I would like to provide the following information for your company.

Bridge 316 on SR 1149 is crossed three times per day by two buses. Closing this bridge during school operating hours would dictate that parents would have to bring their children to the bridge, and that a walkway would have to be provided. The stop would have to be located on US Hwy 321, and we would need "School Bus Stop Ahead" signs erected to warn traffic. However, with enough advance warning, we could work around this closure.

Bridge 36 on SR1340 is crossed four times per day by two buses. Closing this bridge during school operating months would mean that approximately 38 students would not have bus service because there is no practical way to route around this closure.

Bridge 334 on SR 1351 is crossed one time per day by one bus. I can route buses around this closure if necessary.

If I can provide any further information, please call.

Sincerely,

Toni Parlier
Transportation Director

WATAUGA COUNTY

Department of Planning & Inspections

842 W. King St. # 7 • Boone, North Carolina 28607 • Phone (828) 265-8043
TDD 1-800-735-2962
Voice 1-800-735-8262
Fax (828) 265-8080

March 12, 2001

RE: Bridge projects B-3922, B-3926, B-3928

Ms. Elizabeth Mack
Rummel, Klepper & Kahl, LLP
5800 Faringdon Place
Suite 105
Raleigh, NC 27609-3960

Dear Ms. Mack,

I am not aware of any utility impacts from the subject projects. Currently, no water, sewer, or natural gas lines exist in those areas. I believe that electric, cable television, and telephone lines would be overhead in those areas. However, individual property owners affected by the projects could have buried lines, and should be contacted. We have no records in that regard. You may wish to contact the utility companies – Blue Ridge Electric Membership Corporation, Charter Communications, Bell South, and Skyline Telephone. Frontier Energy is in the process of bringing natural gas into the area, but it is very doubtful any of the subject projects would be affected. If you need further information, please let me know.

Sincerely,

Joseph A. Furman, AICP
Director

REPLACEMENT OF BRIDGE NO. 316 OVER COVE CREEK

Watauga County, North Carolina

October 2001 | *T.I.P. No. B-3922* | *Newsletter No. 1*

NCDOT to Replace Bridge No. 316

This newsletter is published by the North Carolina Department of Transportation (NCDOT) to inform citizens about the proposed replacement of Bridge No. 316 on SR 1149 (Howard Edminsten Road) over Cove Creek (tributary to the Watauga River) in Watauga County. Right-of-way acquisition and construction are scheduled to begin in 2003 and 2004, respectively.

Planning Studies Initiated

During **Step 1** of the planning process, information was collected on the existing human and natural environments. This information was used to identify preliminary alternatives for replacing Bridge No. 316. In **Step 2**, the preliminary alternatives were evaluated and, based on their potential impacts, three "reasonable and feasible" alternatives were selected for detailed environmental studies. **Step 3** will involve conducting detailed environmental studies for the "reasonable and feasible" alternatives. Following completion of the detailed studies, **Step 4** will consist of selecting the preferred alternative. **Step 5** will be the completion of the environmental document.

PROJECT SCHEDULE

The schedule for the project is shown below:

Fall 2002	Complete Environmental Document
Fall 2002	Select Preferred Alternative
2003	Begin Right-of-Way Acquisition
2004	Begin Construction

HOTLINE

A project HOTLINE has been established to provide a toll free telephone number for information requests. Please call **(888) 521-4455** for information regarding the replacement of Bridge No. 316 over Cove Creek (T.I.P. No. B-3922).

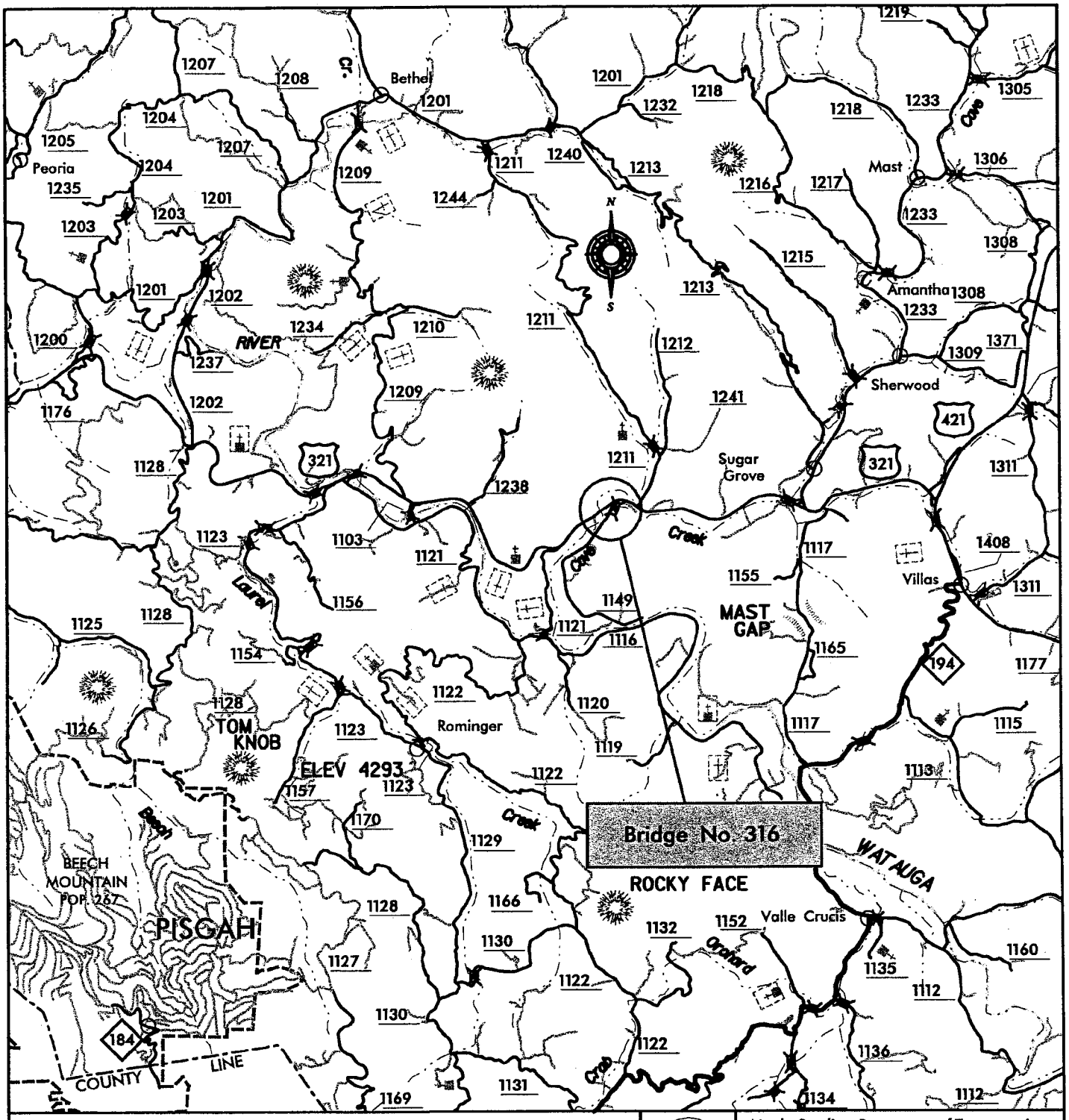
Description of Alternatives

During Step 3 of the planning and environmental process, three "reasonable and feasible" alternatives will be evaluated. These alternatives are briefly described below:

Alternative 1 – replaces bridge on a new alignment approximately 40 feet west of existing location. Traffic will be maintained on the existing bridge during construction.

Alternative 2 - replaces bridge on a new alignment approximately 250 feet west of existing location (approximately 40 feet east of existing 3-barrel RCBC under US 321). Traffic will be maintained on the existing bridge during construction.

Alternative 3 - replaces bridge on new alignment approximately 1,500 feet west of existing location. Traffic will be maintained on the existing bridge during construction.

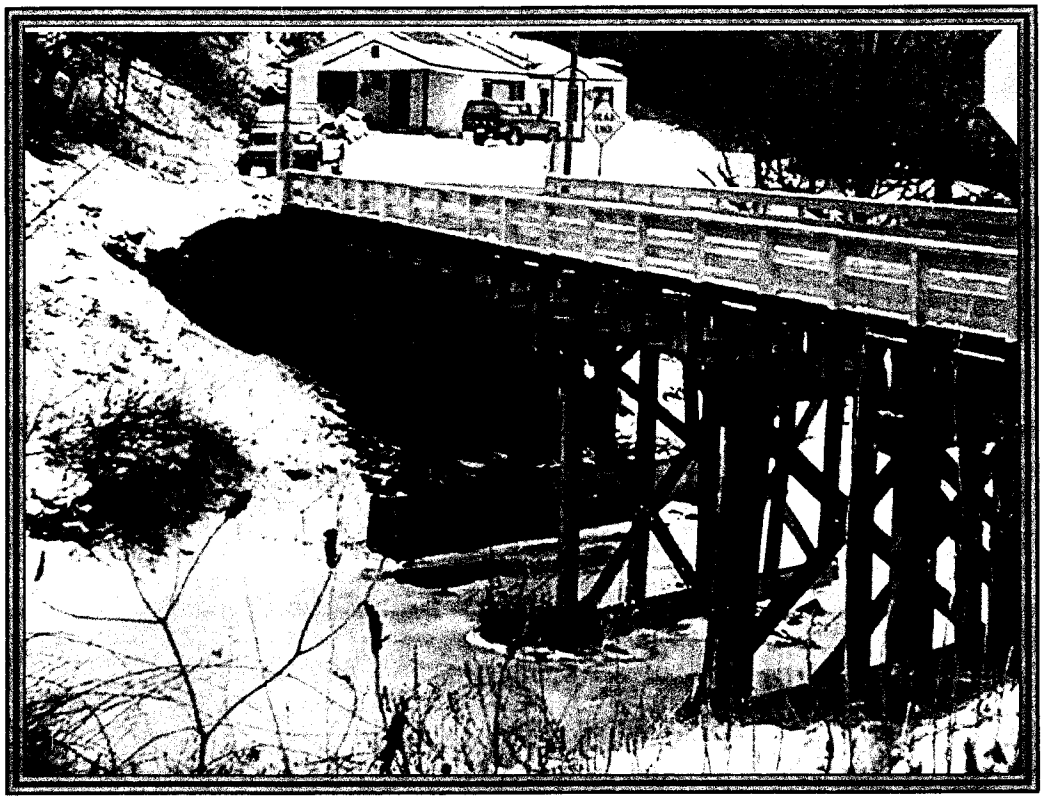


North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

WATAUGA COUNTY

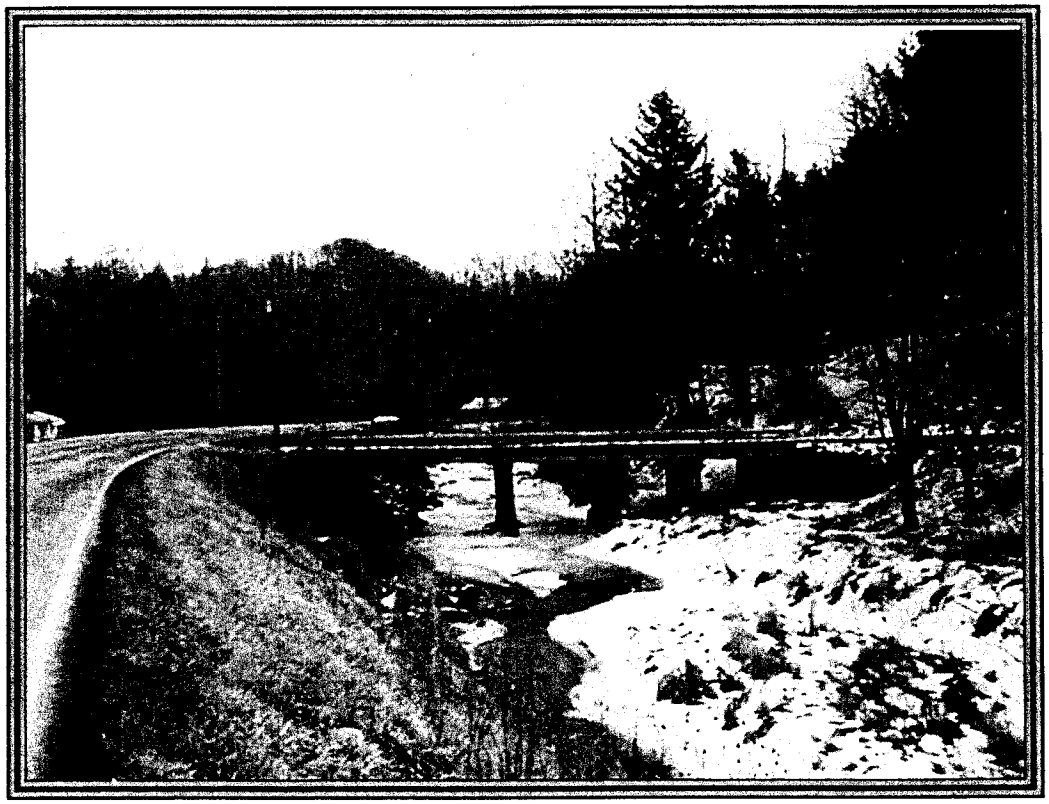
BRIDGE No. 316 ON SR 1149
Howard Edmisten Road
Cove Creek

T.I.P. No. B-3922



WATAUGA COUNTY
Bridge No. 316
B-3922

Looking West



Looking East

NCDOT Welcomes Citizen Input

Public Involvement is an important part of the planning process. The North Carolina Department of Transportation is committed to ensuring all issues of concern to the public are addressed and considered before any recommendations or decisions are made. Your opinions are important to us! Please send your comments to the addresses listed below:

Mr. Elmo Vance
Project Development & Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548
(919) 733-3141 Ext. 262
eevance@dot.state.nc.us

or

Mr. J. T. Peacock, Jr., P.E.
or **Ms. Kimberly S. Leight**
Rummel, Klepper & Kahl, LLP
5800 Faringdon Place, Suite 105
Raleigh, NC 27609-3960
(888) 521-4455
kleight@rkkengineers.com

If you have questions on other transportation projects, please call our Customer Service Office toll free at 1-877-DOT-4YOU or check our website at www.dot.state.nc.us.

Mr. Elmo Vance
North Carolina Department of Transportation
Project Development & Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

ADDRESS CORRECTION REQUESTED