STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 20, 2004

US Army Corps of Engineers
Regulatory Field Office
151 Patton Ave.
Room 208
Asheville, NC 28801-5006

ATTENTION: Mr. Steve Lund
NCDOT Coordinator

Dear Sir:

Subject: **Nationwide 23 Permit Application** for the Replacement of Bridge No. 300 over Hominy Creek on SR 1141, Buncombe County, Federal Aid Project No. BRZ-1141(9), State Project No. 8.2843901, TIP B-3614, Division 13.

Please find enclosed three copies of the project planning report for the above referenced project. NCDOT is proposing the replacement of Bridge No. 300 with a single span (completely spanning Hominy Creek) 55-foot pre-stressed cored slab bridge on a new alignment to the east (downstream) of the existing structure. During construction, traffic will be maintained on the existing bridge. The roadway approach work will extend approximately 310 feet south and 250 feet north of the existing bridge.

There will be no permanent impacts to jurisdictional wetlands or surface waters by the construction of the bridge, however, the removal of the substructure may create some disturbance in the streambed.

The bridge will be built using top-down construction and can therefore be built without the need of a causeway or work pad. This will result in no temporary impacts associated with this project.

Bridge Demolition

Bridge No. 300 in Buncombe County was built in 1933 and reconstructed in 1957. The structure is one 35' 6" span, completely spanning Hominy Creek. The height of the structure above the streambed is 11 feet. The structure of the existing bridge is composed of a timber deck on steel girders. The end bents are timber caps on timber piles and concrete sills. **This structure can be removed without dropping any of its components into Hominy Creek. However, the removal of the substructure may create some disturbance in the streambed.** All measures will be taken to avoid any

temporary fill from entering Waters of the U.S.. Best Management Practices for Bridge Demolition and Removal will be implemented

Water Resources

Hominy Creek is a tributary of the French Broad River. The North Carolina Department of Environment and Natural Resources classifies Hominy Creek as "C". Class "C" waters are suitable for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, and agriculture. The classification date and index number for this portion of the creek is 9/1/74, 6-76.

Hominy Creek is an impaired stream and on the state 303d list. Sedimentation is the cause of impairment for this system. According to the DWQ 303d list, the sediment increase in this section may be due to agriculture, specialty crop production, urban run-off/ storm sewers, or non- urban development.

There are no Outstanding Resource Waters (ORW), High Quality Waters (HQW), WS-I, or WS-II within 1 mile upstream or downstream of the project study area (DEM 1993, DWQ 2003b).

Hominy Creek is not designated as a public mountain trout water by the North Carolina Wildlife Resources Commission, however wild trout are known to occur in the project area, therefore in-stream construction is prohibited during the trout spawning period of November 1 through April 15 to avoid impacts on trout reproduction.

Hominy Creek is not designated as a National Wild and Scenic River or a state Natural and Scenic River.

Federally 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 29 January 2003, the U.S. Fish and Wildlife Service (FWS) lists twelve protected species for Buncombe County (Table 1). Descriptions of the protected species are provided in the referenced Categorical Exclusion. A biological conclusion of "No Effect" was given to all federally protected species due to lack of potential habitat. The project site was visited on September 30, 2003 by NCDOT biologists Chris Underwood and Michael Turchy to update an expired survey for Virginia spiraea (*Spirea virginiana*). The species was not found, but potential habitat existed, thus changing the biological conclusion in the CE from No Effect, to May Affect, Not Likely to Adversely Affect. Concurrence for this biological conclusion will be sought from the US FWS before project construction begins.

Table 1. Federally Protected Species for Buncombe County

Common Name	Scientific Name	Status	Biological conclusion
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]	N/A
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	E	No Effect
Eastern cougar	*Puma concolor couguar*	E	No Effect
Gray bat	*Myotis grisescens*	E**	No Effect
Spotfin chub	*Hybopsis monacha*	T*	No Effect
Appalachian elktoe	*Alasmidonta raveneliana*	E	No Effect
Oyster mussel	*Epioblasma capsaeformis*	E***	No Effect
Bunched arrowhead	*Sagittaria fasciculata*	E*	No Effect
Mountain sweet pitcher plant	*Sarracenia jonesii*	E*	No Effect
Spreading avens	*Geum radiatum*	E	No Effect
Virginia spiraea	*Spiraea virginiana*	T	May Effect, Not Likely to Adversely Affect
Rock Gnome Lichen	*Gymnoderma lineare*	E	No Effect

KEY:

Status	Definition
E -	A taxon "in danger of extinction throughout all or a significant portion of its range."
T -	A taxon "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.

*Historic record - the species was last observed in the county more than 50 years ago.
**Incidental/migrant record - the species was observed outside of its normal range or habitat.
***Historic record - obscure and incidental record.

Regulatory Approvals

Section 404 Permit: This project is being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). Therefore, we do not anticipate requesting an individual permit but propose to proceed under a Nationwide 23 as authorized by a Nationwide Permit 23 (67 FR 2020; January 15, 2002).

Section 401 Permit: We anticipate 401 General Certification number 3403 will apply to this project. In accordance with 15A NCAC 2H, Section .0500(a) we are providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their review.

We anticipate that comments from the North Carolina Wildlife Resources Commission (NCWRC) will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachment, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers.

A copy of this permit application will be posted on the DOT website at: http://www.ncdot.org/planning/pe/naturalunit/Permit.html.

If you have any questions or need additional information, please contact Mr. Michael Turchy at maturchy@dot.state.nc.us or (919) 715-1468.

Sincerely,

Gregory J. Thorpe, PhD, Environmental Management Director
Project Development and Environmental Analysis Branch

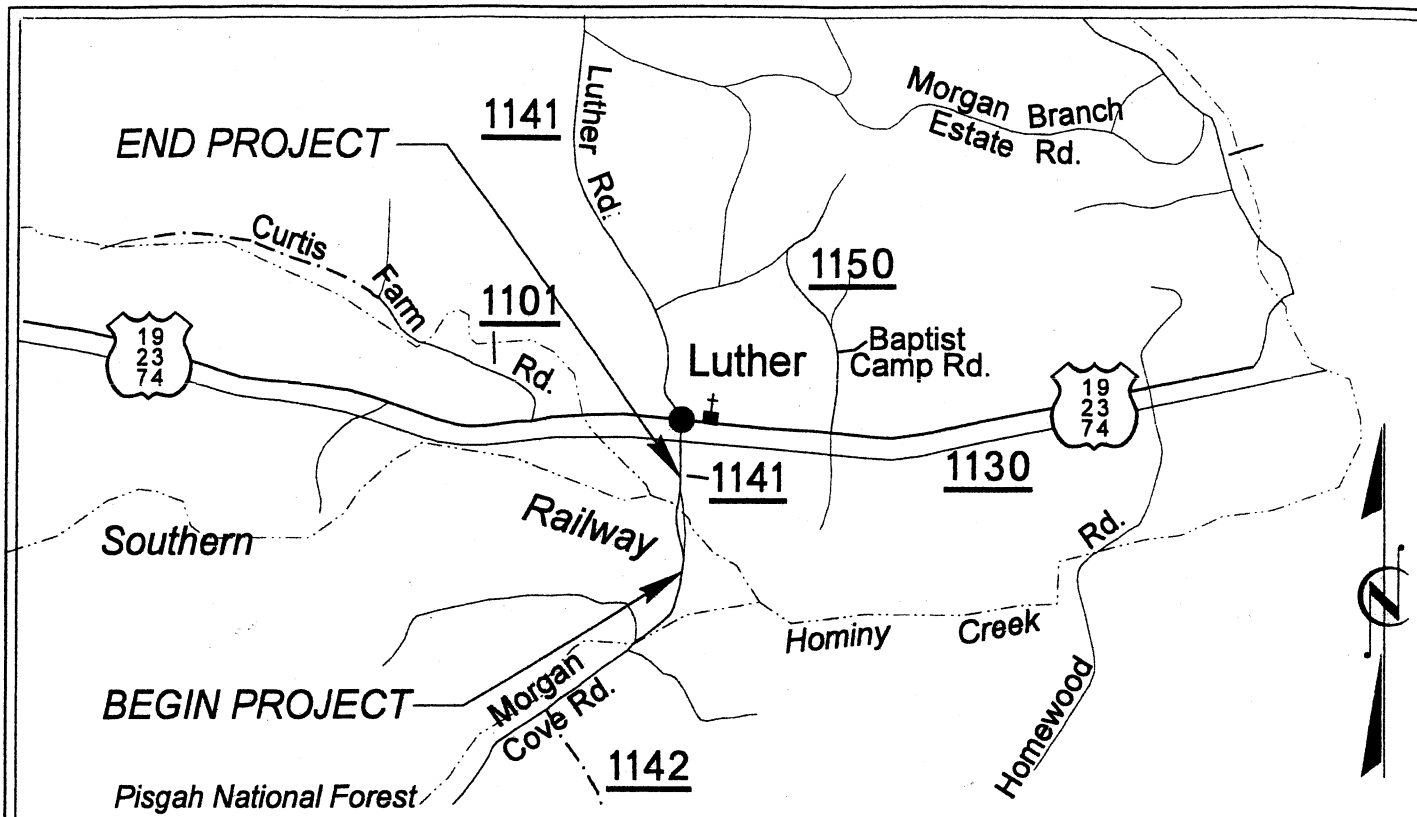
cc:

w/attachment

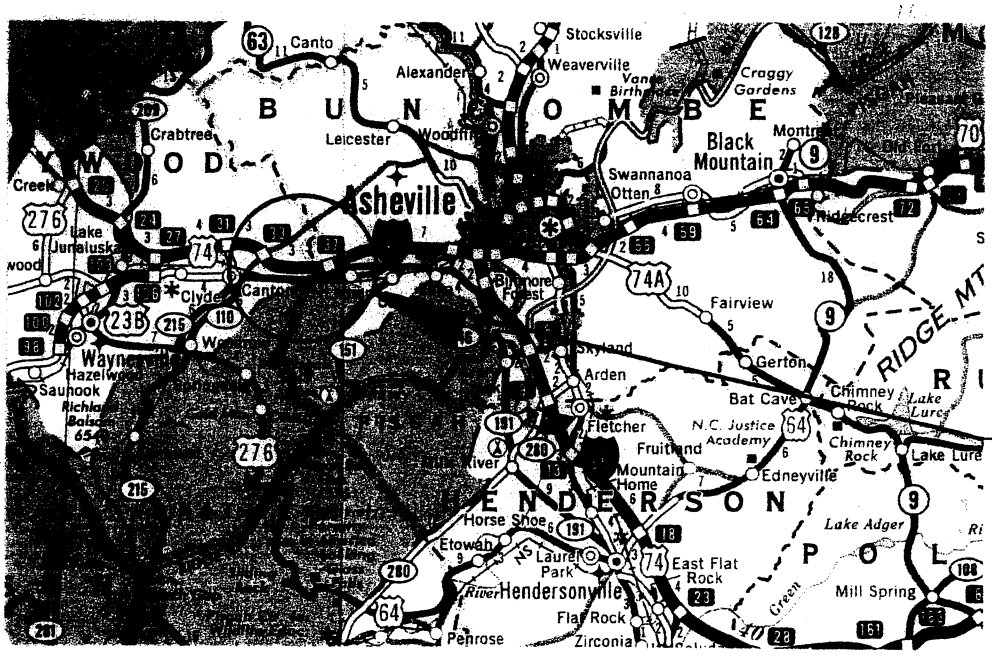
Mr. John Dorney, Division of Water Quality (2 copies)
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC
Mr. Greg Perfetti, P.E., Structure Design
Mr. Harold Draper, TVA

w/o attachment

Mr. David Franklin, USACE, Wilmington
Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art, McMillan, P.E., Highway Design
Mr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. John Sullivan, FHWA
Mr. F. D. Martin, Division Engineer
Mr. Roger Bryan, DEO
Mr. John Wadsworth, P.E., Project Development Consultant Engineer



PORTION OF BUNCOMBE COUNTY MAP



PORTION OF STATE MAP

WETLAND IMPACTS

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

BUNCOMBE COUNTY
8.2843901 (B-3614)
REPLACEMENT OF BRIDGE NO. 300
AND APPROACHES ON SR 1141 (MOGAN COLE ROAD)
OVER HOMINY CREEK

SCALE AS SHOWN

SHEET 1 OF 6

QUAD MAP OVERLAY
WETLAND SITE MAP

1000 0 2000

SCALE IN FEET

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

BUNCOMBE COUNTY
8.2843901 (B-3614)
REPLACEMENT OF BRIDGE NO. 300
AND APPROACHES ON SR 1141 (MOGAN COVE ROAD)
OVER HOMINY CREEK

SCALE AS SHOWN

SHEET 2 OF 6

WETLAND LEGEND

WLB WETLAND BOUNDARY

WETLAND

DENOTES FILL IN WETLAND

DENOTES FILL IN SURFACE WATER

DENOTES FILL IN SURFACE WATER (POND)

DENOTES TEMPORARY FILL IN WETLAND

DENOTES EXCAVATION IN WETLAND

DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES MECHANIZED CLEARING

FLOW DIRECTION

TB TOP OF BANK

WE EDGE OF WATER

C PROP. LIMIT OF CUT

F PROP. LIMIT OF FILL

PROP. RIGHT OF WAY

NG NATURAL GROUND

PL PROPERTY LINE

TDE TEMP. DRAINAGE EASEMENT

PDE PERMANENT DRAINAGE EASEMENT

EAB EXIST. ENDANGERED ANIMAL BOUNDARY

EPB EXIST. ENDANGERED PLANT BOUNDARY

WATER SURFACE

LIVE STAKES

BOULDER

CORE FIBER ROLLS

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT
12"-48" PIPES
54" PIPES & ABOVE

(DASHED LINES DENOTE EXISTNG STRUCTURES)

SINGLE TREE

WOODS LINE

DRAINAGE INLET

ROOTWAD

RIP RAP

5 ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE

PREFORMED SCOUR HOLE (PSH)

LEVEL SPREADER (LS)

GRASS SWALE

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

BUNCOMBE COUNTY
8.2843901 (B-3614)
REPLACEMENT OF BRIDGE NO. 300
AND APPROACHES ON SR 1141 (MOGAN COVE ROAD)
OVER HOMINY CREEK

SCALE AS SHOWN

SHEET 3 OF 6

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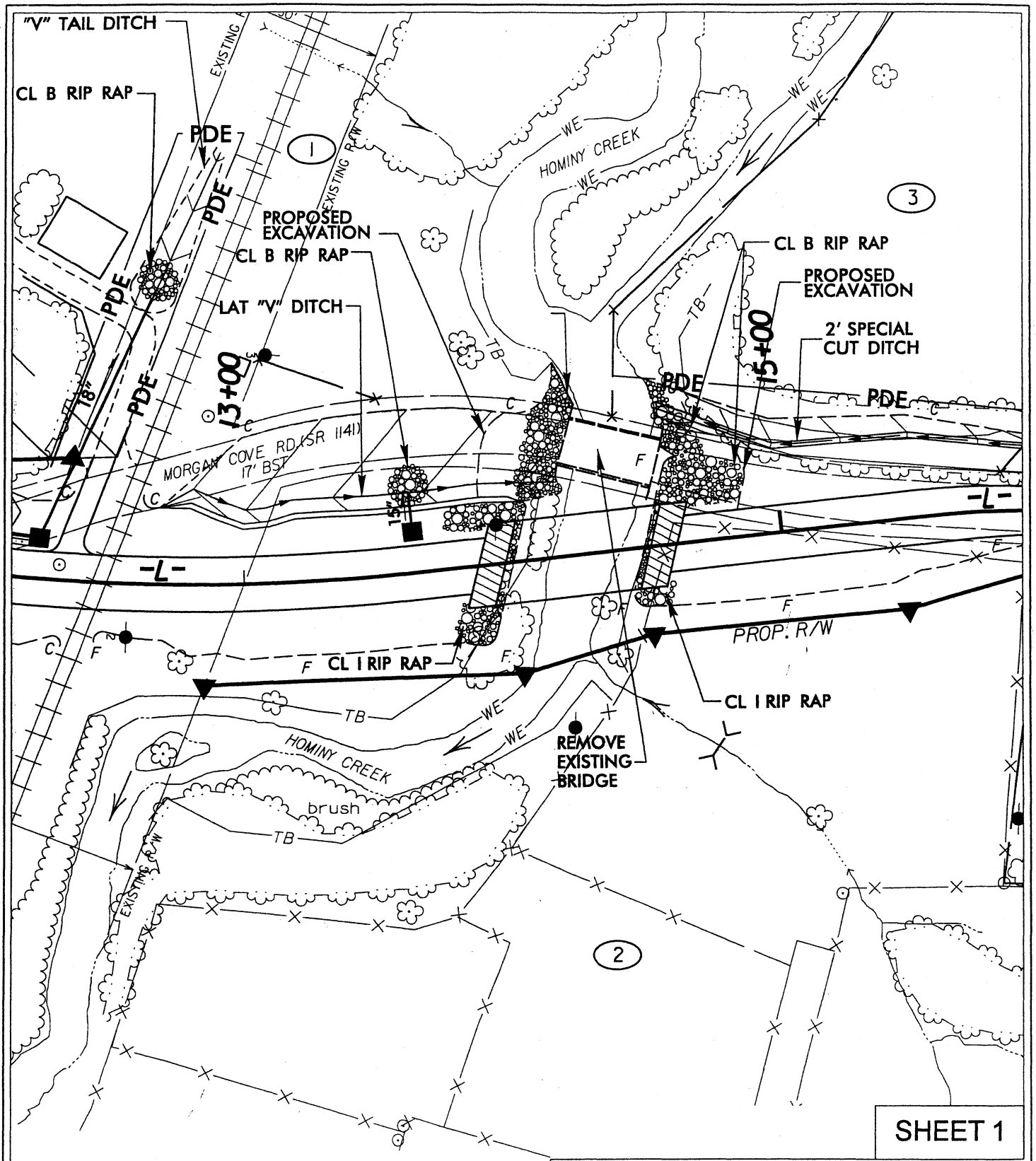

SHEET 1

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

BUNCOMBE COUNTY
8.2843901 (B-3614)
REPLACEMENT OF BRIDGE NO. 300
AND APPROACHES ON SR 1141 (MOGAN COVE ROAD)
OVER HOMINY CREEK

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SCALE IN FEET

SCALE AS SHOWN

SHEET 4 OF 6

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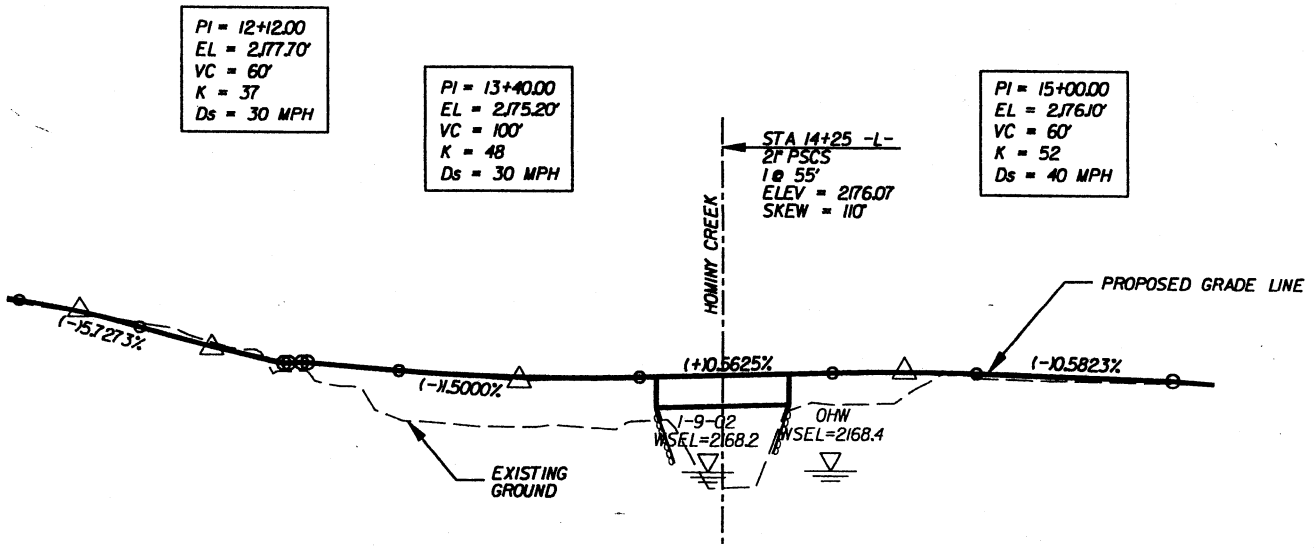
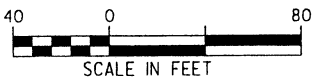


SITE 1
-L- LINE PROFILE



NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

BUNCOMBE COUNTY
8.2843901 (B-3614)
REPLACEMENT OF BRIDGE NO.300
AND APPROACHES ON SR 1141 (MOGAN COVE ROAD)
OVER HOMINY CREEK

SCALE AS SHOWN

SHEET 5 OF 6

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS				SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	14+25 -L-	1 @ 55' 21" PSCS									
TOTALS:			0	0	0	0	0	0	0	0	0

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

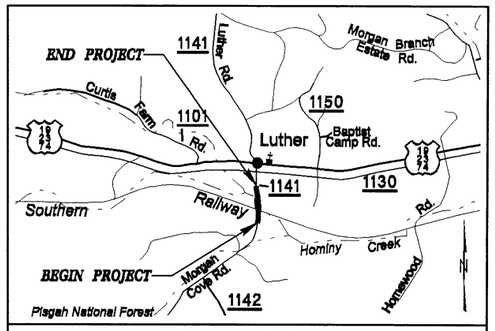
BUNCOMBE COUNTY
PROJECT 8.2843901 B-3614

9/5/06

TIP PROJECT: B-3614

CONTRACT: C 200844

See Sheet 1-A For Index of Sheets



VICINITY MAP

FINAL REVIEW PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

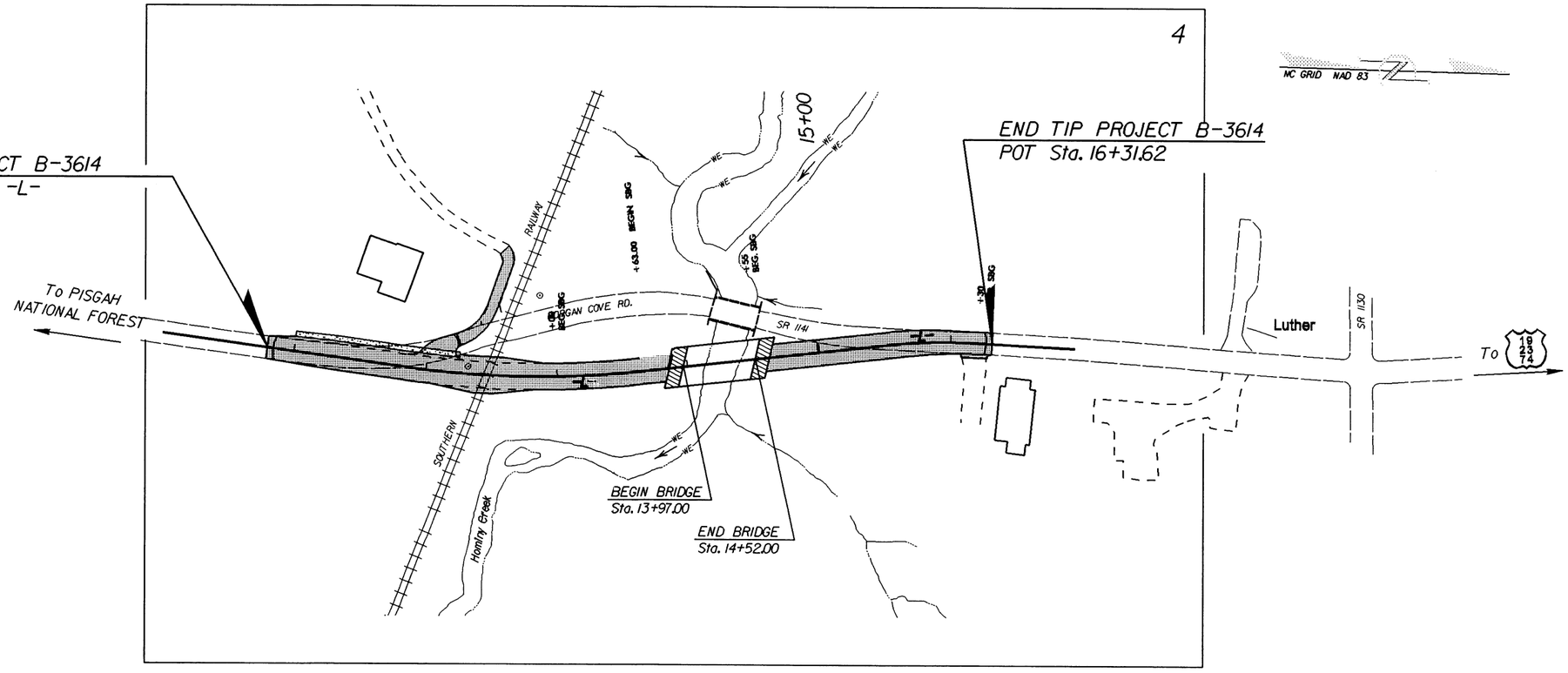
BUNCOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3614	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33165.1.1	BRZ-1141(9)	PE
33165.2.1	BRZ-1141(9)	R/W & UTIL.
33165.3.2	BRZ-1141(9)	CONST.

LOCATION: ***REPLACEMENT OF BRIDGE NO. 300 AND APPROACHES ON SR 1141 (MORGAN COVE ROAD) OVER HOMINY CREEK***

TYPE OF WORK: GRADING, PAVING, DRAINAGE, GUARDRAIL AND STRUCTURE.



** DESIGN EXCEPTION FOR DESIGN SPEED REQUIRED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2003 = 575
ADT 2025 = 800
DHV = 12 %
D = 60 %
T = 4 % *
V = 60 MPH**

* TTST 1 % DUAL 3 %
**

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT B-3614	=	*0.094 MI.*
LENGTH OF STRUCTURE T.I.P. PROJECT B-3614	=	*0.010 MI.*
TOTAL LENGTH OF T.I.P. PROJECT B-3614	=	*0.104 MI.*

Prepared In the Office of:
Stantec Consulting Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC U.S.A.
27606
Tel. 919.851.6866 Fax. 919.851.7024
www.stantec.com

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: May 20, 2003

LETTING DATE: May 18, 2004

KEVIN J. VAN METRE, PE
PROJECT ENGINEER

KEITH F. HUDSON
PROJECT DESIGN ENGINEER

NCDOT CONTACT: CATHY S. HOUSER, PE
PROJECT ENGINEER - DESIGN SERVICES

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER *P.E.*

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR *DATE*

16-FEB-2004 13:39
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mcmahon

PROJECT REFERENCE NO.	SHEET NO.
B-3614	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — EPM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing High Quality Wetland Boundary — HQ WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- River Basin Buffer — RBB
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Guage — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line
- Proposed Right of Way Line with Iron Pin and Cap Marker
- Proposed Right of Way Line with Concrete or Granite Marker
- Existing Control of Access
- Proposed Control of Access
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Curb Cut for Future Wheel Chair Ramp — CCFR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equaility Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

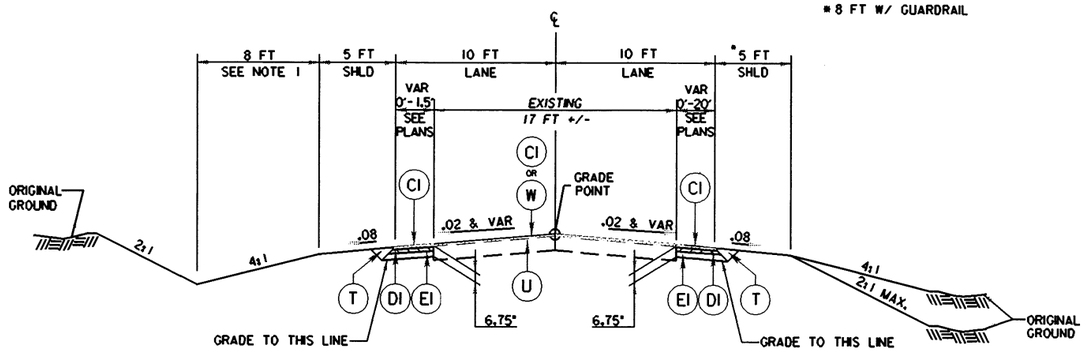
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-3614	2
R/W SHEET NO.	



*8 FT W/ GUARDRAIL

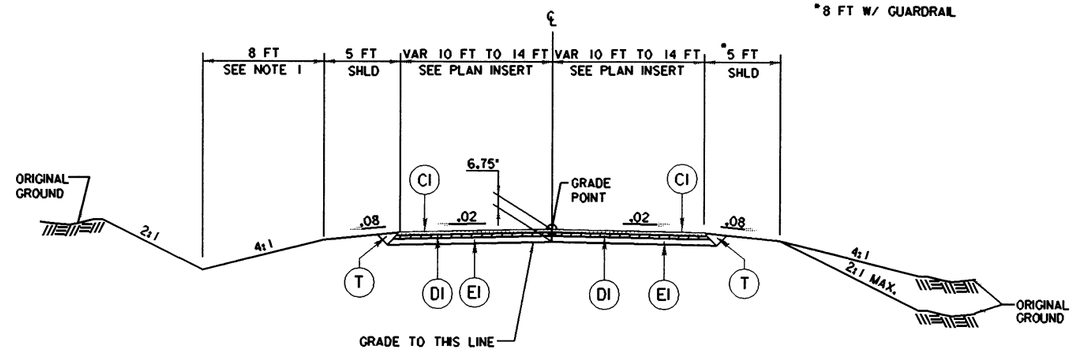
TYPICAL SECTION NO. 1

WIDENING & RESURFACING

ROADWAY	FROM STATION	TO STATION	REMARKS
-L-	10+80.00	11+50.00	SEE INSERT A
-L-	14+90.00	16+31.62	

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5".
D1	PROP. APPROX. 2.25" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 257 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.25" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT GREATER THAN 5.5" IN DEPTH OR LESS THAN 3" IN DEPTH.
J1	PROPOSED 6" AGGREGATE BASE COURSE
R1	MODIFIED CONCRETE EXPRESSWAY GUTTER (SEE DETAIL THIS SHEET)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (SEE DETAIL THIS SHEET)

Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

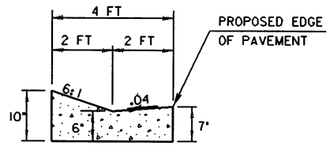


*8 FT W/ GUARDRAIL

TYPICAL SECTION NO. 2

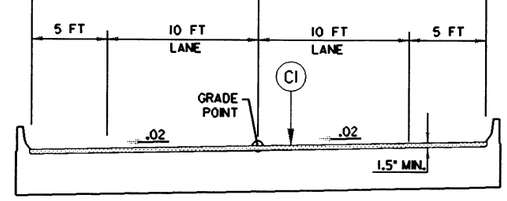
NEW PAVEMENT

ROADWAY	FROM STATION	TO STATION	REMARKS
-L-	11+50.00	13+97.00 BEGIN BRIDGE	SEE INSERT A
-L-	14+52.00 END BRIDGE	14+90.00	



SECTION A-A

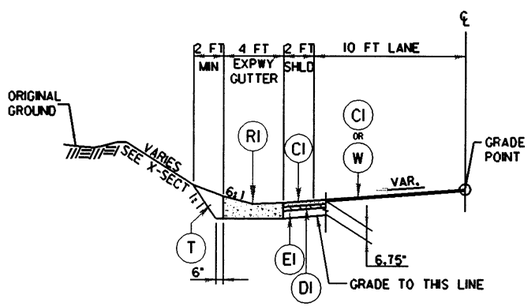
DETAIL OF MODIFIED CONCRETE EXPRESSWAY GUTTER



TYPICAL SECTION NO. 3

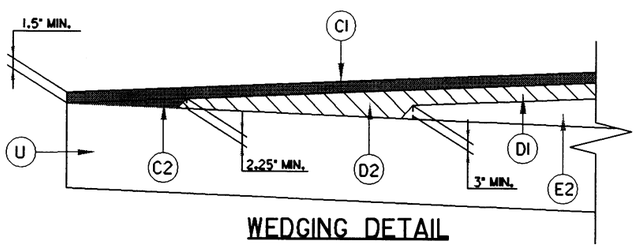
ON CORED SLAB BRIDGE

ROADWAY	FROM STATION	TO STATION
-L-	13+97.00	14+52.00

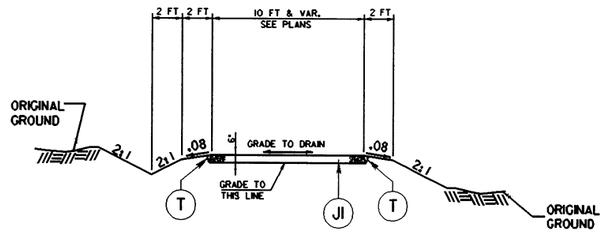


INSERT A

ROADWAY	FROM STATION	TO STATION
-L-	11+00.00	12+28.00 LT.



WEDGING DETAIL



TYPICAL SECTION NO. 4

PRIVATE ENTRANCE

NOTES:

1. DISTANCE WILL VARY TO REACH THE DESIRED ELEVATION AS ESTABLISHED BY THE DITCH GRADE. (SEE PROFILES AND X-SECTIONS)

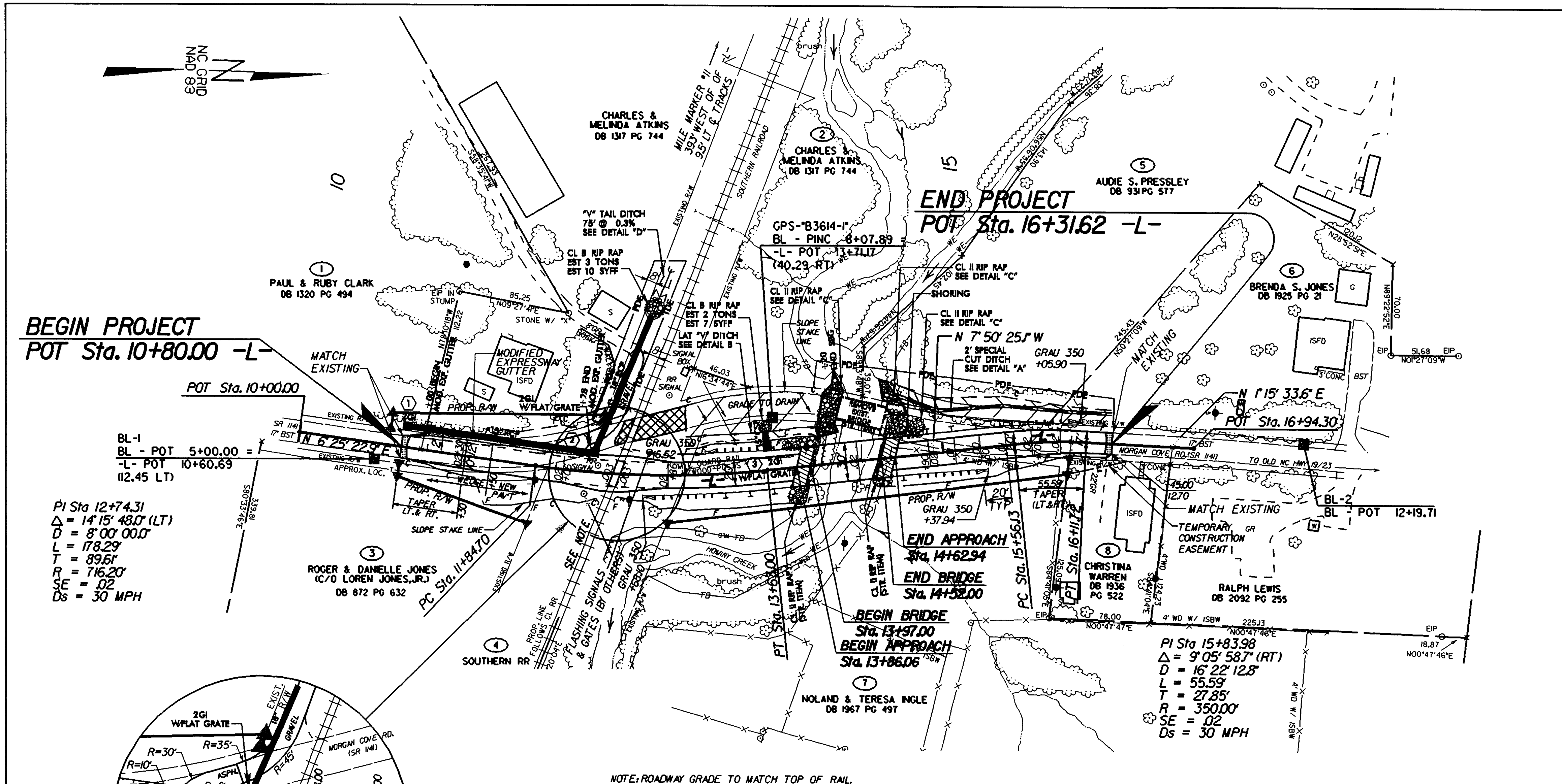
2. ALL PAVEMENT STRUCTURE SLOPES ARE 1:1 UNLESS OTHERWISE SPECIFIED.

ROADWAY DESIGN ENGINEER

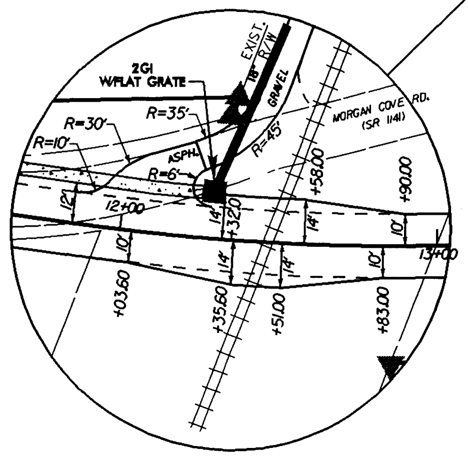
HYDRAULICS ENGINEER

Stantec

Stantec Consulting Services Inc.

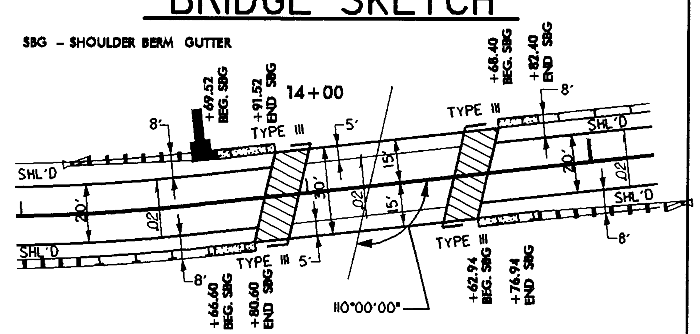


NC GRID NAD 83
BEGIN PROJECT
POT Sta. 10+80.00 -L-
POT Sta. 10+00.00
END PROJECT
POT Sta. 16+31.62 -L-
BL-1
BL - POT 5+00.00 =
-L- POT 10+60.69
(12.45 LT)
PI Sta 12+74.31
Δ = 14°15' 48.0" (LT)
D = 8°00' 00.0"
L = 178.29'
T = 89.61'
R = 716.20'
SE = .02
Ds = 30 MPH
PC Sta. 11+84.70
PT Sta. 13+63.00
PC Sta. 15+56.13
PT Sta. 16+11.72
END APPROACH
Sta. 14+62.94
END BRIDGE
Sta. 14+52.00
BEGIN BRIDGE
Sta. 13+97.00
BEGIN APPROACH
Sta. 13+86.06
N 1°15' 33.6" E
POT Sta. 16+94.30
BL-2
BL - POT 12+19.71
PI Sta 15+83.98
Δ = 9°05' 58.7" (RT)
D = 16°22' 12.8"
L = 55.59'
T = 27.85'
R = 350.00'
SE = .02
Ds = 30 MPH
N 7°50' 25.1" W
GPS-"B3614-1"
BL - PINC 8+07.89
-L- POT 13+71.17
(40.29 RT)
PAUL & RUBY CLARK
DB 1320 PG 494
CHARLES & MELINDA ATKINS
DB 1317 PG 744
AUDIE S. PRESSLEY
DB 931 PG 577
BRENDA S. JONES
DB 1925 PG 21
ROGER & DANIELLE JONES
(C/O LOREN JONES, JR.)
DB 872 PG 632
SOUTHERN RR
NOLAND & TERESA INGLE
DB 1967 PG 497
CHRISTINA WARREN
DB 1936 PG 522
RALPH LEWIS
DB 2092 PG 255
MORGAN COVE RD. (SR 1141)
TO OLD NC HWY 19/23
HOMINY CREEK
SOUTHERN RAILROAD
MATCH EXISTING
NOTE: ROADWAY GRADE TO MATCH TOP OF RAIL.



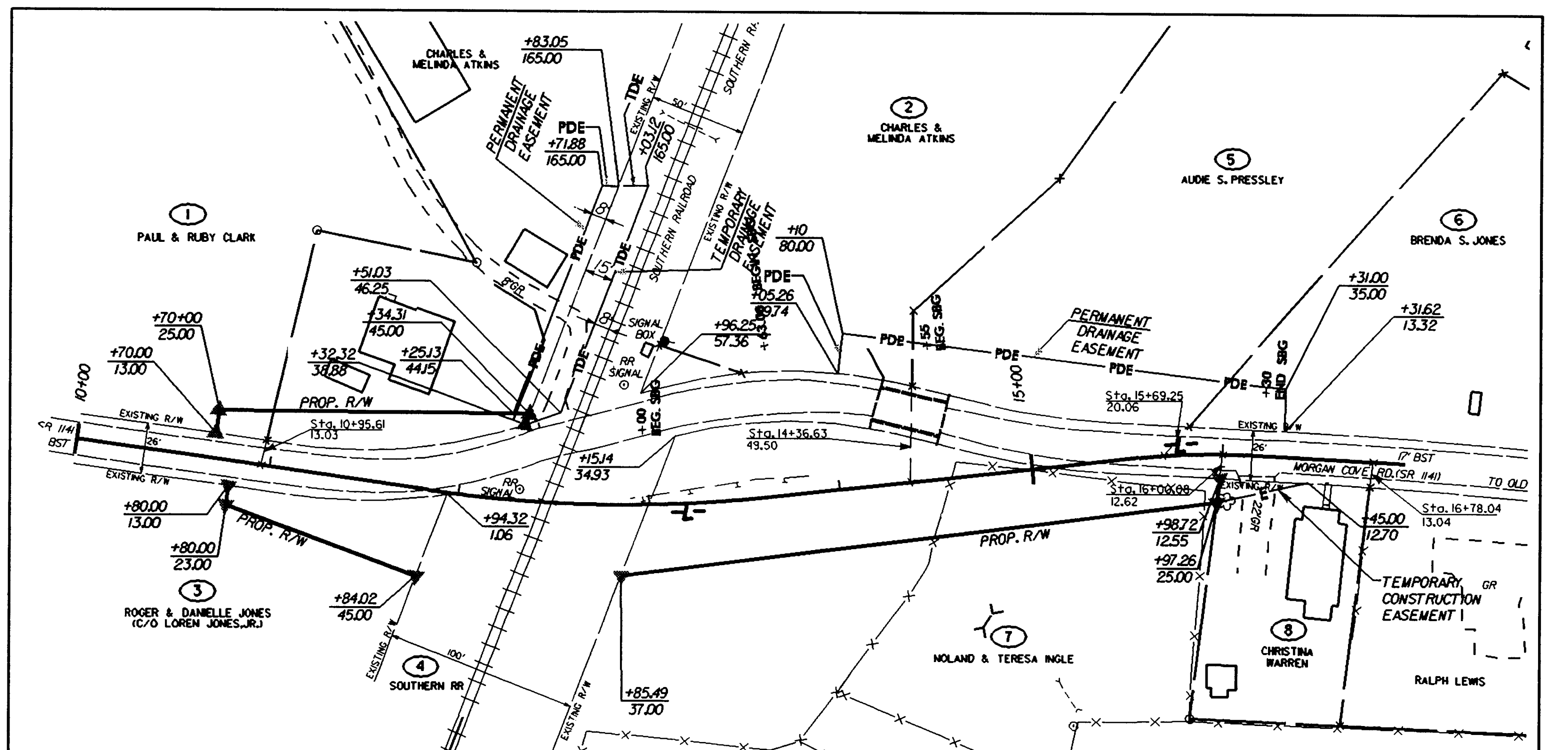
INSERT
NOT TO SCALE

BRIDGE SKETCH



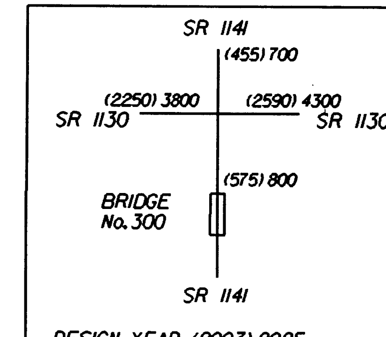
FOR STRUCTURE PLANS, SEE S-1 THRU S-

**DESIGN EXCEPTION FOR DESIGN SPEED REQUIRED

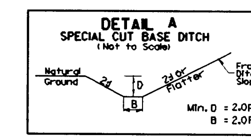


PAUL & RUBY CLARK
CHARLES & MELINDA ATKINS
AUDIE S. PRESSLEY
BRENDA S. JONES
ROGER & DANIELLE JONES (C/O LOREN JONES, JR.)
SOUTHERN RR
NOLAND & TERESA INGLE
CHRISTINA WARREN
RALPH LEWIS
PERMANENT DRAINAGE EASEMENT
TEMPORARY CONSTRUCTION EASEMENT
PROP. R/W

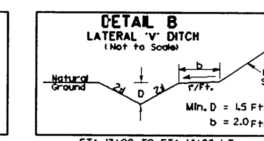
RIGHT OF WAY PLAN



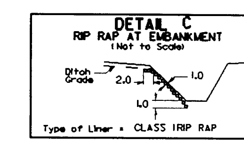
DESIGN YEAR (2003) 2025
AVERAGE DAILY TRAFFIC VOLUMES



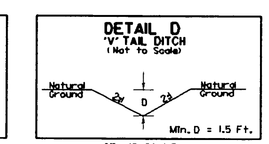
STA 14+55 TO STA 16+30 LT



STA 13+00 TO STA 14+20 LT
EST DDE = 413 cu yd



STA 14+20 23' LT - 29 TONS RIP RAP 61 SY FF
STA 14+55 32' LT - 16 TONS RIP RAP 34 SY FF



STA 12+60 LT
EST DDE = 70 cu yd

REFERENCES:
FOR -L- PROFILE, SEE SHEET 5
FOR PAVEMENT SCHEDULE, SEE SHEET 2

LEGEND

- BRIDGE APPROACH SLAB
- OBLITERATE, REMOVE AND GRADE TO DRAIN

$DATE$
$TIME$
$FILE$

Buncombe County
Bridge No. 300 on SR 1141 (Morgan Cove Road)
over Hominy Creek
Federal Aid Project No. BRZ-1141(9)
State Project No. 8.2843901
TIP No. B-3614

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

12-03-02
DATE

for Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch, NCDOT

12/04/02
DATE

for Nicholas L. Graf, PE
Division Administrator, FHWA

Buncombe County
Bridge No. 300 on SR 1141 (Morgan Cove Road)
over Hominy Creek
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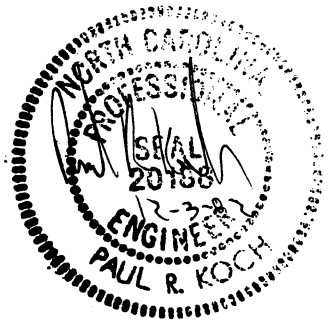
CATEGORICAL EXCLUSION

December 2002

Documentation Prepared by:
Stantec Consulting Services Inc.

Paul R. Koch, PE
Project Manager

12-3-02
Date



For the North Carolina Department of Transportation

John C. Wadsworth, PE
Project Manager
Consultant Engineering Unit

Buncombe County
Bridge No. 300 on SR 1141 (Morgan Cove Road)
over Hominy Creek
Federal Aid Project No. BRZ-1141(9)
State Project No. 8.2843901
TIP No. B-3614

PROJECT COMMITMENTS

In addition to the Nationwide Permit No. 3, No. 14, and No. 23 Conditions, the General Nationwide Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, Best Management Practices for the Protection of Surface Waters, NCDOT's Guidelines for Best Management Practices for Bridge Demolition and Removal, General Certification Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to by NCDOT:

Division
In-stream construction is prohibited during the trout spawning period of November 1 to April 15 to avoid impacts on trout reproduction.

Approval under Section 26a of the TVA Act will be required.

Buncombe County
Bridge No. 300 on SR 1141 (Morgan Cove Road)
over Hominy Creek
Federal Aid Project No. BRZ-1141(9)
State Project No. 8.2843901
TIP No. B-3614

INTRODUCTION: The replacement of Bridge No. 300 is included in the 2002-2008 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) and in the Federal-Aid Bridge Replacement Program. The location is shown in Exhibit 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

NCDOT Bridge Maintenance Unit records indicate that Bridge No. 300 has a sufficiency rating of 35.4 out of a possible 100 for a new structure. The 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

SR 1141 (Morgan Cove Road) is classified as a rural local. Land immediately adjacent to the existing bridge is a mix of agricultural fields and scattered residences.

Bridge No. 300 was built in 1933 and reconstructed in 1957. The structure includes one span totaling 35 feet 6 inches (10.8 meters) in length. The height from crown to streambed is 11 feet (3.3 meters). The end bents are timber caps with timber posts and concrete sills. The posted weight limit is single vehicle 13/ tractor-truck-semi-trailer 17 tons (12/15 metric tons).

The drainage area at Bridge No. 300 is 23.3 square miles (60.3 square kilometers).

The northbound approach is on a 250-foot (76-meter) radius curve. The southbound approach is on a short 636-foot (194-meter) radius curve. The existing cross section includes two eight to nine-foot (2.4 to 2.7 meters) travel lanes with two-foot (0.6 meters) grassed shoulders. The existing structure is on tangent. There is no posted speed limit, therefore, the statutory limit is 55 mph (90 km/h).

The 2001 estimated average daily traffic volume (ADT) is 550 vehicles per day (vpd). The projected traffic volume is expected to increase to 800 vpd by the design year 2025.

This section of SR 1141 is not part of a designated bicycle route nor is it listed in the TIP as needing bicycle accommodations.

There are no utilities carried by the existing structure. There are aerial power lines crossing SR 1141 from west to east.

There were three accidents reported in the vicinity of the bridge during the period from January 1, 1999 to December 31, 2001.

Two Buncombe County school buses cross Bridge No. 300 twice each day.

III. ALTERNATIVES

A. Project Description

The approach roadway will consist of two ten-foot (3.0 meter) travel lanes with five-foot (1.5 meter) grassed shoulders. Based on a preliminary hydraulic analysis, the new structure will have a length of approximately 65 feet (19.8 meters). The design speed will be 30 mph (50 km/h). The proposed structure will provide a 26-foot (7.8 meters) clear roadway width to allow for two 10-foot (3.0 meters) travel lanes and 3-foot (0.9 meters) offsets to the bridge rails on each side. See Exhibit 4.

The elevation of the new structure will be approximately the same as the existing structure. The length and opening size of the bridge may increase or decrease as necessary to accommodate peak flows as determined from a more detailed hydraulic analysis, to be performed during the final design phase of the project.

B. Build Alternatives

Exhibits 2 and 3 show the two (2) build alternatives for replacing the existing bridge. The alternatives are described below:

Alternative A replaces the bridge on new alignment to the east (downstream) of the existing structure. During construction, traffic will be maintained on the existing bridge. The roadway approach work will extend from approximately 530 feet (161.5 meters) south to 235 feet (71.6 meters) north of the existing bridge. This is the longer of the two alternatives and was not selected due to higher impacts to the natural environment.

Alternative B (Preferred) replaces the bridge on new alignment to the east (downstream) of the existing structure. During construction, traffic will be maintained on the existing bridge. The roadway approach work will extend from approximately 310 feet (94.5 meters) south to 250 feet (76.2 meters) north of the existing bridge. This is the shorter of the two alternatives.

C. Alternatives Eliminated from Further Study

The "Do-Nothing" alternative will eventually necessitate closure of the bridge. This is not desirable due to the service provided by Bridge No. 300.

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

D. Preferred Alternative

Alternative B, replacing the bridge on new-location to the east (downstream of the existing structure), was selected as the Preferred Alternative because it requires less right-of-way, has fewer impacts to the natural environment and has fewer impacts on adjacent properties.

E. Anticipated Design Exceptions

The existing speed limit through the project area is not posted and is, therefore, a statutory 55 mph (90 km/h). However, the existing roadway just south of the bridge is in a sharp curve on a steep grade. Existing traffic speeds are low due to the at-grade railroad crossing which is also immediately south of the bridge.

The existing roadway approach grade south of the railroad track is greater than desirable for approaching a railroad crossing. In order to substantially decrease this grade, construction would entail undercutting of the existing pavement and necessitate an on-site detour to maintain traffic. These elements would substantially impact adjacent residential properties. The proposed project does, however, decrease the grade relative to the existing profile and provides an improved condition. Therefore, based on the existing roadway alignment and grades, and in order to minimize impacts to adjacent residential properties, a 30 mph (50 km/h) design speed with a northbound grade of approximately 4% approaching the railroad track is recommended.

IV. ESTIMATED COSTS

The estimated costs based on current prices are listed in Table 1.

TABLE 1
ESTIMATED COSTS

	Alternative A	Alternative B
Structure Removal (existing)	$ 5,280	$ 5,280
Structure (Proposed)	118,300	92,950
Detour Structure and Approaches	---	---
Roadway Approaches	189,320	136,170
Miscellaneous and mobilization	101,000	76,000
Engineering Contingencies	61,100	39,600
ROW/Const. Easements/Utilities	200,900	84,450
TOTAL	$ 675,900	$ 434,450

In addition to the construction and right-of-way costs listed above, Norfolk Southern Railroad estimates that installation of automatic flashing light crossing signals and gates at the proposed crossing will cost approximately $115,000. Norfolk Southern also states that a 36-foot (10.8-meter) concrete panel grade crossing surface will cost approximately $18,000. The estimated

cost of the project listed in the 2002-2008 Transportation Improvement Program (TIP), is $475,000 including $35,000 for right-of-way and $350,000 for construction.

V. NATURAL RESOURCES

A. Methodology

Information sources used to prepare this report include: U.S. Geological Survey (USGS) Enka quadrangle map (1961/photorevised 1990); Natural Resources Conservation Service (NRCS) soil sheets of Buncombe County; United States Fish and Wildlife Service (USFWS) National Wetlands Inventory Map (Enka 1995); USFWS list of protected and candidate species (March 7, 2002); North Carolina Natural Heritage Program (NCNHP) database of rare species and unique habitats (May 31, 2002); NCDOT aerial photography of the project area; and North Carolina Division of Water Quality (DWQ) water resource data. Research using these resources was conducted prior to the field investigation.

A general field survey was conducted along the proposed project corridor on April 18, 2000. Plant communities and their associated wildlife were identified using a variety of observation techniques including active searching, visual observations with binoculars, and identifying characteristic signs of wildlife (sounds, tracks, scat, nests, and burrows).

Investigation into wetland occurrence in the project impact area was conducted using methods of the 1987 Corps of Engineers Wetlands Delineation Manual.

Impact calculations were based on the worst-case scenario using 100-foot (30-meter) right of way limits (minus the existing right of way), the width and length of the replacement structure, the width of the stream for aquatic impacts, and the length of the project approaches. The actual construction impacts should be less as the worst case was assumed for the impact calculations.

B. Physiography and Soils

The project site lies within the Blue Ridge Mountain Physiographic Province. The topography of the project vicinity is characterized as rolling hills with moderate to steeply sloping banks along the major streams. Elevations in the project vicinity range from approximately 2,180 to 2,300 feet (664 to 701 meters) above mean sea level (msl). The elevation in the project area is approximately 2,180 feet (664 meters) above msl.

Buncombe County does not have a published soil survey; however, field sheets were available for review. A general soil map is not available according to NRCS personnel. Field conditions generally conform to the soil survey maps. Soil series found within the project area are described below.

Comus fine sandy loam, zero to two percent slopes; Codorus loam, zero to two percent slopes; and Bradson loam, eight to 15 percent slopes are mapped along the creek within the project area. Comus fine sandy loam is a well drained, nearly level soil found in slightly elevated positions usually adjacent to streams in wider flood plains. Permeability is moderate and the available

water capacity is medium. Codorus loam is a moderately well drained to somewhat poorly drained, nearly level soil found in slightly depressed areas of the wider flood plains. Permeability is moderate and the available water capacity is medium. Bradson loam is a well-drained soil found on broad, smooth high stream terraces. Permeability is moderate and the available water capacity is medium to high. These mapping units are not listed on the hydric soils list.

Evard and Saluda stony soils, 20 to 50 percent slopes and Bradson loam, two to eight percent slopes are located in the southwestern portion of the project area. Evard and Saluda soils are well drained, soils that are found on low mountain tops and sides, and on side slopes of higher mountains. Permeability is moderate and the available water capacity is medium. This mapping unit is not listed on the hydric soils list. Bradson loam is described above.

Hayesville loam, 15 to 30 percent slopes is located in the northeastern quadrant of the project area. Hayesville loam is a well-drained soil found on intermountain side slopes below 2,500 feet (762 meters) in elevation. Permeability is moderate and the available water capacity is medium to high. Hayesville loam is not listed on the hydric soils list.

C. Water Resources

1. Waters Impacted

The proposed project falls within the French Broad River Basin, with a subbasin designation of 04-03-02. Waters within the project study area include Hominy Creek.

2. Water Resource Characteristics

Hominy Creek is a tributary of the French Broad River. Hominy Creek flows east through the proposed project area with a width of approximately 25.0 feet (7.6 meters) at the bridge. The drainage area at Bridge No. 300 is 23.3 square miles (60.3 square kilometers). The flow was slow to moderate on the west side of the bridge, then became moderate to swift east of the bridge on the day of the field investigation. The substrate consisted of sand with gravel, cobbles, and some boulders. The water was slightly turbid west of the bridge and became clearer east of the bridge. Riffle areas were found downstream (east) of the bridge. The depth of the water ranged from 0.3 to 3.0 feet (0.1 to 0.9 meters).

Within the project area, Hominy Creek is classified as "C" by the North Carolina Department of Environment and Natural Resources (NCDENR). Class "C" waters are suitable for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, and agriculture. The classification date and index number for this portion of the creek is 9/1/74, 6-76.

Point source dischargers located throughout North Carolina are permitted through the National Pollutant Discharge Elimination System (NPDES) program. A search within one mile (1.6 kilometers) of the project revealed no NPDES permitted dischargers.

Non-point source refers to runoff that enters surface waters through stormwater flow or no

defined point of discharge. Stormwater runoff from the surrounding residential properties and SR 1141 may cause water quality degradation. A horse pasture is located in the northeastern quadrant of the project area. Storm water runoff from this area would introduce additional nutrients into the stream.

Benthic macroinvertebrates, or benthos, are organisms that live in and on the bottom substrates of rivers and streams. The North Carolina Division of Water Quality (DWQ) uses benthos data as a tool to monitor water quality as benthic macroinvertebrates are sensitive to subtle changes in water quality. Formerly, the DWQ used the Benthic Macroinvertebrate Ambient Network (BMAN) as a primary tool for water quality assessment but phased this method out several years ago and has converted to a basinwide assessment sampling protocol. Each river basin in the state is sampled once every five years and the number of sampling stations has been increased within each basin. Each basin is sampled for biological, chemical, and physical data.

The DWQ includes the North Carolina Index of Biotic Integrity (NCIBI) as another method to determine general water quality in basinwide sampling. The NCIBI is a modification of the Index of Biotic Integrity (IBI) initially proposed by Karr (1981) and Karr, et al. (1986). The method was developed for assessing a stream's biological integrity by examining the structure and health of its fish community. The Index incorporates information about species richness and composition, trophic composition, fish abundance, and fish condition. The NCIBI summarizes the effects of all classes of factors influencing aquatic faunal communities (water quality, energy source, habitat quality, flow regime, and biotic interactions).

According to the information obtained from the French Broad Basinwide Management Plan (2000), the DWQ has a sampling station located in the project area at SR 1141 and Hominy Creek. The station was last sampled in January 1989 and received a rating of Good-Fair.

3. Anticipated Impacts to Water Resources

a) General Impacts - Neither High Quality Waters (HWQ), Water Supplies (WS-I: undeveloped watershed, or WS-II: predominately undeveloped watersheds), nor Outstanding Resource Waters (ORW) occur within one mile (1.6 kilometers) of the project study area.

Impacts to the water resources will result due to the placement of support structures in the creek channel. In the short term, construction of the bridge and approach work will increase sediment loads. Sediment loading can reduce flow and result in a decrease in oxygen levels. The removal of trees and shrubs that provide shade along stream banks could result in an increase in water temperature and a decrease in oxygen levels as well.

The NCDOT, in cooperation with DWQ has developed a sedimentation control program for highway projects which adopts formal best management practices (BMPs) for the protection of surface waters. The following are methods to reduce sedimentation and water quality impacts:

- strict adherence to BMPs for the protection of surface waters during the life of the project;

- reduction and elimination of direct and non-point discharge into the water bodies and minimization of activities conducted in the creek;

- placement of temporary ground cover or re-seeding of disturbed sites to reduce runoff and decrease sediment loadings;

- reduction of clearing and grubbing along the creek.

b) Impacts Related to Bridge Demolition and Removal - In order to protect the water quality and aquatic life in the area affected by this project, the NCDOT and all potential contractors will follow appropriate guidelines for bridge demolition and removal. These guidelines are presented in three NCDOT documents entitled "Pre-Construction Guidelines for Bridge Demolition and Removal", "Policy: Bridge Demolition and Removal in Waters of the United States", and "Best Management Practices for Bridge Demolition and Removal". Guidelines followed for bridge demolition and removal are in addition to those implemented for Best Management Practices for the Protection of Surface Waters.

Dropping any portion of the structures into waters of the United States will be avoided unless there is no other practical method of removal. In the event that no other practical method is feasible, a worst case scenario is assumed for calculations of fill entering waters of the United States.

The superstructure for Bridge No. 300 is composed of a timber deck on a steel girder floorbeam system. The substructure is composed of timber caps with timber posts and concrete sills. Since the bridge can be removed without dropping any components into the water, neither the superstructure nor the substructure will create any temporary fill in the creek. However, the removal of the substructure may create some disturbance in the streambed. Conditions in the stream will not raise sediment concerns since the substrate consists of sand with gravel, cobbles, and boulders.

The North Carolina Wildlife Resources Commission (NCWRC) states that Hominy Creek is considered a spawning stream for trout. Therefore, NCWRC requests an instream construction moratorium between November 1 and April 15 to minimize impacts to spawning trout.

D. Biotic Resources

Living systems described in the following sections include communities of associated plants and animals. These descriptions refer to the dominant flora and fauna in each community and the relationship of these biotic components. Classification of plant communities is based on a system used by the NCNHP (Schafale and Weakley, 1990). If a community is modified or otherwise disturbed such that it does not fit into an NCNHP classification, it is given a name that best describes current characteristics. Scientific nomenclature and common names (when applicable) are used for the plant and animal species described. Subsequent references to the same species include the common name only. Vascular plant names follow nomenclature found in Radford et al. (1968) unless more current information is available. Terrestrial and aquatic wildlife were determined through field observations, evaluation of habitat, and review of field

guides and other documentation (Conant, 1958; Farrand, 1993; Robbins et al., 1966; and Whitaker, 1980).

1. Plant Communities

The predominant terrestrial community found in the project study area is the maintained/disturbed community. Dominant faunal components associated with this terrestrial area are discussed in the community description.

a) Maintained/Disturbed Community - The maintained/disturbed community is located throughout the project area (residential properties north of the bridge, the horse pasture in the northeastern quadrant, the railroad easement and residential home located south of the bridge, and the road shoulders). Many plant species are adapted to these disturbed and regularly maintained areas. The dominant species within the project area include fescue (*Festuca spp.*), ryegrass (*Lolium spp.*), morning glory (*Ipomoea purpurea*), clover (*Trifolium spp.*), thistle (*Cirsium spp.*), wild carrot (*Daucus carota*), buttercup (*Ranunculus bulbosus*), asters (*Aster spp.*), wild onion (*Allium cernuum*), dandelion (*Taraxacum officinale*), and plantain (*Plantago spp.*).

2. Wildlife

The animal species present in the maintained/disturbed communities are opportunistic and capable of surviving on a variety of resources, ranging from vegetation (flowers, leaves, fruits, and seeds) to both living and dead faunal components. An American crow (*Corvus brachyrhynchos*), house sparrow (*Passer domesticus*), and mourning dove (*Zenaida macroura*) were observed during the site visit. Other species such as Virginia opossum (*Didelphis virginiana*), rat (*Rattus norvegicus*), raccoon (*Procyon lotor*), Eastern phoebe (*Sayornis phoebe*), house wren (*Troglodytes aedon*), American robin (*Turdus migratorius*), and black racer (*Coluber constrictor constrictor*) are often attracted to these disturbed habitats.

3. Aquatic Communities

The aquatic community in the project area includes Hominy Creek. Hominy Creek flows east through the proposed project area with a width of approximately 25.0 feet (7.6 meters) at the bridge. The flow was slow to moderate on the west side of the bridge, then became moderate to swift east of the bridge on the day of the field investigation. The substrate consisted of sand with gravel, cobbles, and some boulders. The water was slightly turbid west of the bridge and became clearer east of the bridge. Riffle areas were found downstream (east) of the bridge. The depth of the water ranged from 0.3 to 3.0 feet (0.1 to 0.9 meters).

Vegetation along the creek banks included sycamore (*Platanus occidentalis*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), black willow (*Salix nigra*), black locust (*Robinia pseudoacacia*), silver maple (*Acer saccharinum*), tag alder (*Alnus serrulata*), roses (*Rosa multiflora*), and honeysuckle (*Lonicera spp.*). The banks were well vegetated with no signs of erosion. The banks were well defined and averaged 3.0 to 6.0 feet (0.9 to 1.8 meters) in height above the top of the creek. Species such as the Pickerel frog (*Rana palustris*), gray treefrog

(*Hyla versicolor*), Northern water snake (*Natrix sipedon sipedon*), and red salamander (*Pseudotriton ruber)* may reside or forage within this aquatic community or along the waters edge. Macroinvertebrates such as larvae of the mayfly (Ephemeroptera), stonefly (Plecoptera), and caddisfly (Trichoptera) would be expected to be found within the snag habitats and within the riffle areas in the creek. On the day of the site investigation, mayfly and stonefly were collected by dipnetting in the creek.

According to the NCWRC, fish species that are likely to be found in Hominy Creek include rainbow trout (*Salmo gairdneri*), brown trout (*Salmo trutta*), northern hog sucker (*Hypentelium nigricans*), creek chub (*Semotilus atromaculatus*), stone roller (*Campostoma anomalum*), shiners (*Notropis spp.*), and minnows.

4. Anticipated Impacts to Biotic Communities

a) Terrestrial Communities - The maintained/disturbed community is the predominant community within the project area. Plants found within this community are common and often associated with disturbed areas. Although limited wildlife habitat would be provided, these types of disturbed areas are abundant and therefore the impacts are not considered significant in that regard. Individual mortalities are likely to occur to terrestrial animals from construction machinery used during clearing activities.

Alternative A will result in the greatest amount of impacts to the maintained/disturbed community, approximately 0.71 acres (0.29 hectares).

b) Wetland Communities – No jurisdictional wetlands were found within the study area.

c) Aquatic Communities - The replacement of Bridge No. 300 over Hominy Creek will result in up to 0.02 acres (0.01 hectares) of aquatic impacts. This figure is obtained by measuring the width of the bridge over water times the length of the bridge over water.

TABLE 2
ANTICIPATED IMPACTS TO
TERRESTRIAL AND AQUATIC COMMUNITIES

Bridge No. 300 Replacement Alternatives	Maintained/ Disturbed Community		Aquatic Community		Stream Impacts		Combined Total	
	acres	Ha	acres	Ha	feet	meters	acres	Ha
Alternative A	0.71	0.28	0.02	0.01	28	8.5	0.73	0.30
Alternative B	0.46	0.18	0.02	0.01	28	8.5	0.48	0.19

NOTES:

- Impacts are based on a 100-foot (30-meter) right of way (minus the existing right of way of SR 1141) for each alternative.
- Actual construction impacts may be less than those indicated above; calculations were based on the worst-case scenario.

Activities such as the removal of trees, as well as the construction of the bridge and approach work will likely result in an increase in sediment loads and water temperatures and a decrease in dissolved oxygen in the short term. Construction activities can also increase the possibility of toxins, such as engine fluids and particulate rubber, entering the waterways. The combination of these factors can potentially cause the displacement and mortality of fish and local populations of invertebrates which inhabit these areas.

E. Special Topics

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

Wetlands and surface waters fall under the broad category of "Waters of the United States" as defined in 33 CFR 328.3 and in accordance with provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344). Waters of the United States are regulated by the United States Army Corps of Engineers (USACOE).

Investigation into wetland occurrence in the project impact area was conducted using methods of the 1987 Corps of Engineers Wetlands Delineation Manual. No jurisdictional wetlands were found within the project area.
Project construction cannot be accomplished without infringing on jurisdictional surface waters. The creek boundaries were flagged and surveyed and up to 28 linear feet (8.5 meters) of jurisdictional surface waters may be impacted by this project.

2. Permits

a) Section 404 of the Clean Water Act - In accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344), a permit is required from the USACOE for projects of this type for the discharge of dredged or fill material into "Waters of the United States". The USACOE issues two types of permits for these activities. A general permit may be issued on a nationwide or regional basis for a category or categories of activities when: those activities are substantially similar in nature and cause only a minimal individual or cumulative environmental impact, or when the general permit would result in avoiding unnecessary duplication or regulatory control exercised by another Federal, state, or local agency provided that the environmental consequences of the action are individually and cumulatively minimal. If a general permit is not appropriate for a particular activity, then an individual permit must be utilized. Individual permits are authorized on a case-by-case evaluation of a specific project involving the proposed discharges.

It is anticipated that this project will fall under Nationwide Permit 23, which is a type of general permit. Nationwide Permit 23 is relevant to approved Categorical Exclusions. Activities under this permit are categorically excluded from environmental documentation because they are included within a category of activities which neither individually nor cumulatively have a significant effect on the environment. Activities authorized under nationwide permits must satisfy all terms and conditions of the particular permit.

b) Section 401 Water Quality Certification - A 401 Water Quality Certification, administered through the DWQ, will also be required. This certification is issued for any activity which may result in a discharge into waters for which a federal permit is required. According to the DWQ, one condition of the permit is that the appropriate sediment and erosion control practices must be utilized to prevent exceedances of the appropriate turbidity water quality standard (50 NTUs in streams and rivers not designated as trout by DWQ and 10 NTUs in trout waters).

c) Section 26a of the TVA Act - This project is located within the jurisdiction of the Tennessee Valley Authority (TVA). Therefore, an approval under Section 26a of the TVA Act will be required.

3. Mitigation

The USACOE has adopted, through the Council on Environmental Quality (CEQ), a wetland mitigation policy which embraces the concept of "no net loss of wetlands" and sequencing. The purpose of this policy is to restore and maintain the chemical, biological, and physical integrity of waters of the United States, specifically wetlands. Mitigation of wetland impacts has been defined by the CEQ to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts (40 CFR 1508.20). Each of these three aspects (avoidance, minimization, and compensatory mitigation) must be considered sequentially.

Avoidance - Avoidance examines all appropriate and practicable possibilities of averting impacts to waters of the United States. According to a 1990 Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the USACOE, in determining "appropriate and practicable" measures to offset unavoidable impacts, such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes.

The project purpose necessitates traversing Hominy Creek; therefore, totally avoiding surface water impacts is impossible.

Minimization - Minimization includes examination of appropriate and practicable steps to reduce adverse impacts to waters of the United States. Implementation of these steps will be required through project modifications and permit conditions. Minimization typically focuses on decreasing the footprint of the proposed project through reduction of median widths, right-of-way widths, and/or fill slopes.

Specific to this project, the proposed stream crossing is a bridge rather than a culvert to minimize impacts to the channel. Also in-stream construction is prohibited during the trout spawning period of November 1 to April 15 to avoid impacts on trout reproduction

Compensatory Mitigation - Compensatory mitigation is not normally considered until anticipated impacts to waters of the United States have been avoided and minimized to the maximum extent possible. It is recognized that "no net loss of wetlands" functions and values may not be achieved in each and every permit action. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has

been required. Compensatory actions often include restoration, creation and enhancement of waters of the United States.

As mentioned above, only jurisdictional surface waters will be impacted by the proposed project. Since the potential impacts are minor, compensatory mitigation is not expected to be required for this project. A final determination regarding mitigation requirements rests with the USACOE.

F. Rare and Protected Species

Some populations of plants and animals have been, or are in the process of, decline due to factors such as natural forces, competition from introduced species, or human related impacts such as destruction of habitat. Rare and protected species listed for Buncombe County and any likely impacts to these species as a result of the proposed project construction are discussed in the following sections.

1. Federally Protected Species

Plants and animals with federal classification 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.

The United States Fish and Wildlife Service (USFWS) lists twelve federally protected species for Buncombe County as of the March 7, 2002 listing (Table 3).

TABLE 3
FEDERALLY-PROTECTED SPECIES
FOR BUNCOMBE COUNTY

Scientific Name Common Name	Status
Clemmys muhlenbergii (Bog turtle)	T(S/A)
Felis concolor cougar (Eastern cougar)	E
Glaucomys sabrinus coloratus (Carolina northern flying squirrel)	E
*Hypbopsis monacha** (Spotfin chub)	T
*Myotis griscens**** (Gray bat)	E
Alasmidonta raveneliana (Appalachian elktoe)	E
Epioblasma capsaeformis (Oyster mussel)	E
Geum radiatum (Spreading avens)	E

Scientific Name Common Name	Status
Gymnoderma lineare (Rock gnome lichen)	E
*Sagittaria fasciculata** (Bunched arrowhead)	E
*Sarracenia jonesii** (Mountain sweet pitcher plant)	E
Spiraea virginiana (Virginia spiraea)	T

NOTES:

E Endangered (a species that is in danger of extinction throughout all or a significant portion of its range).

T Threatened (a species that is 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 (a species that is threatened due to similarity of appearance with other rare species and is listed for its protection).

* Historic Record (the species was last observed in the county more than 50 years ago).

*** Incidental/Migrant Record (the species was observed outside of its normal range or habitat).

Clemmys muhlenbergii (Bog turtle) T(S/A)
Family: Emydidae
Date Listed: November 4, 1997

Bog turtles are small (3 to 4.5 inches) [7.6 to 10.2 centimeters] semiaquatic turtles that have a dark brown carapace and black plastrons. They usually exhibit distinctive orange or yellow blotches on each side of the head and neck.

The bog turtle inhabits shallow, spring fed fens, sphagnum bogs, swamps, marshy meadows, pastures which have soft, muddy bottoms, and clear, cool, slow-flowing water, often forming a network of rivulets. Bog turtles inhabit damp grassy fields, bogs, and marshes in the mountains and upper Piedmont.

The bog turtle is not biologically endangered or threatened and is not subject to Section 7 consultation.

Felis concolor cougar (Eastern cougar) E
Family: Felidae
Date Listed: June 4, 1973

The **Eastern cougar** is a large, unspotted, long-tailed cat. The body and legs are a uniform tawny color. Its belly is pale reddish to reddish white. The inside of the cat's ears are light-colored with blackish color behind the ears. They feed primarily on deer, but their diet may also include small mammals, wild turkeys, and domestic livestock.

No preference for specific habitat has been noted. The primary need is for a large wilderness area with an adequate food supply. Male cougars of other subspecies have been observed to occupy a range of 25 or more square miles (65 square kilometers), and females from five to 20 square miles (13 to 52 square kilometers).

BIOLOGICAL CONCLUSION: NO EFFECT

The proposed project is located in a residentially developed area; since the cougar requires a large wilderness area, it is unlikely that this species would be found here. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. It can be concluded that the construction of the proposed project will not impact the Eastern cougar.

Glaucomys sabrinus coloratus	(Carolina northern flying squirrel)	E
Family:	Sciuridae	
Date Listed:	July 1, 1985	

Carolina northern flying squirrels are small nocturnal mammals that are three to five ounces in weight and ten to 12 inches (25 to 30 centimeters) in length. They possess a long, broad, flattened tail, prominent eyes, and dense fur. The northern flying squirrels closely resemble southern flying squirrels but are larger and have richer colors. Adults are gray with a brownish, tan, or reddish wash on the back, and grayish white or buffy white undersides. The northern flying squirrel can apparently subsist on lichens and certain fungi, but also eats certain seeds, buds, fruit, staminate cones, insects, and other animal material.

They typically live at elevations above 5,000 feet (1,524 meters) in spruce-fir forests and forests of mixed conifers and hardwoods. They use both areas to search for food, while the hardwood areas are needed for nesting sites. Research suggests that the more aggressive southern flying squirrel has begun to force the northern species out of the hardwood forests, which reduces favorable nesting sites and, therefore, reproduction by the northern flying squirrel.

BIOLOGICAL CONCLUSION: NO EFFECT

Habitat is not present in the project area; the project area is located at approximately 2,180 feet (664 meters) above msl, which is well below the elevation for suitable habitat. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. It can be concluded that the construction of the proposed project will not impact the Carolina northern flying squirrel.

Hybopsis monacha	(Spotfin chub)	T
Family:	Cyprinidae	
Date Listed:	September 9, 1977	

The **spotfin chub** is a small, slender fish not exceeding four inches (ten centimeters) in length. Juveniles and adult females are olive above with the sides largely silvery and the lower parts white. Adult males have brilliant turquoise blue coloring on the back, side of the head, and along the mid-lateral part of the body. The spotfin chub spawns from mid-May to early September. It appears the spotfin feeds by sight on tiny insect larvae that occur on the stream bottom.

The spotfin chub inhabits clear water over gravel, boulders, and bedrock in large creeks and medium-sized rivers [average width 50 to 230 feet (15 to 70 meters)] having moderate current. They are rarely seen over sand and appear to avoid silty areas.

BIOLOGICAL CONCLUSION: NO EFFECT

NCDOT biologists visited the site on September 12, 2002 and conducted a fish survey using a Smith-root electrofisher 200 feet (60 meters) upstream and 100 feet (30 meters) downstream of the bridge. No specimens of spotfin chub were found and Hominy Creek is likely too silty and too small to support spotfin chub. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. Based on the survey results, it is apparent that this species does not occur in Hominy Creek. It can be concluded that project construction will not impact this species.

Myotis griscens	(Gray bat)	E
Family:	Vespertilionidae	
Date Listed:	April 28, 1976	

The **gray bat** weighs approximately seven to 16 grams. One feature that distinguishes this species from other bats is its uni-colored dorsal fur. Also, the gray bat's wing membrane connects to the foot at the ankle instead of at the base of the first toe, as with other bats. Gray bats are dark gray for a short period after molt in the summer, but their fur usually bleaches to russet between molts.

Gray bat colonies are restricted entirely to caves or cave-like habitats. During summer, the bats are highly selective for caves providing specific temperature and roost conditions. Usually these caves are located within a kilometer of a river or reservoir. They forage primarily over water along rivers or lake shores where the majority of insects eaten are aquatic species, particularly mayflies. In the winter, they utilize only deep, vertical caves where temperatures average 42 – 52 degrees F.

BIOLOGICAL CONCLUSION: NO EFFECT

The study area was evaluated by NCDOT biologists and it was determined that a survey was not required due to lack of potential habitat.

Alasmidonta raveneliana	(Appalachian elktoe)	E
Family:	Unionidae	

Date Listed: November 23, 1994

The **Appalachian elktoe** has a thin, but not fragile, kidney-shaped shell reaching up to three by 1.5 inches (7.6 by 3.8 centimeters), and one inch (2.5 centimeters) in width. Juveniles generally have a yellowish-brown outer shell, while the outer shell of adults is usually dark brown to greenish-black in color. Although rays are prominent on some shells, many individuals have only obscure greenish rays. The shell nacre is shiny, often white to bluish-white, changing to a salmon, pinkish, or brownish color in the central and beak cavity portions of the shell.

The Appalachian elktoe has been reported from relatively shallow, medium-sized creeks and rivers with cool, moderate to fast flowing water. It has also been observed in gravelly substrates often mixed with cobble and boulders, in cracks in bedrock, and occasionally in relatively silt-free, coarse sandy substrates.

BIOLOGICAL CONCLUSION: NO EFFECT

NCDOT Environmental Specialists conducted mussel surveys on September 12, 2002 from approximately 200 feet (60 meters) downstream to 100 feet (30 meters) upstream of the bridge. No freshwater mussels were found during the survey. Based on these survey results, it is apparent that the Appalachian elktoe mussel does not occur in the project stream. It can be concluded that project construction will not impact this species.

Epioblasma capsaeformis (Oyster mussel) E
Family: Unionidae
Date Listed: January 10, 1997

The **oyster mussel** is a small freshwater mussel with a maximum size of about two inches (5.1 centimeters). Its periostracum (outer shell surface) has a dull to shiny yellowish to green colored shell with numerous narrow dark green rays. The inside of the shell is whitish to bluish-white in color.

The oyster mussel inhabits small to medium rivers in areas with coarse sand to boulder stratum (rarely in mud) and moderate to swift currents. It is sometimes found associated with water willow beds and in pockets of gravel between bedrock ledges in areas of swift current.

BIOLOGICAL CONCLUSION: NO EFFECT

NCDOT Environmental Specialists conducted mussel surveys on September 12, 2002 from approximately 200 feet (60 meters) downstream to 100 feet (30 meters) upstream of the bridge. No freshwater mussels were found during the survey. Based on these survey results, it is apparent that the oyster mussel does not occur in the project stream. It can be concluded that project construction will not impact this species.

Geum radiatum	(Spreading avens)	E
Family:	Rosaceae	
Date Listed:	April 5, 1990	

Spreading avens is a perennial herb topped with an indefinite cyme of large, bright, yellow flowers. Its leaves are mostly basal with large terminal lobes and small laterals, and they arise from horizontal rhizomes. Plant stems grow eight to 20 inches (20 to 50 centimeters) tall. Flowering occurs from June to September, and the fruits are produced from August to October.

Spreading avens inhabits high elevation cliffs, outcrops, and steep slopes which are exposed to full sun. It is also found in thin, gravelly soils or grassy balds near summit outcrops. The adjacent spruce/fir forests [generally found above 5,500 feet (1,676 meters) in elevation] are dominated by red spruce and Fraser fir. The substrate at all the population sites is composed of various igneous, metamorphic, and sedimentary rocks.

BIOLOGICAL CONCLUSION: NO EFFECT

Habitat (high elevation cliffs and outcrops) does not exist in the project study area for this species; the project area is approximately 2,180 feet (664 meters) above msl, which is well below the elevation for suitable habitat. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. It can be concluded that the construction of the proposed project will not impact spreading avens.

Gymnoderma lineare	(Rock gnome lichen)	E
Family:	Cladoniaceae	
Date Listed:	January 18, 1995	

Rock gnome lichen is a squamulose lichen in the reindeer moss family. It occurs in dense colonies of narrow straps (squamules) that are blue-grey on the upper surface and generally shiny-white on the lower surface; near the base they grade to black. The squamules are nearly parallel to the rock surface, but the tips curl away from the rock, approaching or reaching a perpendicular orientation to the rock surface. The fruiting bodies (found from July through September) are borne at the tips of the squamules and are black.

Rock gnome lichen occurs only in areas of high humidity, either at high elevations, where it is frequently bathed in fog, or in deep river gorges at lower elevations. It is primarily limited to vertical rock faces where seepage water from forest soils above the cliffs flows at (and only at) very wet times. Most populations occur above an elevation of 5,000 feet (1,524 meters).

BIOLOGICAL CONCLUSION: NO EFFECT

Habitat (vertical rock faces) does not exist in the project study area for this species; the project area is approximately 2,180 feet (664 meters) above msl, which is located well below the elevation for suitable habitat. A search of the NCNHP database showed no recorded occurrences

of this species within the project vicinity. It can be concluded that the construction of the proposed project will not impact the rock gnome lichen.

Saggitaria fasciculata	(Bunched arrowhead)	E
Family:	Alismataceae	
Date Listed:	July 25, 1979	

Bunched arrowhead is an emersed aquatic perennial herb which grows six to 13 inches (15 to 33 centimeters) in height. It has spatulate leaves up to 12 inches (30 centimeters) long and ¾ inches (1.9 centimeters) wide that stem from the base of the plant. White, three-petalled flowers occur in an erect spike. The flowering stalk is erect, with upper flowers male and lower flowers female. Flowering and fruiting occurs from May to July.

Bunched arrowhead grows in seepage areas with very low water flow and no stagnation. The soils are sandy loams overlain by muck ten to 24 inches (25 to 60 centimeters) deep. Shaded sites have larger, more vigorous plants than open areas.

BIOLOGICAL CONCLUSION: NO EFFECT

The edges of the creek may provide habitat for this species. A survey was conducted on June 7, 2000 to determine the presence or absence of this species. No specimens were found during the survey. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. It can be concluded that the construction of the proposed project will not impact the bunched arrowhead.

Sarracenia jonesii	(Mountain sweet pitcher plant)	E
Family:	Sarraceniaceae	
Date Listed:	April 14, 1989	

Mountain sweet pitcher plant is a perennial herb that grows from 21 to 73 inches (53 to 185 centimeters) tall. It has hollow, tubular leaves (pitchers) with heart-shaped hoods. The pitchers are a waxy dull green with criss-crossing maroon-purple veins. The hair inside the pitchers' tube is usually bent downward, and the tubes are often filled with liquid and decayed insect parts. The flowers are usually maroon with recurving petals. The stalks are erect and bear one flower each. Flowers are present from April to June.

The mountain sweet pitcher plant is restricted to bogs and streamsides along the Blue Ridge Divide. Some populations can be found along the sides of waterfalls on granite rock faces. Herbs and shrubs usually dominate the bogs where these plants are located. The bog soils are deep, poorly drained combinations of loam, sand, and silt, with a high organic matter content and a medium to highly acidic composition.

BIOLOGICAL CONCLUSION: NO EFFECT

As this plant may occupy streamsides, potential habitat does exist in the project area for this species. A survey within the project area for the mountain sweet pitcher plant was conducted on April 18, 2000. No specimens were found within the area. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. It can be concluded that the construction of the proposed project will not impact the mountain sweet pitcher plant.

Spiraea virginiana	(Virginia spiraea)	T
Family:	Rosaceae	
Date Listed:	June 15, 1990	

Virginia spiraea is a shrub growing from two to ten feet (0.6 to 3.0 meters) tall with arching, upright stems and cream-colored flowers. The leaves are alternate and of different sizes and shapes. The flowers are found on branched and flat-topped axes. Spiraea spreads clonally and forms dense clumps which spread in rock crevices and around boulders.

Virginia spiraea occurs along rocky, flood-scoured riverbanks in gorges or canyons. Flood scouring is essential to this plant's survival because it eliminates taller woody competitors and creates riverwash deposits and early successional habitats. These conditions are apparently essential for this plant's colonization of new sites. The bedrock surrounding spiraea habitat is primarily sandstone and soils are acidic and moist. Spiraea grows best in full sun, but it can tolerate some shade. Spiraea is found in thickets with common woody vine associates including fox grape, summer grape, riverbank grape, winter grape, muscadine and scuppernong. Other plant associates include royal fern, yellow ironweed or wing-stem, ninebark, smooth alder or brookside alder, silky cornel, and shrubby yellowroot.

BIOLOGICAL CONCLUSION: NO EFFECT

A field survey was conducted from approximately 100 feet (30 meters) upstream to approximately 500 feet (150 meters) downstream of the existing bridge on June 20, 2002. No evidence of this species was found during this survey. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. Based on the survey results, it is apparent that virginia spirea does not occur within or along Hominy Creek in the project area. It is concluded that project construction will not impact this species.

2. Federal Species of Concern

Federal Species of Concern (FSC) are not legally protected under the Endangered Species Act and are not subject to any of its provisions, including Section 7, until they are formally proposed or listed as Threatened of Endangered. Species designated as FSC are defined as taxa which may or may not be listed in the future. These species were formerly Candidate 2 (C2) species or species under consideration for listing for which there is insufficient information to support listing.

Some of these species are listed as Endangered, Threatened, or Special Concern by the NCNHP list of Rare Plant and Animal Species and are afforded state protection under the State

Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. Table 4 includes listed FSC species for Buncombe County and their state classifications (May 31, 2002).

The NCNHP database shows no recorded occurrences of FSCs within the project area.

TABLE 4
FEDERAL SPECIES OF CONCERN
BUNCOMBE COUNTY

Scientific Name (Common Name)	North Carolina Status	Habitat Present
Aegolius acadicus (Southern Appalachian saw-whet owl)	T	No
Aimophila aestivalis * (Bachman's sparrow)	SC	No
Neotoma magister (Alleghany woodrat)	SC	No
Erimystax insignis (Blotched Chub)	SR	Yes
Buckleya disticophylla (Piratebush)	E	Yes
Calamagrostis cainii (Cain's reedgrass)	E	No
Corynorhinus (= Plecotus) rafinisquii * (Rafinesque's big-eared bat)	T	Yes
Cryptobranchus alleganiensis (Hellbender)	SC	Yes
Dendroica cerulea (Cerulean warbler)	SR	Yes
Euphorbia purpurea (Glade spurge)	SR-T	Yes
Hexastylis rhombiformis (French Broad heartleaf)	SR-L	No
Lilium grayi (Gray's lily)	T-SC	No
Loxia curvirostra (Southern Appalachian red crossbill)	SC	No
Lysimachia fraseri * (Fraser's loosestrife)	E	Yes
Monotropsis odorata (Sweet pinesap)	SR-T	Yes
Myotis leibii (Eastern small-footed bat)	SC	No
Neotoma floridana haematoreia (Southern Appalachian woodrat)	SC	Yes

Scientific Name (Common Name)	North Carolina Status	Habitat Present
Parus atricapillus practicus (Southern Appalachian black-capped chickadee)	SC	No
Percina macrocephala * (Longhead darter)	SC	No
Phycoides batesii batesii * (Tawny crescent butterfly)	SR	No
Polyodon spathula * (Paddlefish)	E	No
Rudbeckia triloba var. pinnatoloba (Pinnate-lobed black-eyed susan)	SR-T	No
Saxifraga caroliniana (Carolina saxifrage)	SR-T	No
Senecio millefolium (Divided-leaf ragwort)	T	No
Silene ovata (Mountain catchfly)	SR-T	Yes
Sorex palustris puctulatus (Southern water shrew)	SC	Yes
Speyeria diana * (Diana fritillary butterfly)	SR	No
Sphyrapicus varius appalaciensis (Southern Appalachian yellow-bellied sapsucker)	SC	No
Thryomanes bewickii altus * (Appalachian Bewick's wren)	E	No

NOTES:

- C — Candidate (species for which population monitoring and conservation action is recommended).
- E — Endangered (species which are afforded protection by state laws).
- T — Threatened (species which are afforded protection by state laws).
- SC — Special Concern (species which are afforded protection by state laws).
- SR — Significantly Rare (species for which population monitoring and conservation action is recommended).
- W — Watch list (any other species believed to be rare and of conservation concern in the state but not warranting active monitoring at this time)
- * — Historic record, the species was last observed in the county more than 50 years ago (USFWS)
- ♦ — Listed by the USFWS but not by the NCNHP.

3. Summary of Anticipated Impacts

Potential habitat was present for five federally protected species: the spotfin chub, the gray bat, the Appalachian elktoe, the oyster mussel, and Virginia spiraea. Surveys for these species were conducted to determine the presence or absence of these species in the project area. No specimens of any of these species were found and biological conclusions of no effect were reach for all of the above-mentioned species.

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, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

B. Historic Architecture

Mattson, Alexander & Associates, Inc. conducted a field survey of the Area of Potential Effects (APE) in September 2001. All structures within the APE were photographed, and later a NCDOT staff architectural historian reviewed the photos. An in-depth evaluation was necessary for one property, the O.H. Winchester Farm. A report on the eligibility of the farm for the National Register was prepared and submitted to the State Historic Preservation Office (HPO) on November 26, 2001. In a memorandum dated January 10, 2002, the HPO concurred the O.H. Winchester Farm is not eligible for the National Register. A copy of the letter is included in the Appendix.

C. Archaeology

The State Historic Preservation Officer (SHPO), in a memorandum dated October 29, 2001, stated that there are no known-recorded archaeological sites within the project boundaries. However, SHPO recommended that a comprehensive survey be conducted by an experienced archaeologist to identify and evaluate the significance of archaeological remains that may be damaged or destroyed.

A survey was conducted and submitted to SHPO on April 8, 2002. The results of the survey were that no sites were located within the project area and no further archaeological investigation be conducted in connection with this report. SHPO concurred with these recommendations in a memorandum dated May 16, 2002. A copy of the SHPO memorandum is included in the Appendix.

VII. ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer 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 North Carolina Department of Transportation standards and 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.

No adverse impact on families or communities is anticipated. Right-of-way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

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

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966.

This project has been coordinated with the United States Natural Resources Conservation Service. 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. This project impacts approximately 0.9 acres (0.4 hectares) of prime or locally important farmland. The average farm size for Burke County is 40 acres (16 hectares). Therefore, a substantial impact to prime or locally important farmland is not anticipated.

This project is 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 Buncombe 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. This project is not anticipated to create any adverse effects on the air quality of this 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 NCAC 2D.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 (1990 Clean Air Act Amendments and the National Environmental Policy Act) and no additional reports are required.

There are no known underground storage tanks (USTs) present in the study area.

Buncombe County is a current participant in the National Flood Insurance Program. The approximate 100-year floodplain in the project area is shown on Exhibits 2 and 3. The amount of floodplain area to be affected is not substantial.

There are no practical alternatives to crossing the floodplain area. Any shift in alignment will

result in a crossing of approximately equal magnitude. All reasonable measures will be taken to minimize any possible harm.

The project will not increase the upstream limits of the 100-year floodplain.

Based on the above statements, it is concluded that no substantial adverse environmental impacts will result from implementation of the project.

VIII. PUBLIC INVOLVEMENT

A Public workshop was held on March 26, 2002 in the Candler Elementary School Library in Candler. A newsletter was also mailed two weeks in advance of the workshop. Four citizens attended. One of the attendees, a Buncombe County Schools representative, stated that the school system would like gates installed, if possible, to protect the railroad crossing as part of this project. *{Norfolk Southern provided a cost estimate for installing signals and gates, see Section IV.}*

Adjacent property owners were concerned with impacts, but stated that they understood the need for the project and also agreed with the location of the Preferred Alternative. They wanted to be sure that they would be informed about the project prior to construction. No written comments were submitted.

IX. AGENCY COMMENTS

Agency comments are summarized below. Letters from the commenting agencies are included in the appendix.

United States Fish and Wildlife Service (USFWS)– USFWS states that there are no known locations of federally listed Threatened, Endangered, or Species of Federal Concern in the project area.

USFWS recommends that temporary fill be minimized, that no heavy equipment operates in the stream channel, and removal of woody vegetation along the stream banks be avoided to the extent possible. USFWS also recommends removing any fill in the floodplain associated with the existing structures to restore the natural floodplain elevation and function.

USFWS recommends that the existing structure be replaced with a bridge and the design should include provisions for roadbed and deck drainage to flow through a vegetated buffer. Bridge design should not alter natural stream form or morphology or impede fish passage and piers or bents should be placed outside the bankfull width. Bridge and approaches should be designed to avoid damming the channel or floodplain. USFWS recommends erosion and sedimentation controls to be in place prior to construction. No wet concrete should come into contact with the stream.

Response: In order to minimize construction impacts, the construction will be conducted in accordance with "Best Management Practices for the Protection of Surface Waters", "Pre-Construction Guidelines for Bridge Demolition and Removal", "Policy: Bridge Demolition

and Removal in Waters of the United States", and "Best Management Practices for Bridge Demolition and Removal".

North Carolina Wildlife Resources Commission (WRC) – The North Carolina Wildlife Resources Commission (NCWRC) states that Hominy Creek is considered a spawning stream for trout. Therefore, NCWRC requests an instream construction moratorium between November 1 and April 15 to minimize impacts to spawning trout.

Response: The construction moratorium has been incorporated in the Project Commitments.

State Historic Preservation Office (HPO) – The HPO stated that there are no known-recorded archaeological sites within the project boundaries. However, HPO recommends that a comprehensive survey be conducted by an experienced archaeologist to identify and evaluate the significance of archaeological remains that may be damaged or destroyed. Potential effects on unknown resources must be assessed prior to the initiation of construction activities.

Response: A survey was conducted and submitted to SHPO on April 8, 2002. The results of the survey were that no sites were located within the project area and no further archaeological investigation be conducted in connection with this report. SHPO concurred with these recommendations in a memorandum dated May 16, 2002.

Buncombe County Schools – The Buncombe County School Transportation Department stated that as long as an on-site detour is available, there will not be an adverse effect on current school bus routes.

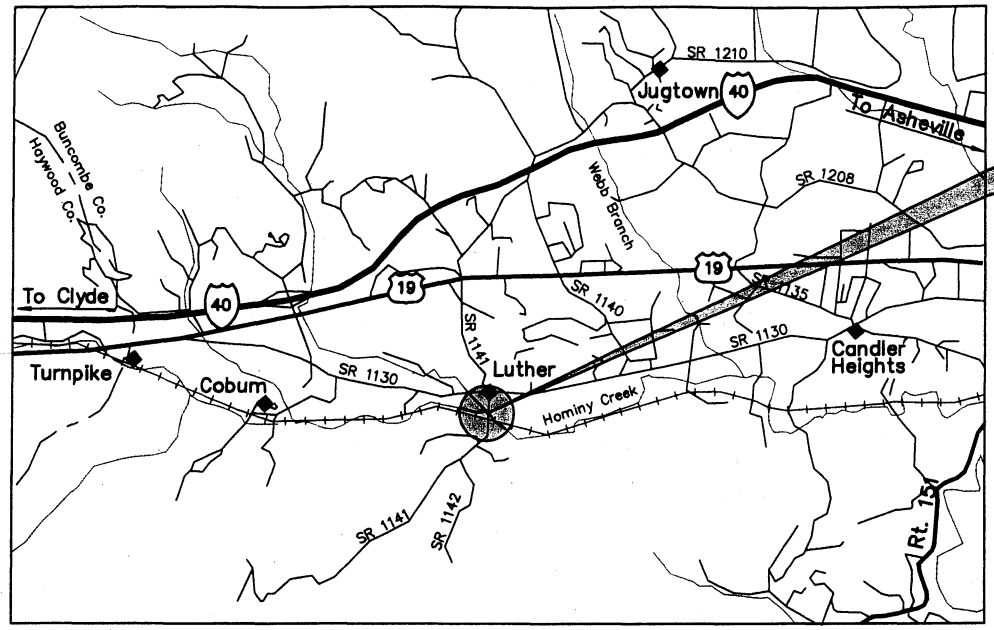
Response: None required.

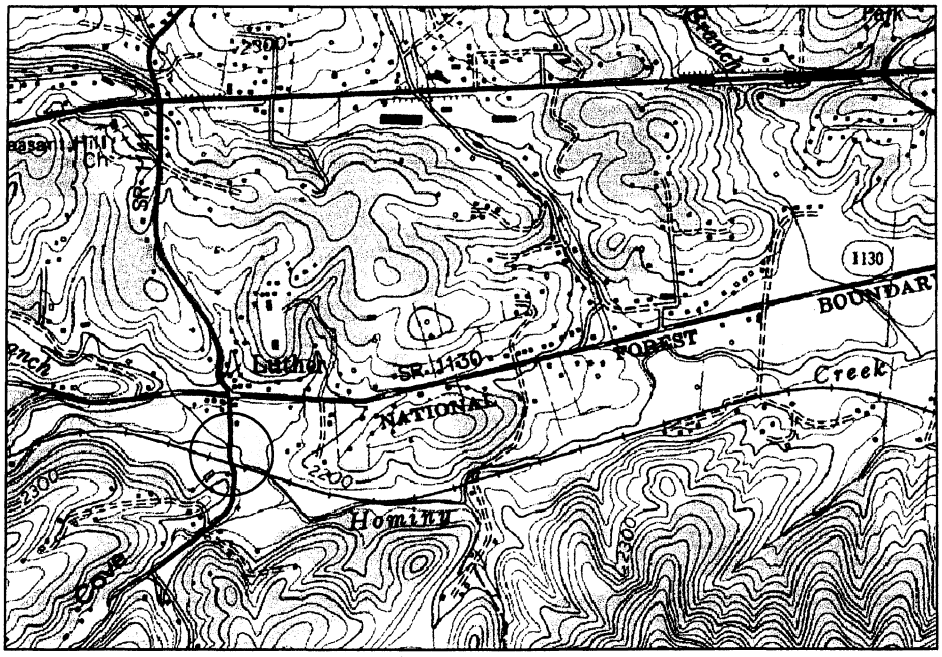
Tennessee Valley Authority (TVA) – The TVA stated that the federal categorical exclusion documents prepared for this project should note that an approval under Section 26a of the TVA Act will be required.

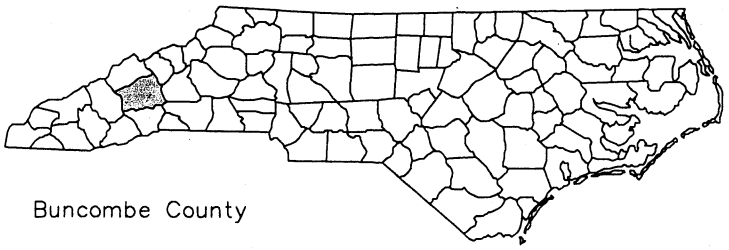
Response: A copy of the environmental report will be forwarded. Approval under Section 26a of the TVA Act is noted and has been incorporated in the Project Commitments.

Norfolk Southern Railroad –Norfolk Southern Railroad, in a letter dated April 26, 2002, recommended the grade for the northbound approach to the track be lessened to improve riding characteristics at the grade crossing. Norfolk Southern also provided cost estimates for signals, gates, and a new crossing surface.

Response: In order to substantially decrease the grade of the northbound approach, construction would require undercutting of the existing pavement and necessitate an on-site detour to maintain traffic. These elements would substantially impact adjacent residential properties. The proposed project does, however, decrease the grade relative to the existing profile and provides an improved condition.







North Carolina
Department of Transportation

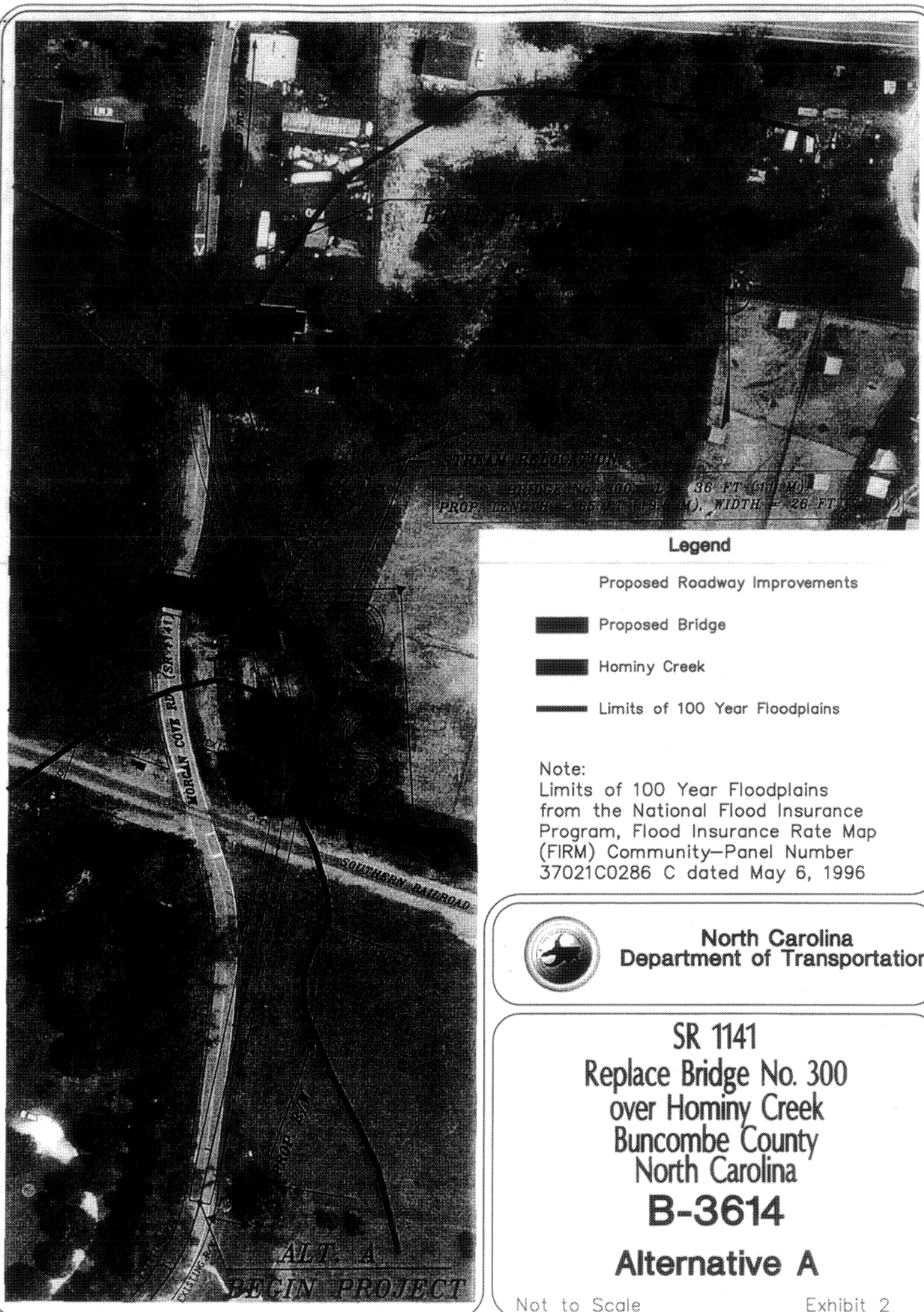
SR 1141
Replace Bridge No. 300 over Hominy Creek
Buncombe County
North Carolina

B-3614

Project Vicinity

Not to Scale

Exhibit 1



Legend

Proposed Roadway Improvements

Proposed Bridge

Hominy Creek

Limits of 100 Year Floodplains

Note:
Limits of 100 Year Floodplains from the National Flood Insurance Program, Flood Insurance Rate Map (FIRM) Community–Panel Number 37021C0286 C dated May 6, 1996

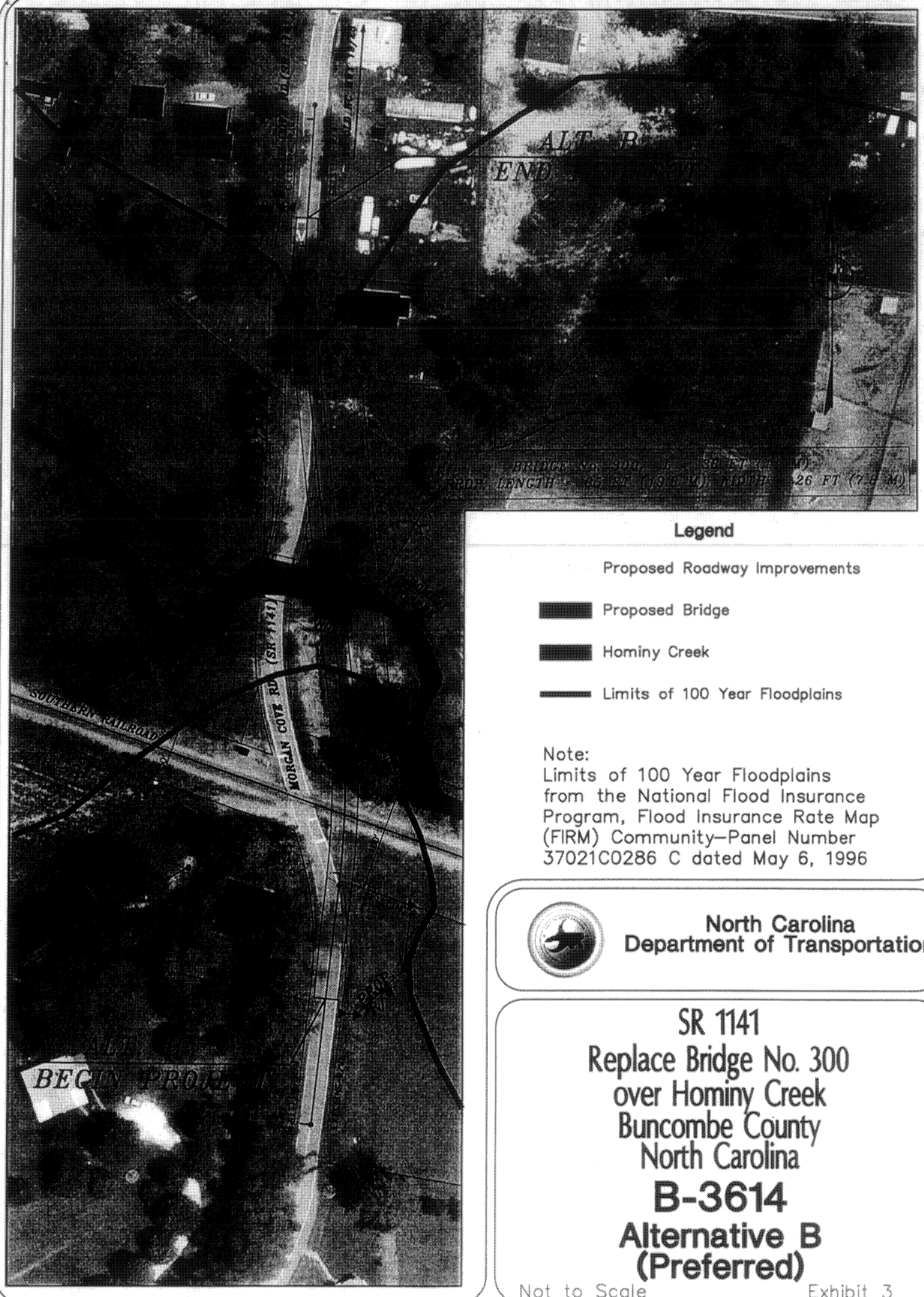
North Carolina Department of Transportation

SR 1141
Replace Bridge No. 300 over Hominy Creek
Buncombe County
North Carolina
B-3614

Alternative A

Not to Scale

Exhibit 2



Legend

Proposed Roadway Improvements

Proposed Bridge

Hominy Creek

Limits of 100 Year Floodplains

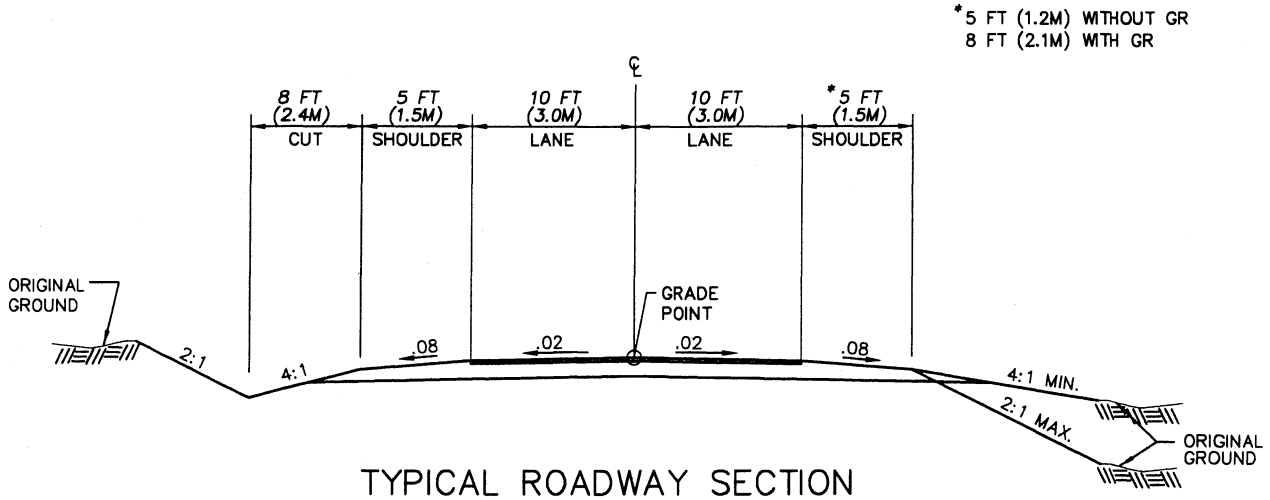
Note:
Limits of 100 Year Floodplains from the National Flood Insurance Program, Flood Insurance Rate Map (FIRM) Community–Panel Number 37021C0286 C dated May 6, 1996

North Carolina Department of Transportation

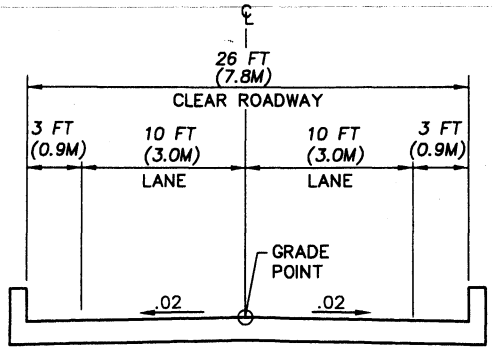
SR 1141
Replace Bridge No. 300 over Hominy Creek
Buncombe County
North Carolina
B-3614
Alternative B (Preferred)

Not to Scale

Exhibit 3



TYPICAL ROADWAY SECTION



TYPICAL BRIDGE SECTION

Design Data

ADT 2001	550	LOS B
ADT 2003	575	LOS B
ADT 2025	800	LOS B
DUAL		3%
TTST		1%
DESIGN SPEED		30 mph (50 Km/h)
POSTED SPEED		Statutory 55 mph (90 Km/h)
PROPOSED POSTED SPEED		25 mph (40 Km/h)
FUNCTIONAL CLASSIFICATION		Rural Local
MIN RADIUS		250 ft (80 m)
MAX GRADE		10%
MIN DES. K FACTORS	SAG	37 (13)
	CREST	19 (7)

{English (Metric)}

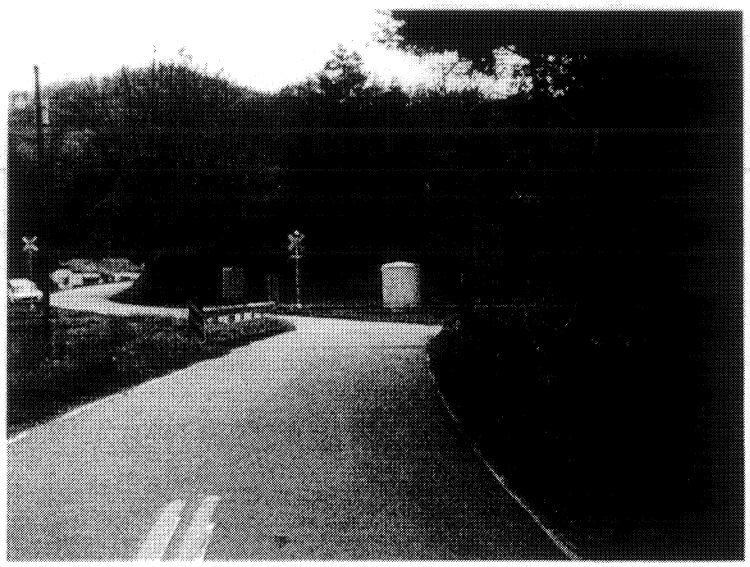
North Carolina Department of Transportation

SR 1141
Replace Bridge No. 300 over Hominy Creek
Buncombe County
North Carolina
B-3614
Typical Sections

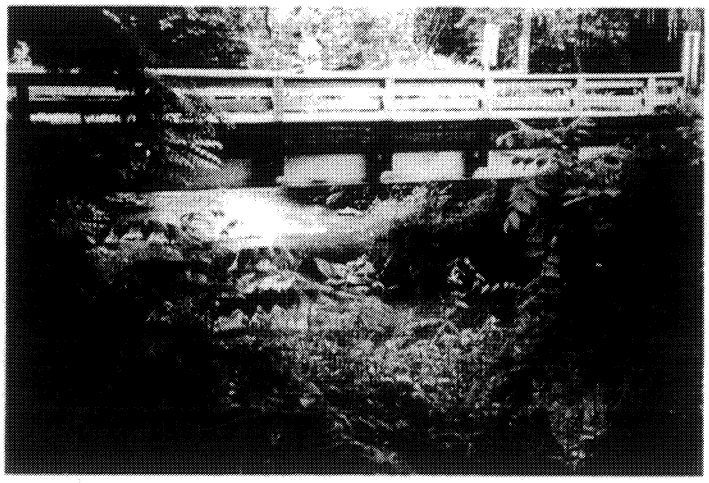
Not to Scale

Exhibit 4

Northbound Approach



Southbound Approach



Looking Downstream

North Carolina
Department of Transportation

SR 1141
Replace Bridge No. 300 over Hominy Creek
Buncombe County
North Carolina
B-3614

Photos

Not to Scale

Exhibit 5

APPENDIX

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

August 9, 2000

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

Dear Mr. Gilmore:

According to your letter of June 7, 2000, the North Carolina Department of Transportation is proposing 12 bridge replacement projects in Buncombe, Burke, Haywood, Jackson, and Madison Counties, North Carolina. These are Group XXXII Bridge Replacement Projects, listed as follows:

Buncombe County
1. B-3614, Replace Bridge No. 300 on SR 1141 over Hominy Creek
2. B-3616, Replace Bridge No. 740 on SR 1319 over Mill Creek
3. B-3619, Replace Bridge No. 56 on SR 3439 over Bill Moore Creek

Burke County
1. B-3620, Replace Bridge No. 292 on SR 1001 over the Henry Fork River
2. B-3621, Replace Bridge No. 148 on SR 1547 over Micol Creek
3. B-3622, Replace Bridge No. 334 on SR 1900 over an unnamed creek

Haywood County
1. B-3470, Replace Bridge No. 163 on US 276 over the Pigeon River Overflow
2. B-3656, Replace Bridge No. 419 on US 19-23 over the Pigeon River
3. B-3659, Replace Bridge No. 112 on SR 1147 over Allens Creek
4. B-3661, Replace Bridge No. 36 on SR 1503 over Crabtree Creek

Jackson County
1. B-3667, Replace Bridge No. 47 on SR 1131 over Trout Creek

Madison County
1. B-3869, Replace Bridge No. 146 on SR 1151 over Big Pine Creek

As requested, we have reviewed the proposed projects and are providing the following comments in accordance with the provisions of Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e). The legal responsibilities of a Federal agency or its designated non-Federal representative under Section 7 of the Act are on file with the Federal Highway Administration. In addition to general comments applicable to all of the projects, specific concerns for listed species are provided with the individual bridge description.

Enclosed is a list of species from Buncombe, Burke, Haywood, Jackson, and Madison Counties that are on the Federal List of Endangered and Threatened Wildlife and Plants, as well as species of Federal concern. Although our records indicate no known locations of these species in the project areas for Buncombe County projects B-3614, B-3616, and B-3619; Haywood County projects B-3659 and B-3661; Jackson County project B-3667; and Madison County project B-386, we recommend surveying each of the project areas for these species prior to any further planning or on-the-ground activities to ensure no adverse impacts occur to these species.

Our records for Burke County indicate there is a known location of the federally threatened dwarf-flowered heartleaf (*Hexastylis naniflora*) near projects B-3620 and B-3621. If this species occurs in the area of either of these projects, additional consultation will be required. Additionally, there is a record for a species of Federal concern--sweet pinesap (*Monotropis odorata*)--from a site near project B-3622. The project areas for these bridges should be surveyed for these species to ensure they are protected from impacts.

Our records for Haywood County indicate that there are known locations for the federally endangered Appalachian elktoe mussel (*Alasmidonta raveneliana*) near projects B-3470 and B-3656. The effects to the Appalachian elktoe must be assessed prior to implementation of these projects.

Species of Federal concern are not legally protected under the Act and are not subject to any of its provisions, including Section 7, unless they are formally proposed or listed as endangered or threatened. We are including these species in our response to give you advance notification and to request your assistance in protecting them if any are found in the vicinity of these projects.

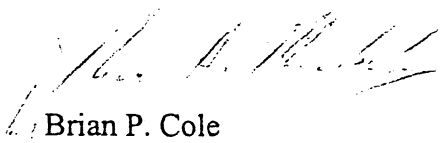
The information that accompanied your letter concerning these projects related only to the removal of the existing bridges. According to this information, there will be temporary fill associated with several of the projects. We recommend that this fill be minimized, to the extent possible, and that no heavy equipment be operated in the stream channel. To maintain bank stability, any cutting or removal of woody vegetation along the stream banks should be avoided to the maximum extent possible. We also recommend removing any fill in the flood plain associated with the existing structures in order to restore the natural elevation of the flood plain and its function. This will minimize the potential for stream-bank and channel scouring that may

occur during storm flows as a result of any constriction of the flood plain or stream channel associated with the existing structures.

As stated above, the information you provided addressed only the removal of the existing bridges; no information was provided concerning the types of structures that will replace the existing bridges or what measures will be implemented to minimize the potential effects associated with the new structures and their construction. We recommend that the existing structures be replaced with bridges and that each new bridge design include provisions for the roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from the run-off of storm water and pollutants. The bridge designs should not alter the natural stream and stream-bank morphology or impede fish passage. Any piers or bents should be placed outside the bank-full width of the streams. The bridges and approaches should be designed to avoid any fill that will result in the damming or constriction of the channel or flood plain. If spanning the flood plain is not feasible, culverts should be installed in the flood plain portion of the approaches in order to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected areas. We recommend that erosion- and sedimentation-control measures be in place prior to any ground-disturbing activities. Wet concrete should never be allowed to come into contact with the stream.

We appreciate the opportunity to provide these comments. If you have any questions or concerns, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. Please reference our Log Number 4-2-00-280 in any future correspondence concerning these projects.

Sincerely,



Brian P. Cole
State Supervisor

Enclosure

cc:
Mr. Mark Davis, Environmental Compliance Officer, North Carolina Department of Transportation, P.O. Box 37, Sylva, NC 28779
Mr. Steve Lund, U.S. Army Corps of Engineers, Asheville Regulatory Field Office, 151 Patton Avenue, Room 143, Asheville, NC 28801-5006
Mr. Tim Savidge, Environmental Biologist, Project Development and Environmental Analysis Branch, North Carolina Department of Transportation, 1548 Mail Service Center, Raleigh, NC 27699-1548
Ms. Cynthia Van Der Wiele, North Carolina Department of Environment and Natural Resources, Division of Water Quality, Wetlands Section, 1621 Mail Service Center, Raleigh, NC 27699-1621

ENDANGERED, THREATENED, AND CANDIDATE SPECIES AND FEDERAL SPECIES OF CONCERN BUNCOMBE, BURKE, HAYWOOD, JACKSON, AND MADISON COUNTIES, NORTH CAROLINA

This list was adapted from the North Carolina Natural Heritage Program's County Species List. It is a listing, for Buncombe, Burke, Haywood, Jackson, and Madison Counties, of North Carolina's federally listed and proposed endangered, threatened, and candidate species and Federal species of concern (for a complete list of rare species in the state, please contact the North Carolina Natural Heritage Program). The information in this list is compiled from a variety of sources, including field surveys, museums and herbariums, literature, and personal communications. The North Carolina Natural Heritage Program's database is dynamic, with new records being added and old records being revised as new information is received. Please note that this list cannot be considered a definitive record of listed species and Federal species of concern, and it should not be considered a substitute for field surveys.

Critical habitat: Critical habitat is noted, with a description, for the counties where it is designated.

Aquatic species: Fishes and aquatic invertebrates are noted for counties where they are known to occur. However, projects may have effects on downstream aquatic systems in adjacent counties.

COMMON NAME	SCIENTIFIC NAME	STATUS
BUNCOMBE COUNTY		
Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bachman's sparrow	*Aimophila aestivalis*	FSC*
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rafinesque's big-eared bat	*Corynorhinus (=Plecotus) rafinesquii*	FSC*
Hellbender	*Cryptobranchus alleganiensis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Eastern cougar	*Felis concolor couguar*	Endangered*
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Spotfin chub	*Hybopsis monacha*	Threatened*
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Gray bat	*Myotis grisescens*	Endangered***
Eastern small-footed myotis	*Myotis leibii*	FSC
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Southern Appalachian black-capped chickadee	*Parus atricapillus practicus*	FSC
Longhead darter	*Percina macrocephala*	FSC*
Paddlefish	*Polyodon spathula*	FSC*
Southern water shrew	*Sorex palustris punctulatus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC*
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
French Broad crayfish	*Cambarus reburrus*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Oyster mussel	*Epioblasma capsaeformis*	Endangered
Tawny crescent butterfly	*Phycoides batesii*	FSC*
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Piratebush	*Buckleya distichophylla*	FSC
Cain's reedgrass	*Calamagrostis cainii*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Spreading avens	*Geum radiatum*	Endangered
Mountain heartleaf	*Hexastylis contracta*	FSC
French Broad heartleaf	*Hexastylis rhombiformis*	FSC
Butternut	*Juglans cinerea*	FSC
Gray's lily	*Lilium grayi*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC*
Sweet pinesap	*Monotropsis odorata*	FSC
Pinnate-lobed black-eyed susan	*Rudbeckia triloba* var. *pinnatoloba*	FSC
Bunched arrowhead	*Sagittaria fasciculata*	Endangered*
Mountain sweet pitcher plant	*Sarracenia jonesii*	Endangered*
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Divided-leaf ragwort	*Senecio millefolium*	FSC
Mountain catchfly	*Silene ovata*	FSC
Virginia spiraea	*Spiraea virginiana*	Threatened
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered

BURKE COUNTY

Critical Habitat Designation:

Mountain golden heather, *Hudsonia montana* - The area bounded by the following: on the west by the 2200' contour; on the east by the Linville Gorge Wilderness Boundary north from the intersection of the 2200' contour and the Shortoff Mountain Trail to where it intersects the 3400' contour at "The Chimneys"--then follow the 3400' contour north until it reintersects the Wilderness Boundary--then follow the Wilderness Boundary again northward until it intersects the 3200' contour extending west from its intersection with the Wilderness Boundary until it begins to turn south--at this point the Boundary extends due east until it intersects the 2200' contour.

Vertebrates		
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Alleghany woodrat	*Neotoma magister*	FSC
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Edmund's snaketail dragonfly	*Ophiogomphus edmundo*	FSC*

COMMON NAME	SCIENTIFIC NAME	STATUS
Pygmy snaketail dragonfly	*Ophiogomphus howei*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Spreading avens	*Geum radiatum*	Endangered
Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
Mountain golden heather	*Hudsonia montana*	Threatened
Small-whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Heller's blazing star	*Liatris helleri*	Threatened
Sweet pinesap	*Monotropsis odorata*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Nonvascular Plants		
A liverwort	*Cephaloziella obtusilobula*	FSC*
A liverwort	*Plagiochila sullivantii* var. *spinigera*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC

HAYWOOD COUNTY

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Olive-sided flycatcher	*Contopus borealis*	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Eastern cougar	*Felis concolor couguar*	Endangered*
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Southern rock vole	*Microtus chrotorrhinus carolinensis*	FSC
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Alleghany woodrat	*Neotoma magister*	FSC
Southern Appalachian black-capped chickadee	*Parus atricapillus practicus*	FSC
Southern water shrew	*Sorex palustris punctulatus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
Tawny crescent butterfly	*Phyciodes batesii maconensis*	FSC*
Diana fritillary butterfly	*Speyeria diana*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Piratebush	*Buckleya disticophylla*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Manhart's sedge	*Carex manhartii*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC*
Glade spurge	*Euphorbia purpurea*	FSC
Smoky Mountain manna grass	*Glyceria nubigena*	FSC
Small-whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC
Rugel's ragwort	*Rugelia nudicaulis*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Mountain catchfly	*Silene ovata*	FSC
Alabama least trillium	*Trillium pusillum* var. *1*	FSC
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sharpii*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC

JACKSON COUNTY

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Green salamander	*Aneides aeneus*	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Sicklefin redhorse	*Moxostoma* sp.	FSC
Indiana bat	*Myotis sodalis*	Endangered (winter records)
Southern Appalachian black-capped chickadee	*Parus atricapillus practicus*	FSC
Olive darter	*Percina squamata*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
French Broad crayfish	*Cambarus reburrus*	FSC
Whitewater crayfish ostracod	*Dactyloctythere prinsi*	FSC
Tawny crescent butterfly	*Phycoides batesii maconensis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Manhart's sedge	*Carex manhartii*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Swamp pink	*Helonias bullata*	Threatened
Small-whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Divided-leaf ragwort	*Senecio millefolium*	FSC
Mountain catchfly	*Silene ovata*	FSC
Nonvascular Plants		
Gorge moss	*Bryocrumia vivicolor*	FSC
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sullivantii* var. *spinigera*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Plagiochila virginica* var. *caroliniana*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC
A liverwort	*Cephaloziella obtusilobula*	FSC*
A liverwort	*Plagiochila sullivantii* var. *spinigera*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC

MADISON COUNTY

Vertebrates		
Lake sturgeon	*Acipenser fulvescens*	FSC*
Rafinesque's big-eared bat	*Corynorhinus (=Plecotus) rafinesquii*	FSC*
Hellbender	*Cryptobranchus alleganiensis*	FSC
Spotfin chub	*Hybopsis monacha*	Threatened*
Olive darter	*Percina squamata*	FSC
Paddlefish	*Polyodon spathula*	FSC
Invertebrates		
Oyster mussel	*Epioblasma capsaeformis*	Endangered*
Sculpted supercoil	*Paravitrea ternaria*	FSC
Vascular Plants		
Piratebush	*Buckleya distichophylla*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Butternut	*Juglans cinerea*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Mountain catchfly	*Silene ovata*	FSC

KEY:

Status	Definition
Endangered	A taxon "in danger of extinction throughout all or a significant portion of its range."
Threatened	A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
FSC	A Federal species of concern--a species that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).
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.

Species with 1, 2, 3, or 4 asterisks behind them indicate historic, obscure, or incidental records.

*Historic record - the species was last observed in the county more than 50 years ago.
**Obscure record - the date and/or location of observation is uncertain.
***Incidental/migrant record - the species was observed outside of its normal range or habitat.
****Historic record - obscure and incidental record.

[1]In the November 4, 1997, *Federal Register* (55822-55825), the northern population of the bog turtle (from New York south to Maryland) was listed as T (threatened), and the southern population (from Virginia south to Georgia)was listed as T(S/A) (threatened due to similarity of appearance). The T(S/A) designation bans the collection and interstate and international commercial trade of bog turtles from the southern population. The T(S/A) designation has no effect on land-management activities by private landowners in North Carolina, part of the southern population of the species. In addition to its official status as T(S/A), the U.S. Fish and Wildlife Service considers the southern population of the bog turtle as a Federal species of concern due to habitat loss.

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

June 19, 2000

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

Dear Mr. Gilmore:

GROUP XXXII BRIDGE REPLACEMENT PROJECTS, FRENCH BROAD AND LITTLE TENNESSEE RIVER WATERSHEDS, BUNCOMBE, HAYWOOD, AND JACKSON COUNTIES, NORTH CAROLINA

Your letter of June 7, 2000 to John Shipp has been referred to me for a reply. TVA has reviewed the project descriptions and maps for the following proposed bridge replacements in western North Carolina:

- B-3614, SR 1141 over Hominy Creek, Buncombe County
- B-3616, SR 1319 over Mill Creek, Buncombe County
- B-3619, SR 3439 over Bill Moore Creek, Buncombe County
- B-3470, US 276 over Bird Creek/Pigeon River overflow, Haywood County
- B-3656, US 19-23 (Park Street) over Pigeon River, Haywood County
- B-3659, SR 1147 over Allen Creek, Haywood County
- B-3661, SR 1503 over Crabtree Creek, Haywood County
- B-3667, SR 1131 over Trout Creek, Jackson County
- B-3869, SR 1151 over Big Pine Creek, Madison County

The federal categorical exclusion documents prepared for these projects should note that an approval under Section 26a of the TVA Act would be required for each of the bridge replacements. At this time, we are not aware of any unusual environmental concerns present at the bridge replacement sites.

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 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

Harris

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

October 29, 2001

NOV

MEMORANDUM

TO: William D. Gilmore, Manager
Project Development and Environmental Analysis Branch
Division of Highways
Department of Transportation

FROM: David Brook Rose for David Brook.

SUBJECT: Bridge No. 300 on SR 1141 over Hominy Creek, B-3614, Buncombe County, ER 00-101[illegible]

Thank you for your letter of June 7, 2000, concerning the above project.

We regret the omission of comments on archaeological resources in our previous responses.

There are no known-recorded archaeological sites within the project boundaries. However, the project area has never been systematically surveyed to determine the location or significance of archaeological resources.

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

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, please 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.

DB:kgc

	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

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

January 10, 2002

MEMORANDUM

JAN 15 2002

TO: William D. Gilmore, Manager
Project Development and Environmental Analysis Branch
Division of Highways
Department of Transportation

FROM: David Brook for David Brook

SUBJECT: B-3614, Replace Bridge No. 300 on SR 1141 over Hominy Creek, State Project #8.2843901, Federal Aid # BRZ-1141(9), Buncombe County, ER 02-8268

Thank you for your letter of November 26, 2001, transmitting the survey report by Mattson, Alexander and Associates for the above project.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following property is not eligible for listing in the National Register of Historic Places

O H. Winchester Farm

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.

DB:kgc

cc: Mary Pope Furr, NCDOT
Mattson, Alexander and Associates

	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

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
Office of Archives and History

Division of Historical Resources
David J. Olson, Director

May 16, 2002

MEMORANDUM

TO: William D. Gilmore, Manager
Project Development and Environmental Analysis Branch
Division of Highways
Department of Transportation

FROM: David Brook RBG for David Brook

SUBJECT: Bridge No. 300 on SR 1141 over Hominy Creek, B-3614, Buncombe County, ER 02-9495

Thank you for your letter April 8, 2002, of transmitting the archaeological survey report by Brad Duplantis, The Louis Berger Group, Inc. for the above project.

During the course of the survey, no sites were located within the project area. Mr. Duplantis 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: Brad Duplantis, The Louis Berger Group, Inc

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

MEMORANDUM

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

FROM: Owen F. Anderson, Mountain Region Coordinator
Habitat Conservation Program

Copy - Clean Cuch 9/25/2001

DATE: August 21, 2000

SUBJECT: Scoping for Group XXXII Bridge Replacement Projects in Buncombe, Haywood, Jackson, Madison and Bladen/Sampson Counties

This memorandum responds to your request for our concerns regarding impacts on fish and wildlife resources resulting from the subject projects. We apologize for the delay in our response but a staff shortage has put us behind in our reviews. The North Carolina Wildlife Resources Commission (NCWRC) has reviewed the proposed projects, and 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).

The proposed work involves nine bridge replacement projects in western North Carolina and one project in Bladen/Sampson Counties. Construction impacts on wildlife and fisheries resources will depend on the extent of disturbance in the streambed and surrounding floodplain areas. We prefer bridge designs that do not alter the natural stream morphology or impede fish passage. Bridge designs should also include provisions for the deck drainage to flow through a vegetated upland buffer prior to reaching the subject surface waters. We are also concerned about impacts to designated Public Mountain Trout Waters (PMTW) and environmental documentation for these projects should include description of any streams or wetlands on the project site and surveys for any threatened or endangered species that may be affected by construction.

B-3615 - Bladen/Sampson County Bridge No. 44 on NC 41 over the South River

There is a record of the broad-tailed madtom near the bridge. Additionally, there appear to be significant wetlands associated with this area. This reach is also considered anadromous fish spawning area An in-water work moratorium is requested between February 1-July 1 to minimize impacts to anadromous fish and other spawning fish. We prefer that debris not be discharged to the river during demolition activities to prevent obstructions to navigation and impacts to potential habitat for the broad-tailed madtom.

B-3614 – Buncombe County, Bridge No. 300 on SR 1141 over Hominy Creek

Hominy Creek is considered a spawning stream for trout. We request an instream construction moratorium between November 1-April 15 to minimize impacts to spawning trout.

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 733-3633 ext. 281 • Fax: (919) 715-7643

B-3616 – Buncombe County, Bridge No 740 on SR 1319 over Mill Creek

This creek is not considered to be trout waters. We have no concerns other than minimization of impacts to water quality and habitat.

B-3619 – Buncombe County, Bridge No. 10056 on SR 3449 over Bill Moore Creek

This stream reach is used by trout for spawning. Baldwin Field Branch, which drains off of nearby National Forest Land, is a designated trout stream. The confluence of this stream is in close proximity of the bridge structure. We would prefer the existing bridge be replaced with a spanning structure due to the importance of this area for trout movement. We request an instream construction moratorium between November 1 and April 15 to minimize impacts to trout reproduction.

B-3470 - Haywood County, Bridge No 163 on US 276 over Pigeon River Overflow

This reach of the Pigeon River supports trout. We request a moratorium on in-water construction between November 1 and April 15. Additionally, there are records for the Appalachian Elktoe upstream of this site. If suitable habitat exists, the animal may be found downstream of this project. Therefore, we request that you consult with the US Fish and Wildlife on this project concerning impacts to this species.

B-3656 - Haywood County Bridge No. 419 on US 19-23 over the Pigeon River

The reach of the Pigeon docs not support trout. We do not anticipate a moratorium would be required.

B-3659 – Haywood County, Bridge No. 112 on SR 1147 over Allens Creek

Allens Creek is considered trout waters. We prefer that the old bridge be replaced with a spanning structure. We request a moratorium between November 1 and April 15 to minimize impacts to trout reproduction.

B-3661 - Haywood County, Bridge No. 36 on SR 1503 over Crabtree Creek

This section of Crabtree Creek is not considered trout waters. We do not anticipate a moratorium would be required.

B-3667 – Jackson County, Bridge No. 47 on SR 1131 over Trout Creek

Trout creek is considered trout waters. We request a moratorium on in-water construction between November 1 and April 15.

B-3869 - Madison County, Bridge No. 146 on SR 1151 over Big Pine Creek

Big Pine in this reach is not known to support trout. We do not anticipate a moratorium would be required.

Because the Corps of Engineers (COE) recognizes all of the above counties as "trout water counties", the NCWRC will review any nationwide or general 404 permits for the proposed projects. The following conditions are likely to be placed on the subject 404 permits:

1. Adequate sedimentation and erosion control measures must be implemented and maintained on the project site to avoid impacts to downstream aquatic resources. Structures should be inspected and maintained regularly, especially following rainfall events.

2. 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.

3. 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.

4. If concrete is used during construction, a dry work area must be maintained to prevent direct contact between curing concrete and stream water. Uncured concrete affects water quality and is highly toxic to fish and other aquatic organisms.

5. Grading and backfilling should be minimized, and tree and shrub growth should be retained if possible to ensure long term availability of shoreline cover for gamefish and wildlife.

6. **In trout waters, instream construction is prohibited during the trout-spawning period of November 1 to April 15 to avoid impacts on trout reproduction.**

7. 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.

8. If multi-celled reinforced concrete box culverts are utilized, they should be designed so that all water flows through a single cell (or two if necessary) during low flow conditions. This could be accomplished by constructing a low sill on the upstream end of the other cells that will divert low flows to another cell. This will facilitate fish passage at low flows.

9. Notched baffles should be placed in reinforced concrete box culverts at 15-foot intervals to allow for the collection of sediments in the culvert, reduce flow velocities, and to provide resting places for fish moving through the structure.

10. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural river bottom when construction is completed.

11. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

Thank you for the opportunity to review and comment during the early stages of these projects. If you have any questions regarding these comments, please contact me at (828) 452-2546.

cc: Mr. Steven Lund, NCDOT Coordinator, COE, Asheville
Ms. Stacy Harris, P.E., PD & EA Branch, NCDOT, Raleigh
Mr. Mark Cantrell, Biologist, USFWS Asheville
Mr. David Timpy, NCDOT Coordinator, COE Wilmington

Buncombe County Public Schools

Transportation Department
74 Washington Avenue
Asheville, North Carolina 28804
Phone: (828) 232-4240 — Fax: (828) 252-8637

July 5, 2000

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

RE: COMMENTS FOR GROUP XXXII BRIDGE REPLACEMENT PROJECTS IN BUNCOMBE COUNTY

Dear Mr. Gilmore:

I am writing in response to your letter regarding the proposed Group XXXII Bridge Replacement Projects for Buncombe County. In your letter, you solicited comments concerning any beneficial or adverse impacts these projects would have on our school system.

Buncombe County school buses operate in all areas of the Group XXXII Bridge Replacement Projects. Our primary concern is safe school bus routing. As long as an on-site detour for each project is available and is constructed to provide a safe route for school buses, there will not be an adverse impact on our current school bus routes.

If you need further information, please contact me at the address or telephone number listed above.

Sincerely,

Pamela Harding

Pamela Harding
Senior Supervisor

Pc: Harold F. Laflin
Director of Transportation

NORFOLK SOUTHERN

Norfolk Southern Corporation
99 Spring Street, S.W.
Atlanta, Georgia 30303-0142
404/529-1408
Fax: 404/527-2589

J. N. Carter, Jr.
Chief Engineer
Bridges and Structures

Philip N. Decker
Engineer
Public Improvements
Phone: 404/529-1436
Fax: 404/527-2769

Subject: Luthers, North Carolina – Proposed Relocation of the SR- 1141 (Morgan Branch Rd.) Grade Crossing at Milepost T-11.1 (AAR/DOT No. 720 372E) as Part of a Project to Replace Bridge No. 300 Over Hominy Creek. TIP No. B-3614, Buncombe County.

April 26, 2002
File: 117-28912 PND

Ms. Stacey B. Harris, P. E.
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Ms. Harris:

Reference is made to your letter dated April 16, 2002 furnishing us with preliminary plans showing the subject project and requesting our input into the design.

I have reviewed the plan and recommend that approach grade of relocated SR-1141 south of the track be lessened to improve the riding characteristics of the grade crossing.

We estimate the cost of installing automatic flashing light crossing signals and gates at the relocated crossing to be approximately $115,000. The cost of a 36' concrete panel grade crossing surface is estimated to be $18,000.

Please contact me at 404/529-1436 should you have questions.

Sincerely,

P. N. Decker
Engineer
Public Improvements

Cys & Attachments:

Mr. C. K. Rickman
Mr. T. E. Grim
Mr. E. G. Cody