STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

April 15, 2008

U. S. Army Corps of Engineers
Regional Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTENTION: Mr. Monte Matthews
NCDOT Coordinator

Dear Sir:

SUBJECT: **Application for Nationwide 23** for the replacement of Bridge No. 71 over Stony Fork Creek on SR 1167 in Wilkes County. Federal Project No. BRZ-1167(1), State Project No. 8.2761301, WBS Element 33659.1.1, Division 11, T.I.P. No. B-4322.

Please see the enclosed Right of Way consultation, permit drawings and design plans for the above referenced project. A Categorical Exclusion was completed for this project on November 28, 2003 and distributed shortly thereafter. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace the 57-foot, two-span Bridge No. 71 with a new 115-foot, three-span cored slab bridge over Stony Fork Creek. The existing bridge will be replaced in place on a slightly shifted alignment and traffic will be detoured off-site during construction. There will be <0.01 acre of permanent impacts to wetlands as a result of this project.

IMPACTS TO WATERS OF THE UNITED STATES

General Description:
The only water resources impacted by this project are two small wetlands located on either side of the north end of the existing bridge approach. These wetlands were delineated and verified by the USACE on November 18, 2005. They are located in the Yadkin-Pee Dee River Basin (DWQ subbasin 03-07-01). The DWQ Index number for the section of Stony Fork Creek within the project area is 12-26-(1) and the Hydrological Cataloguing Unit

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-715-1334
FAX: 919-715-5501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING,
2728 CAPITAL BLVD.
RALEIGH NC 27604

is 03040101. The DWQ classifies Stony Fork Creek as "C Tr". According to the North Carolina Wildlife Resources Commission (NCWRC), wild brook trout are found in Stony Fork Creek. No High Quality Waters (HQW), Water Supplies (WS-I or WS-II), Outstanding Resource Waters (ORW) or 303(d) waters occur within one mile of the project study area.

Permanent Impacts:
There will be <0.01 acre of permanent wetland impacts in order to accommodate the new roadway slopes and from the installation of an 18" corrugated steel pipe.

Temporary Impacts:
There will be no temporary impacts to Stony Fork Creek or the wetlands as a result of this project.

Utility Impacts:
There will be no jurisdictional impacts associated with utilities for this project.

Bridge Demolition:
The superstructure of Bridge No. 71 consists of a timber floor on I-beams and channels. The substructure consists of timber caps, timber posts and concrete footings. There will be no temporary fill resulting from bridge demolition.

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 January 31, 2008, the USFWS lists one federally protected species for Wilkes County (Table 1). The bog turtle is listed as Proposed Threatened due to similarity of appearance to other rare species that are listed for protection. This species is not biologically endangered or threatened and is not subject to Section 7 consultation. However, a survey conducted February 19, 2004 found no bog turtle habitat within the study area.

Table 1. Federally Protected Species for Wilkes County

Common Name	Scientific Name	Status	Habitat	Biological Conclusion
Bog turtle	*Clemmys muhlenbergii*	T(S/A)	None	N/A

MITIGATION

Avoidance and Minimization:
Avoidance examines all appropriate and practicable possibilities of avoiding impacts to "Waters of the United States." The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts; minimization measures were incorporated as part of the project design.

- The new bridge will be longer than the existing bridge, spanning Stony Fork Creek.

- Traffic will be detoured off-site during construction. This eliminates the need for a temporary on-site detour.
- A temporary work bridge will be utilized during construction to eliminate in-stream activities.
- Water will not be directly discharged into Stony Fork Creek via deck drains.
- In-stream construction is prohibited from October 15 to April 15 to avoid impacts on trout reproduction.
- Design Standards in Sensitive Watersheds will be adhered to during construction.
- All guidelines for bridge demolition and removal will be followed in addition to Best Management Practices (BMPs) for the Protection of Surface Waters and BMPs for Bridge Demolition and Removal.

In addition, BMPs will be followed as outlined in "NCDOT's Best Management Practices for Construction and Maintenance Activities".

Compensatory Mitigation:
NCDOT proposes no mitigation for this project. Permanent wetland impacts are minimal (totaling <0.01 acre) and will have minimal adverse effect to "waters of the U.S.".

PROJECT SCHEDULE

Schedule:
The project schedule calls for a November 18, 2008 Let date and a review date of September 30, 2008. The date of availability for construction is on December 30, 2008.

REGULATORY APPROVALS

Section 404 Permit:
It is anticipated that the bridge replacement, including installation of an 18" corrugated steel pipe and creation of new roadway slopes will be authorized under a Nationwide Permit 23 (Approved Categorical Exclusion) in accordance with 23 CFR § 771.115(b). The NCDOT requests that these activities be authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095; January 15, 2002).

Section 401 Permit:
We anticipate 401 General Certification number 3701 will apply to this project. The NCDOT will adhere to all general conditions of the Water Quality Certification and is not requesting written concurrence from the Division of Water Quality. Therefore, in accordance with 15A NCAC 2H .0501(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 records.

Comments from 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 and the NCDOT within 30 calendar days of receipt of this application.

A copy of this application will be posted on the NCDOT website at http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Erin Cheely at ekcheely@dot.state.nc.us or (919) 715-5529.

Sincerely,

E. L. Lee

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

Cc:
W/attachment

Mr. Brian Wrenn, NCDWQ (2 Copies)
Ms. Marla Chambers, NCWRC
Ms. Marella Buncick, USFWS

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Michael A. Pettyjohn, P.E. Division 11 Engineer
Mr. Heath Slaughter, Division 11 Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Ms. Jennifer Evans, PDEA Project Planning Engineer
Mr. Scott McLendon, USACE, Wilmington

North Carolina Department of Transportation
PROJECT ENVIRONMENTAL CONSULTATION FORM
T.I.P. No. B-4322

I. GENERAL INFORMATION

a.	Consultation Phase:	Right of Way	
	Project Description:	Bridge No. 71 on SR 1167 Over Stony Fork Creek, Wilkes County	
c.	State Project: Federal Aid No.:	8.2761301 BRZ-1167(1)	
d.	Document Type:	Categorical Exclusion	Date: 11/03

II. CONCLUSIONS

The above environmental document has been reevaluated as required by 23 CFR 771. It was determined that the current proposed action is essentially the same as the original proposed action. Proposed changes, if any are noted below in Section III. It has been determined that anticipated social, economic, and environmental impacts were accurately described in the above referenced document unless noted otherwise herein. Therefore, the original Administrative Action remains valid.

III. CHANGES IN PROPOSED ACTION AND ENVIRONMENTAL CONSEQUENCES

ERRATA

The Categorical Exclusion contained a Greensheet commitment regarding an in-stream construction moratorium to be observed for trout. The beginning date of the moratorium was incorrect. The correct moratorium dates are from October 15 to April 15. This change is reflected in the Greensheet attached here.

The Categorical Exclusion reported no jurisdictional wetlands were found within the project study area. Wetlands have since been discovered and will be impacted by the project. The construction of the project will result in less than one tenth of an acre of wetland impacts. A Nationwide Permit will likely still be applicable for all impacts to the Waters of the United States.

DESIGN

The Preferred Alternative described in the Categorical Exclusion (CE) called for replacement in place with an off-site detour. **Since that time, the NCDOT has decided not to build an on-site detour but to close the road and route traffic on area roads.** This shortens the construction limits from what was anticipated in the CE, and it reduces impacts to the

stream. The **proposed clear roadway width is approximately 24 feet** instead of 22 feet as documented in the CE.

WATER RESOURCES

There has been one change in water resources since the CE was completed. Two small wetlands were discovered on either side of the north end of the existing bridge in September 2005. These wetlands were delineated and verified by the USACE on November 18, 2005.

Stream classifications have not changed since the CE was completed. The Division of Water Quality (DWQ) best usage classification for the Stony Fork Creek [DWQ Index No. 8-(1)], remains "**Class C Tr**". Neither High Quality Waters (HQW), Water Supplies, (WA-I or WS-II), nor Outstanding Resource Waters (ORW) occur within 1.0 mile downstream of the project area. Since Stony Fork Creek is classified as trout waters, the NCWRC will be given the opportunity to review the project for additional measures to protect trout and trout habitat prior to issuance of the Section 404 permit.

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 of the Endangered Species Act of 1973, as amended. As of April 27, 2006 the U.S. Fish and Wildlife Service (USFWS) lists one federally protected species for Wilkes County. This is the bog turtle. No species have been added to or deleted from this list since the completion of the referenced document. The bog turtle (*Clemmys muhlenbergii*) has a status of threatened due to similarity of appearance. No Biological Conclusion is necessary for species with the designation of threatened due to similarity of appearance. The biological conclusion of "No Effect" from the Categorical Exclusion for the above stated species remains valid. No habitat for the above species was found in the project study area.

IV. LIST OF ENVIRONMENTAL COMMITMENTS

See attached Greensheet.

V. COORDINATION

Project Development and Environmental Analysis Branch personnel have discussed current project proposals with others as follows:

Design Engineer:	Kanchana Noland	Date 7/11/06
FHWA Engineer:	Jake Riggsbee	Date 7/12/06
Permit Section:	Erin Schubert	Date 7/5/06

VI. NCDOT CONCURRENCE

Jennifer A. Evans, P.E.
Project Development Engineer

Date 7/13/06

FOR Gregory J. Thorpe, Ph.D.
Branch Manager, PDEA

Date 7/13/06

N/A
Jake Riggsbee, PE Area Engineer
FHWA

Date _____

SUMMARY OF SPECIAL PROJECT COMMITMENTS

Wilkes County
SR 1167
Bridge No. 71 Over Stony Fork Creek
Federal Aid Project BRZ-1167(1)
State Project 8.2761301
TIP Project B-4322

Construction Branch and Division 11 Resident Engineer: Best Management Practices (BMPs) for Bridge Demolition and Removal will be implemented for Bridge No. 71.

ACTION: BMPs-BDR will be followed.

Roadside Environmental, Design Services, and Division 11 Resident Engineer: Sedimentation and Erosion Control for Sensitive Watersheds (15A NCAC 4B.0124) will be incorporated into the design and followed during the construction of this project.

ACTION: Design Standards in Sensitive Watersheds (15A NCAC 04B .0124) will be implemented on this project.

Division 11 and Design Services (now Roadway Design): Stony Fork Creek is designated Public Mountain Trout Water. Wild brook trout are found in this stream; therefore, in – stream construction is prohibited from **October 15** [the CE mistakenly said November 1] to **April 15** to avoid impacts on trout reproduction.

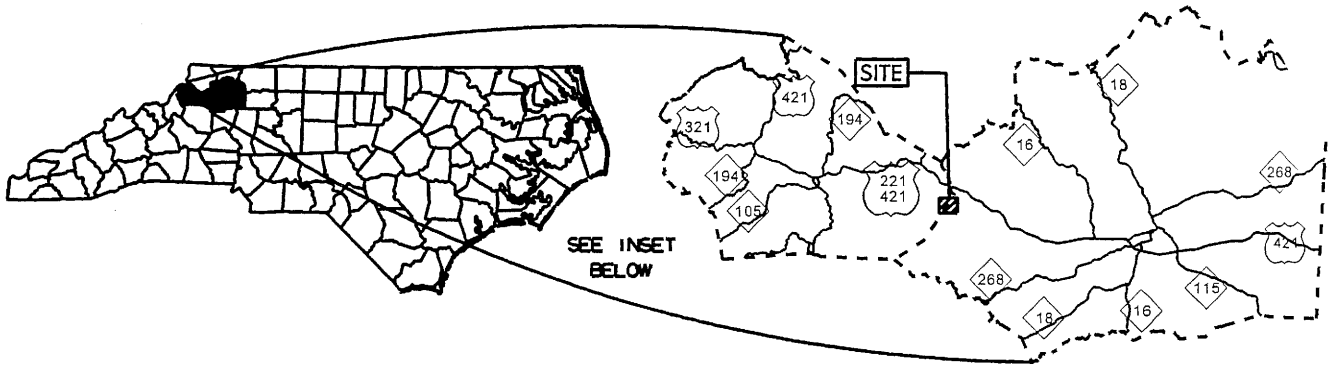
ACTION: An in water construction moratorium from October 15 to April 15 will be observed.

Hydraulics and Structure Design: The bridge deck drains will be designed and constructed so that no discharge will go directly into the stream.

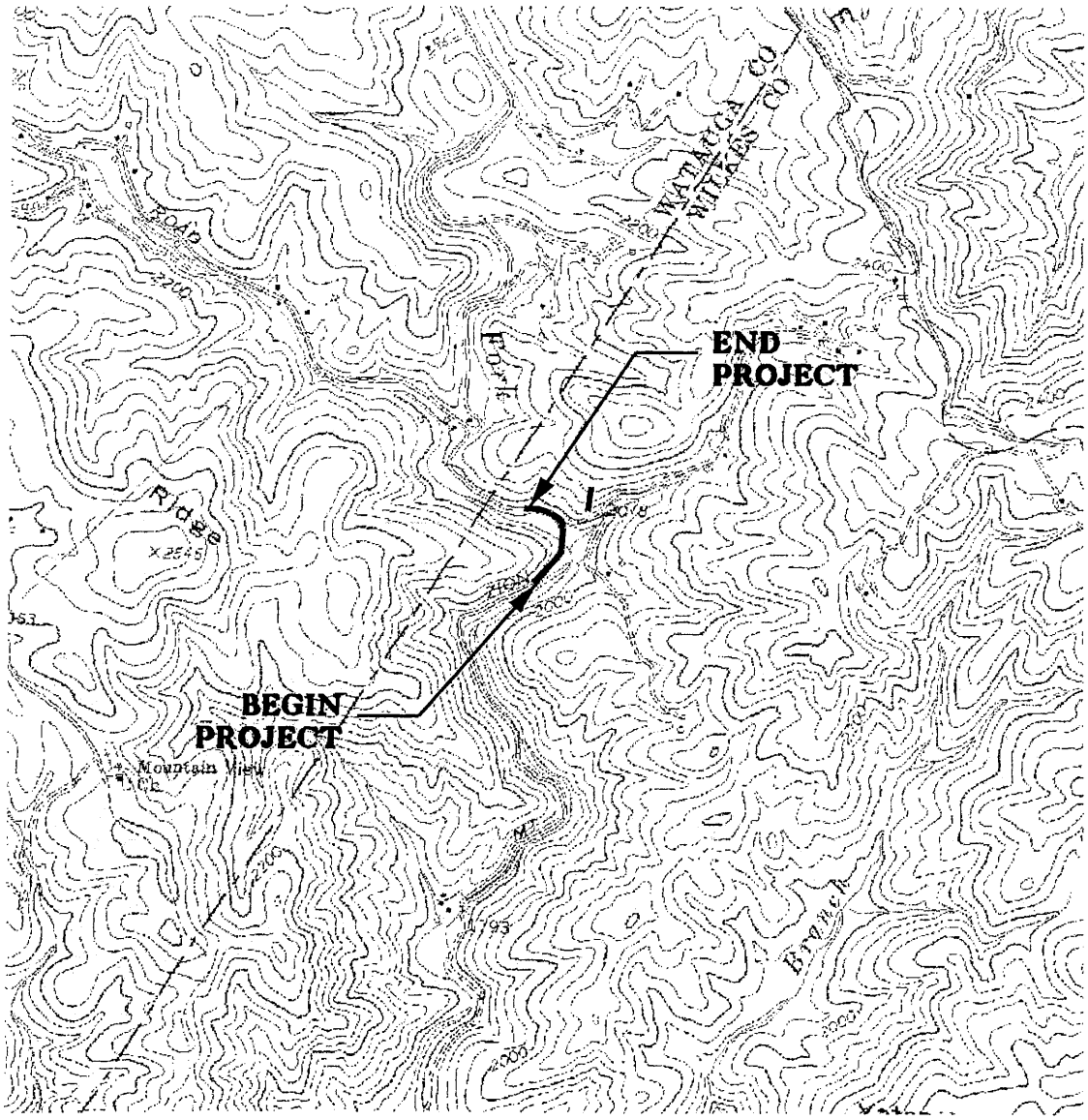
ACTION: Any deck drains will be located such that they do not discharge directly into the stream.

Project Development and Environmental Analysis Branch: Since Stony Fork Creek is classified as trout waters, the NCWRC will be given the opportunity to review the project for additional measures to project trout and trout habitat and the option of recommending processing of an individual '404' permit.

ACTION: This will be handled during the permitting process.



WATAUGA /WILKES COUNTIES



WETLAND IMPACTS

Permit Drawing
Sheet ____ of ____

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WILKES COUNTY

PROJECT:33659.1.1 (B-4322)
BRIDGE NO. 71 OVER STONY FORK CREEK ON SR 1167 (STONY FORK RD)

SHEET ___ OF ___ **1/11/08**

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	16+00 -L- RT	18" CSP	0.002									
2	16+30 -L- LT	N/A	0.003									
TOTALS:			0.005									

Permit Drawing
Sheet 2 of 2

ATN Revised 3/31/05

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WILKES COUNTY
WBS - 33659.1.1 (B-4322)

SHEET 1/8/2008

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
2	CREED AND HOLLIE GREENE	1560 STONY FORK ROAD DEEP GAP, NC 28618
5	DEBRA KAY B. HORTON STEVEN MINGA HORTON	PO BOX 345 DEEP GAP, NC 28618

Permit Drawing
Sheet 3 of 7

NCDOT

DIVISION OF HIGHWAYS

WILKES COUNTY

PROJECT: 33659.1.1 (B-4322)

BRIDGE NO. 71 OVER STONY FORK CREEK ON SR 1167 (STONY FORK RD)

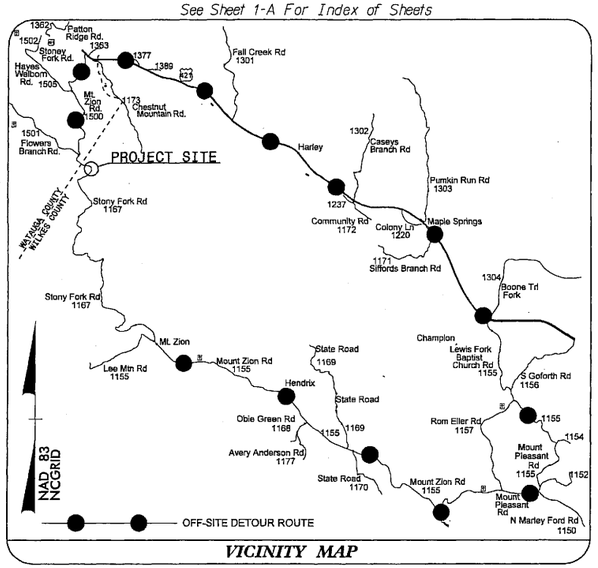
SHEET OF 1/11/08

09/08/99

TIP PROJECT: B-4322

CONTRACT:

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$USERNAME$$$$$$



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WILKES COUNTY

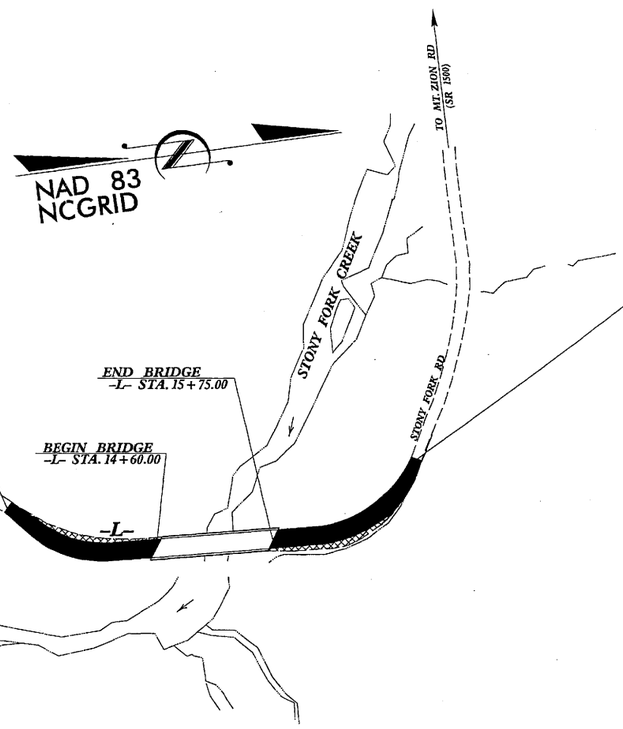
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4322	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33659.1.1	BRZ-1167(1)	PE
33659.2.1	BRZ-1167(1)	R/W & UTIL.
33659.3.1	BRZ-1167(1)	CONST.

LOCATION: BRIDGE NO. 71 OVER STONY FORK CREEK ON SR 1167 (STONY FORK RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

BEGIN TIP PROJECT B-4322 -L- STA. 13+00.00
BEGIN CONSTRUCTION



END TIP PROJECT B-4322 -L- STA. 17+48.79
END CONSTRUCTION

WETLAND/STREAM IMPACTS

Permit Drawing
Sheet 4 of 8

NOTE: A DESIGN EXCEPTION IS REQUIRED FOR SAG VERTICAL CURVE K, VERTICAL STOPPING SIGHT DISTANCE & SUPER ELEVATION.

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 2008 = 130
ADT 2028 = 215
DHV = 12 %
D = 60 %
T = 3 % *
V = 30 MPH
* TTST 1% DUAL 2%

FUNC. CLASS = LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4322 = 0.063 MILES
LENGTH STRUCTURE TIP PROJECT B-4322 = 0.022 MILES
TOTAL LENGTH TIP PROJECT B-4322 = 0.085 MILES

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-2328
HYDRAULIC ENGINEERING FIRM

Prepared for the North Carolina Department Of Transportation In the Office of:

WETHERILL ENGINEERING
559 Jones Franklin Rd., Suite 164
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN
BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS -
CONSTRUCTION OBSERVATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: July 21, 2006
LETTING DATE: November 18, 2008

EDWARD G. WETHERILL, PE
PROJECT ENGINEER

BOB A. MAY, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT
DOUG TAYLOR, PE
ROADWAY DESIGN - ENGINEERING COORDINATION SECTION ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 09334 ENGINEER HENRY WELLS IV
SIGNATURE:

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A MAY
SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
P.E.
STATE HIGHWAY DESIGN ENGINEER

8/17/99

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-1"
WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 895788.726(ft) EASTING: 1273219.755(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99982509
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-1" TO -L- STATION 10+00.00 IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

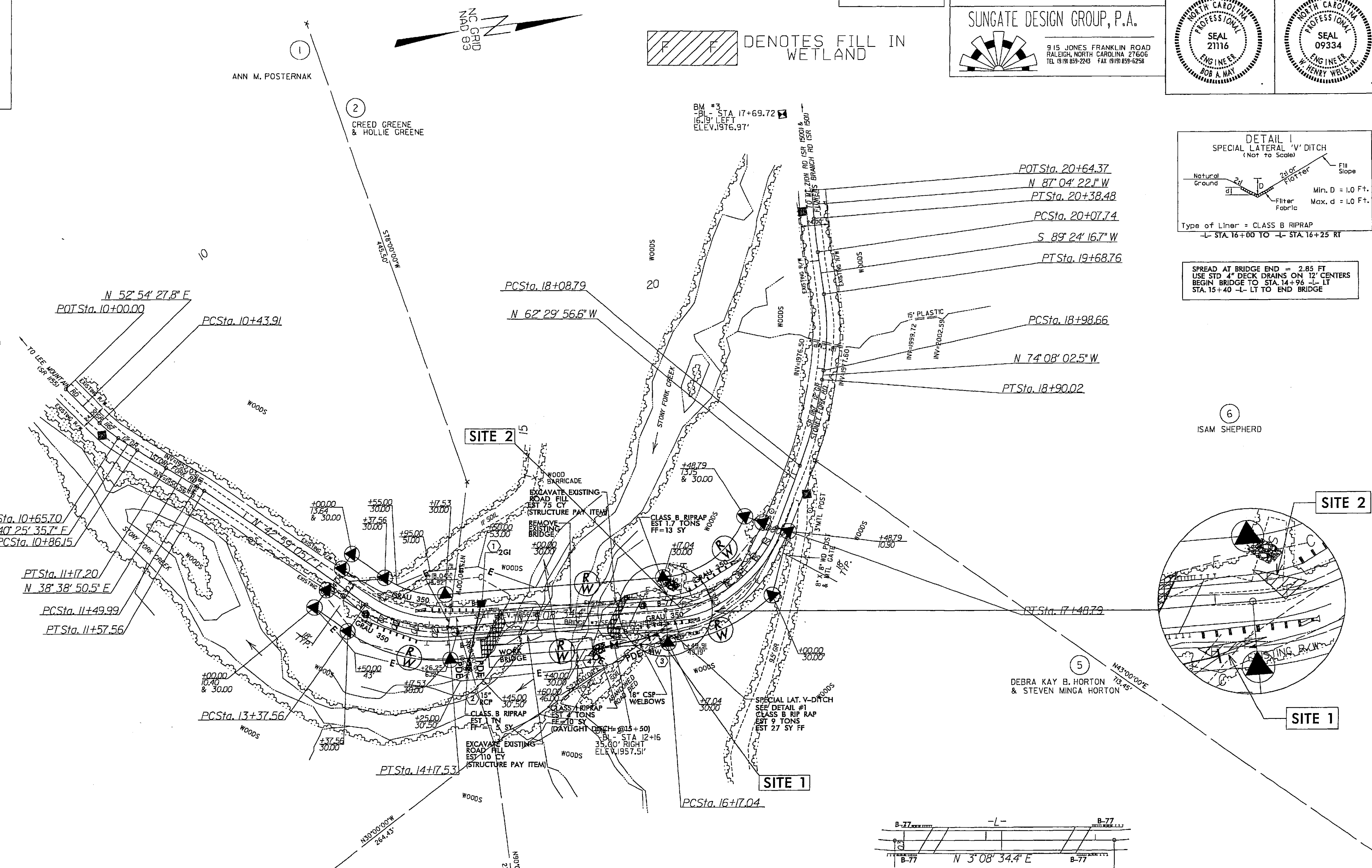
REVISIONS

ENGLISH

WETHERILL ENGINEERING — 559 Jones Franklin Rd. Suite 164, Raleigh, N.C. 27606, Bus: 919 851 8077, Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN – BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN – GIS/GPS – CONSTRUCTION OBSERVATION

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD, RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258

PROJECT REFERENCE NO.	SHEET NO.
B-4322	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY	NORTH CAROLINA PROFESSIONAL SEAL 09334 ENGINEER W. HENRY WELLS, JR.



NC GRID NAD 83
DENOTES FILL IN WETLAND
ANN M. POSTERNAK
CREED GREENE & HOLLIE GREENE
BM #3 -BL- STA 17+69.72 15.19' LEFT ELEV.1976.97'
BM #1 -BL- STA 5+70 15.00' RIGHT ELEV.1947.85'
DETAIL 1
SPECIAL LATERAL 'V' DITCH (Not to Scale)
Type of Liner = CLASS B RIPRAP
-L- STA. 16+00 TO -L- STA. 16+25 RT
SPREAD AT BRIDGE END = 2.85 FT
USE STD 4" DECK DRAINS ON 12' CENTERS
BEGIN BRIDGE TO STA. 14+96 -L- LT
STA. 15+40 -L- LT TO END BRIDGE
POT Sta. 20+64.37
N 87° 04' 22.1" W
PT Sta. 20+38.48
PC Sta. 20+07.74
S 89° 24' 16.7" W
PT Sta. 19+68.76
PC Sta. 18+08.79
N 62° 29' 56.6" W
PC Sta. 18+98.66
N 74° 08' 02.5" W
PT Sta. 18+90.02
N 52° 54' 27.8" E
POT Sta. 10+00.00
PC Sta. 10+43.91
PT Sta. 10+65.70
N 40° 25' 35.7" E
PC Sta. 10+86.15
PT Sta. 11+17.20
N 38° 38' 50.5" E
PC Sta. 11+49.99
PT Sta. 11+57.56
PC Sta. 13+37.56
PT Sta. 14+17.53
PC Sta. 16+17.04
PT Sta. 17+48.79
SITE 1
SITE 2
ISAM SHEPHERD
DEBRA KAY B. HORTON & STEVEN MINGA HORTON
STEVEN C. GREENE
STONY FORK CREEK
WOODS
CLASS B RIPRAP EST 1.7 TONS FF=13 SY
EXCAVATE EXISTING ROAD FILL EST 75 CY (STRUCTURE PAY ITEM)
REMOVE EXISTING BRIDGE
EXCAVATE EXISTING ROAD FILL EST 110 CY (STRUCTURE PAY ITEM)
SPECIAL LAT. V-DITCH SEE DETAIL #1 CLASS B RIP RAP EST 9 TONS EST 27 SY FF
-BL- STA 12+15 35.60' RIGHT ELEV.1957.51'
N 3° 08' 34.4" E

-L-	
PI Sta 13+79.24	PI Sta 16+91.21
Δ = 39° 50' 31.3" (LT)	Δ = 65° 38' 31.0" (LT)
D = 49° 49' 20.7"	D = 49° 49' 20.7"
L = 79.97'	L = 131.75'
T = 41.68'	T = 74.17'
R = 115.00'	R = 115.00'
*SE = 0.03	*SE = 0.03
RO = SEE PLANS	RO = SEE PLANS
V_{DES} = 20 MPH	V_{DES} = 20 MPH

*NOTE: A DESIGN EXCEPTION IS REQUIRED FOR THE SUPERELEVATION.

Permit Drawing
Sheet 5 of 8

SEE SHEET S-1 THRU S-__ FOR STRUCTURE PLANS
SEE SHEET 5 FOR PROFILE

8/17/99

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ENGLISH

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PROJECT REFERENCE NO.	SHEET NO.
B-4322	4
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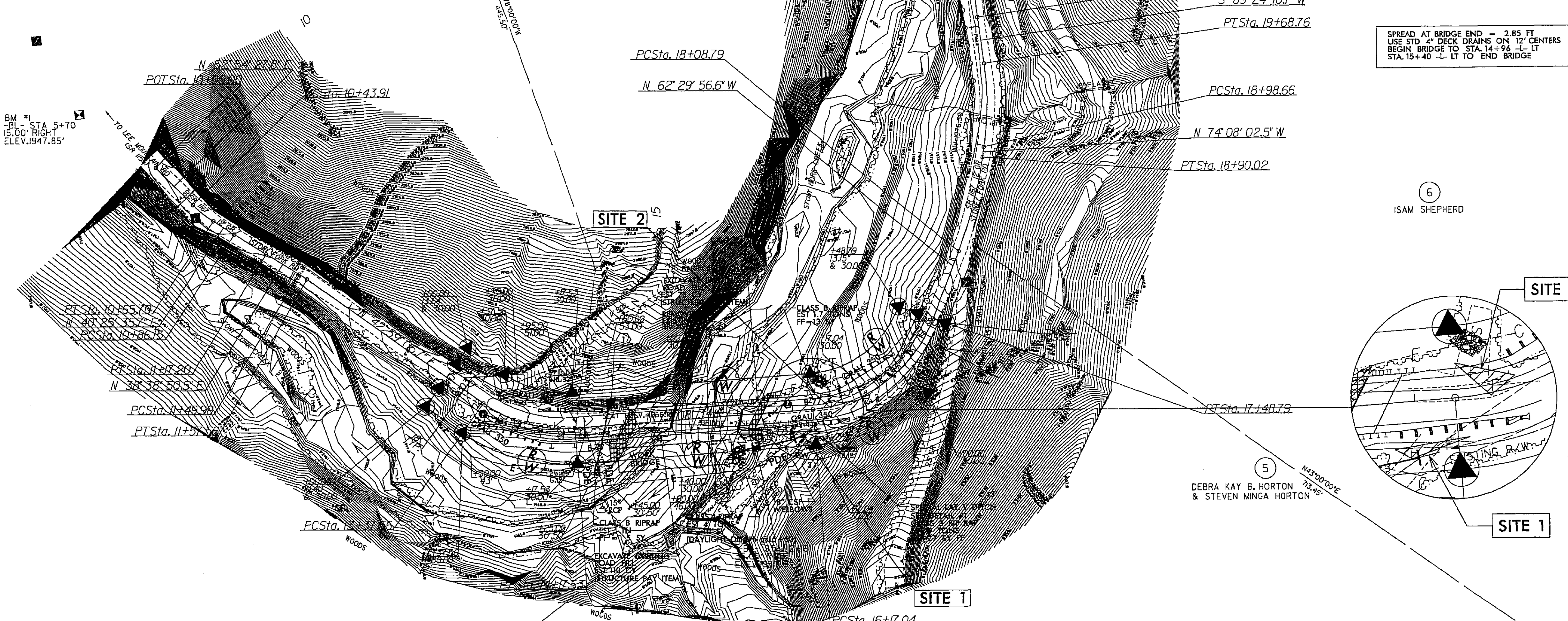
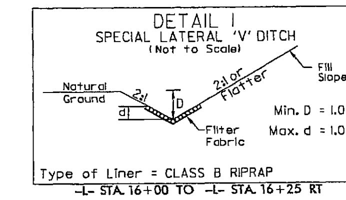
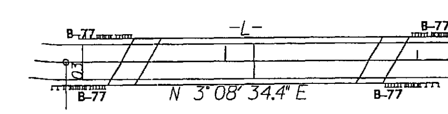
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROB A. MAY	NORTH CAROLINA PROFESSIONAL SEAL 09334 ENGINEER W. HENRY WELLS, JR.

F F DENOTES FILL IN WETLAND





SPREAD AT BRIDGE END = 2.85 FT
USE STD 4" DECK DRAINS ON 12' CENTERS
BEGIN BRIDGE TO STA. 14+96 -L- LT
STA. 15+40 -L- LT TO END BRIDGE



-L-

PI Sta 13+79.24	PI Sta 16+91.21
Δ = 39° 50' 31.3" (LT)	Δ = 65° 38' 31.0" (LT)
D = 49° 49' 20.7"	D = 49° 49' 20.7"
L = 79.97'	L = 131.75'
T = 41.68'	T = 74.17'
R = 115.00'	R = 115.00'
*SE = 0.03	*SE = 0.03
RO = SEE PLANS	RO = SEE PLANS
V_{DES} = 20 MPH	V_{DES} = 20 MPH

*NOTE: A DESIGN EXCEPTION IS REQUIRED FOR THE SUPERELEVATION.

Permit Drawing
Sheet 6 of 8

SEE SHEET S-1 THRU S-__ FOR STRUCTURE PLANS
SEE SHEET 5 FOR PROFILE

REVISIONS

$$$$$$SYSTIME$$$$ $$$$$$$$DGN$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

5/28/99

559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107

WETHERILL ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

SUNGATE DESIGN GROUP, P.A.

915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258

PROJECT REFERENCE NO.	SHEET NO.
B-4322	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 21116 BOB A. MAY	SEAL 09334 W. HENRY WELLS, JR.

BM #1
R/R SPIKE SET IN 12" OAK
-BL- STA. 5+70, 15' RT.
N 895488 E 1272927

BM #2
R/R SPIKE SET IN 19" WHITE PINE
-BL- STA. 12+16, 35' RT.
N 896010 E 1273278
-L- STA. 15+67.03 28.13' RT

BM #3
R/R SPIKE SET IN 24" WHITE OAK
-BL- STA 17+70, 16' LT.
N 896224 E 1272817

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 1500	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 1953.4	FT
BASE DISCHARGE	= 2200	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1954.9	FT
OVERTOPPING DISCHARGE	= 3400+	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 1959.8	FT

-L-

CENTERLINE STA. 15+17.5 -L-
CENTERLINE BRIDGE ELEV. = 1959.97
SKEW = 120°
1 @30', 1 @55', 1 @30' 21" CORED SLAB BRIDGE

*NOTE: DESIGN EXCEPTION IS REQUIRED FOR THE VERTICAL ALIGNMENT.

SEE SHEET 4 FOR -L- PLAN VIEW

Permit Drawing
Sheet 7 of 8

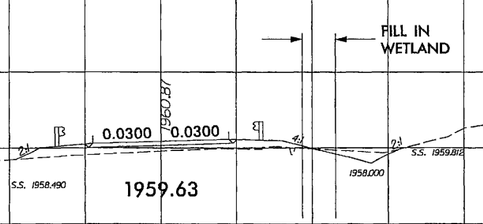
$$$$SYSTIME$$$$
$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$$

8/23/99

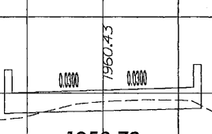
Permit Drawing
Sheet 8 of 8

SITE 1



1959.63

16+00.000



1958.72

15+75.000

PROJ. REFERENCE NO. B-4322

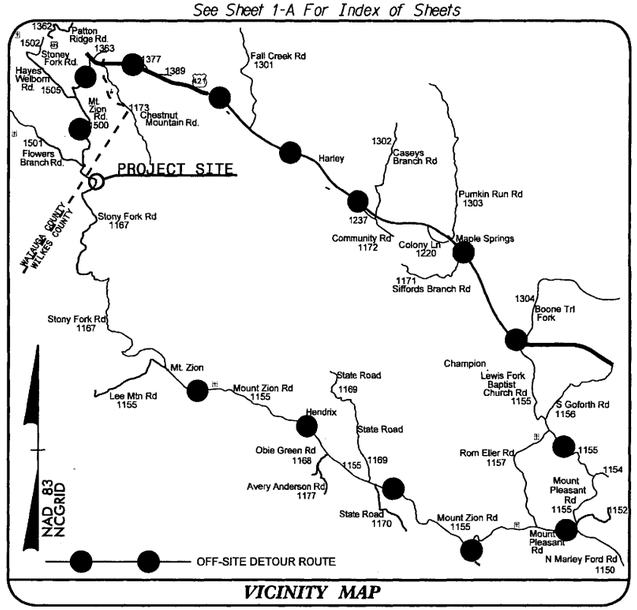
SHEET NO. X-5

09/08/99

TIP PROJECT: B-4322

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WILKES COUNTY

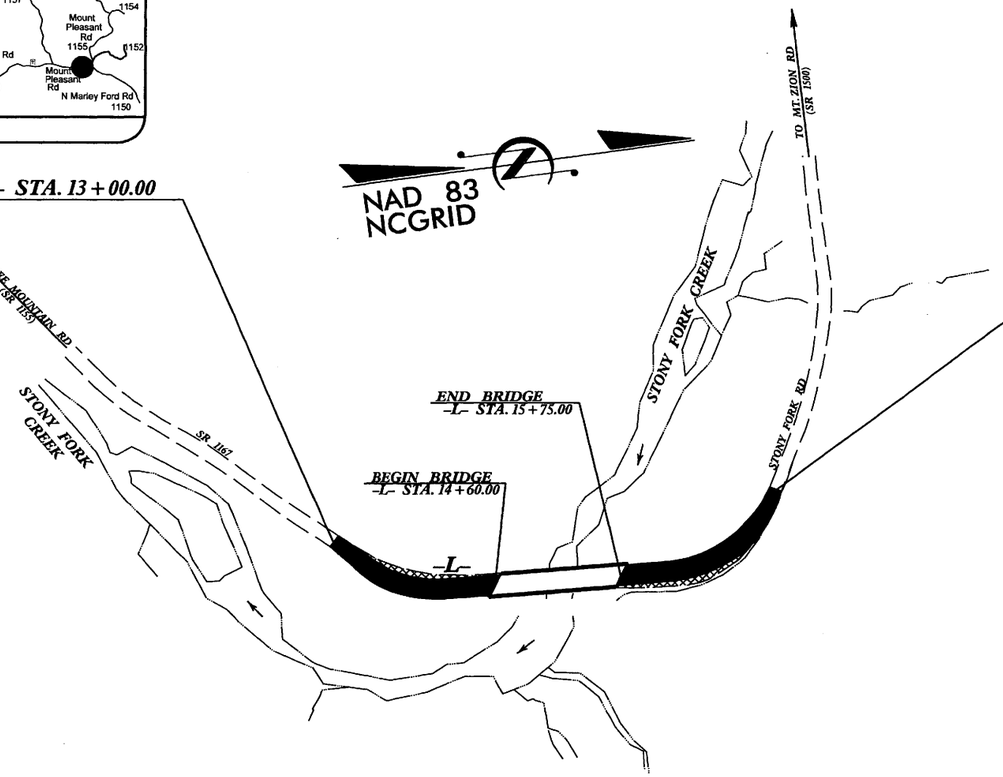
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4322	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33659.1.1	BRZ-1167(1)	PE
33659.2.1	BRZ-1167(1)	R/W & UTIL.
33659.3.1	BRZ-1167(1)	CONST.

LOCATION: BRIDGE NO. 71 OVER STONY FORK CREEK ON SR 1167 (STONY FORK RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

BEGIN TIP PROJECT B-4322 -L- STA. 13+00.00
BEGIN CONSTRUCTION



END TIP PROJECT B-4322 -L- STA. 17+48.79
END CONSTRUCTION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: A DESIGN EXCEPTION IS REQUIRED FOR SAG VERTICAL CURVE K, VERTICAL STOPPING SIGHT DISTANCE & SUPER ELEVATION.

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 2008 = 130
ADT 2028 = 215
DHV = 12 %
D = 60 %
T = 3 % *
V = 30 MPH
* TTST 1% DUAL 2%

FUNC. CLASS = LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4322	=	0.063 MILES
LENGTH STRUCTURE TIP PROJECT B-4322	=	0.022 MILES
TOTAL LENGTH TIP PROJECT B-4322	=	0.085 MILES

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6256
HYDRAULIC ENGINEERING FIRM

Prepared for the North Carolina Department Of Transportation In the Office of:

WETHERILL ENGINEERING
559 Jones Franklin Rd., Suite 164
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: July 21, 2006
LETTING DATE: November 18, 2008

EDWARD G. WETHERILL, PE
PROJECT ENGINEER

BOB A. MAY, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT

DOUG TAYLOR, PE
ROADWAY DESIGN - ENGINEERING COORDINATION SECTION ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 09334 ENGINEER W. HENRY WELLS, JR.

SIGNATURE:

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

7:41:20 AM
P:\B-4322\Roadway\Proj\B-4322_rdy_tsh.dgn
1/28/2008

PROJECT REFERENCE NO.	SHEET NO.
B-4322	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 — ECM
- Parcel/Sequence Number — 23
- 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 — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- 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 — 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 — S
- 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.

6/2/99

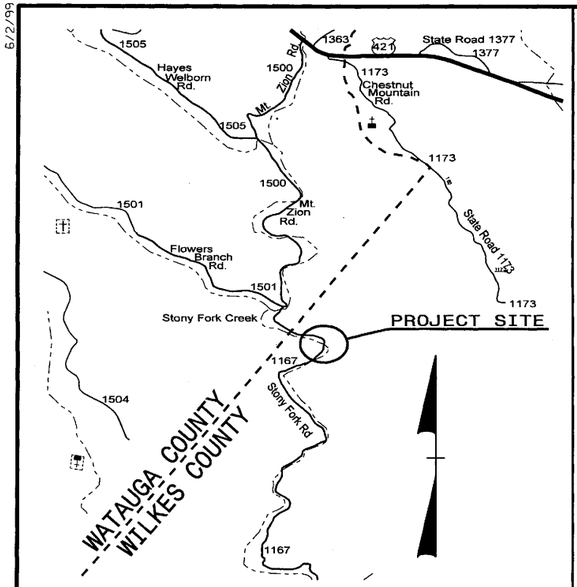
PROJECT REFERENCE NO.	SHEET NO.
B-4322	1C
Location and Surveys	

SURVEY CONTROL SHEET B-4322

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	895461.5683	1272860.4975	1952.42	OUTSIDE PROJECT LIMITS	
102	BL-102	895573.4334	1273025.4662	1955.93	10+52.88	6.76 RT
1	GPS B4322-1	895788.7260	1273219.7550	1960.50	13+42.17	7.47 RT
2	GPS B4322-2	896041.0316	1273245.4640	1958.65	15+96.23	6.06 LT
103	BL-103	896200.3931	1273164.3239	1980.38	17+86.53	14.86 RT
104	BL-104	896229.8394	1272907.5843	1979.48	20+45.51	9.85 LT

```
**************************************
BM #1       ELEVATION = 1947.85
N 895488       E 1272927
OUTSIDE PROJECT LIMITS
R/R SPIKE IN 12" OAK
**************************************
**************************************
BM #2       ELEVATION = 1957.51
N 896010       E 1273278
-L-  STATION 15+67 28' RIGHT
R/R SPIKE SET IN 19" WHITE PINE
**************************************
**************************************
BM #3       ELEVATION = 1976.97
N 896224       E 1272817
OUTSIDE PROJECT LIMITS
R/R SPIKE SET IN 24" WHITE OAK
**************************************
```

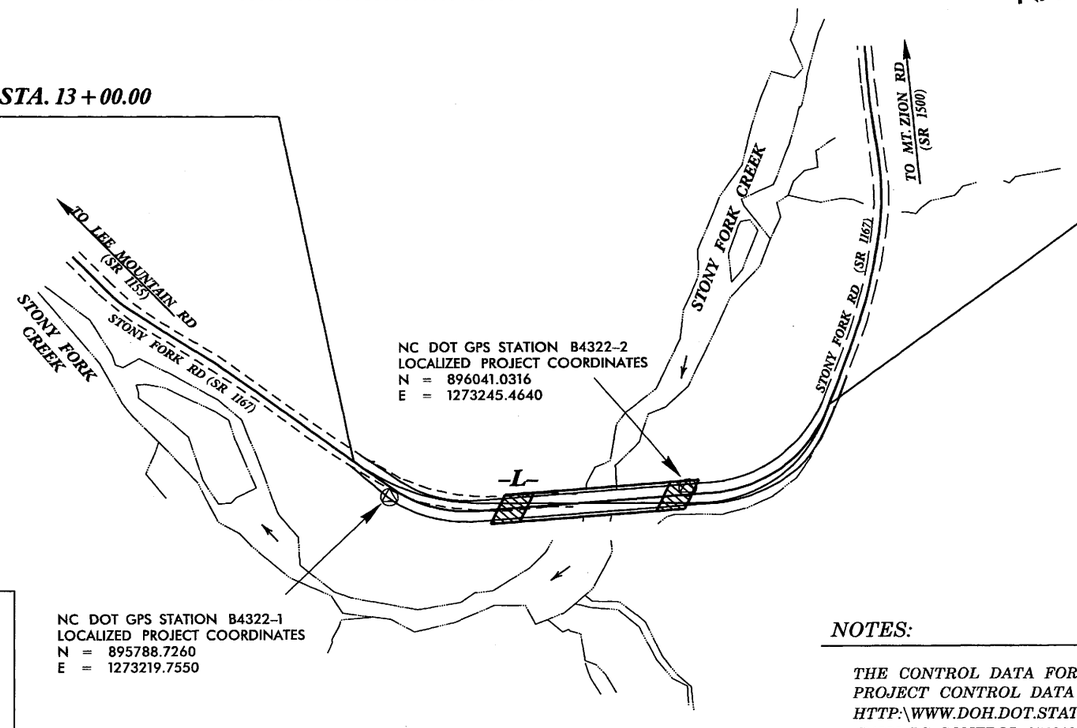


VICINITY MAP

NAD 83

BEGIN TIP PROJECT B-4322 -L- STA. 13+00.00

N = 895762.6843
E = 1273185.4075



END TIP PROJECT B-4322 -L- STA. 17+48.79

N = 896169.7862
E = 1273190.9319

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4322-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 895788.7260(ft) EASTING: 1273219.7550(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99982509
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4322-1" TO -L- STATION 13+00 IS S 52°49'52" W 43.10'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP:\WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT B4322_LS_CONTROL_050216.TXT
SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
⏢ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)

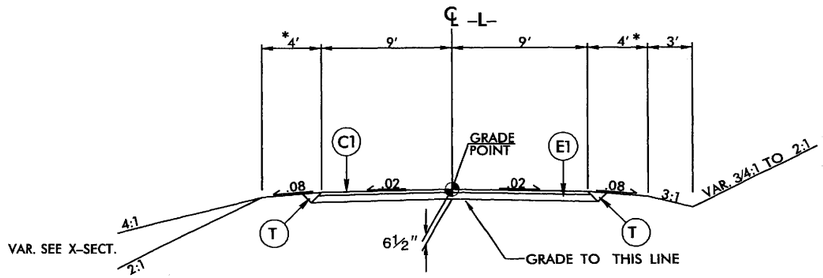
NOTE: DRAWING NOT TO SCALE

12:27:40 AM
P:\SE_Roadway\Proj\b4322_ls_lc_050502.dgn
5/2/2005

6/2/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.

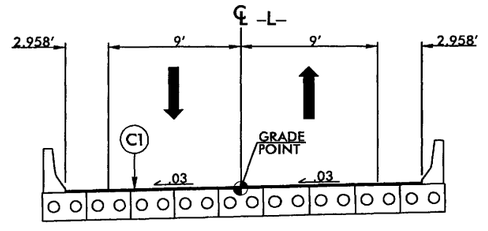
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

*NOTE: ADD 3' FOR GUARDRAIL

USE TYPICAL SECTION NO. 1 AS FOLLOWS:
-L- STA. 13+00.00 TO -L- STA. 14+60.00(BEGIN BRIDGE)
-L- STA. 15+75.00(END BRIDGE) TO -L- STA. 17+48.79



TYPICAL SECTION ON STRUCTURE

-L- STA. 14+60.00 TO -L- STA. 15+75.00

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
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Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
B-4322	2

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 21316 BOB A. MAY

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

7:28:03 AM
P:\B4322\Roadway\Proj\B4322_rdy_typ.dgn
11/28/2006

PROJECT REFERENCE NO.	SHEET NO.
B-4322	4

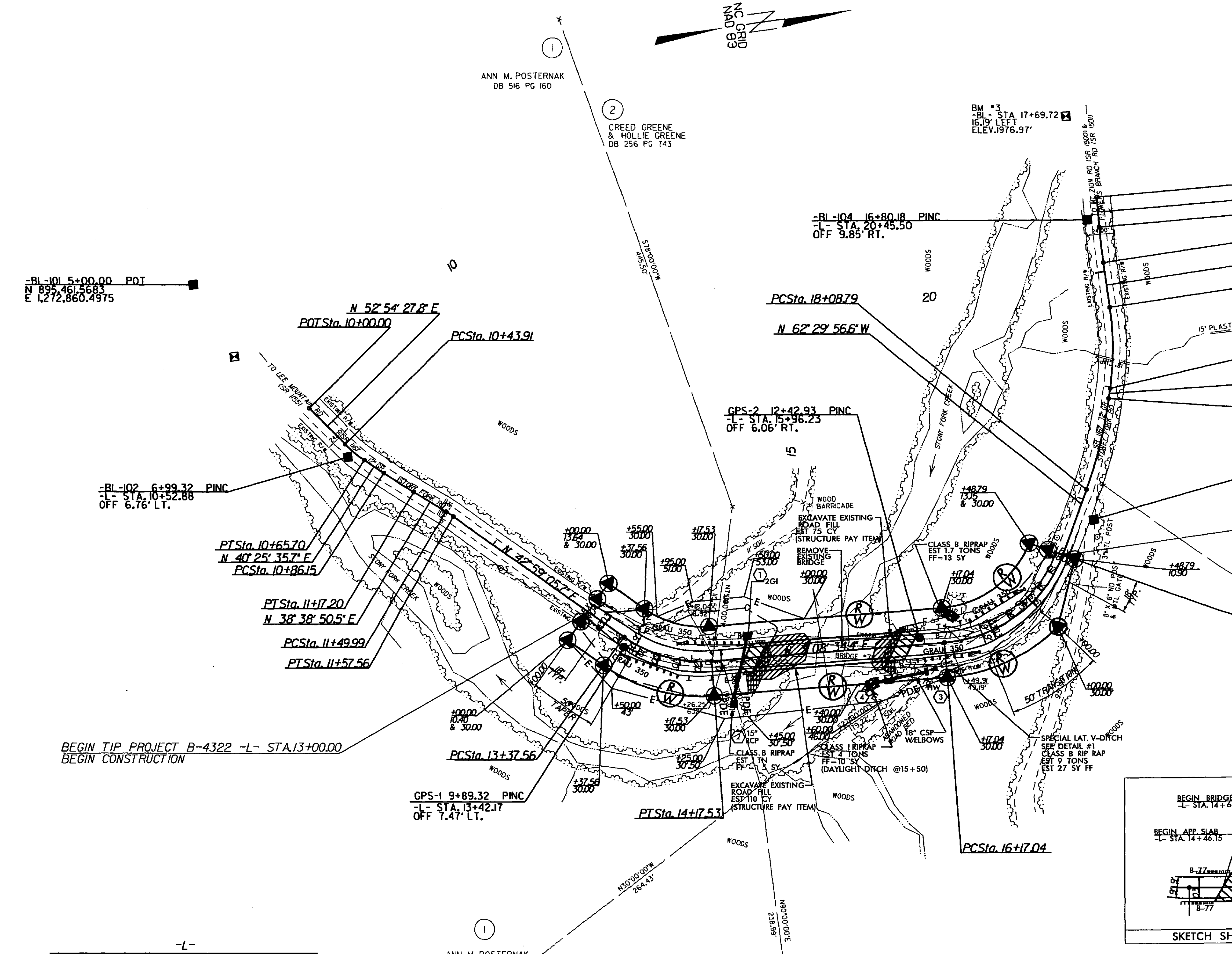
R/W SHEET NO.

ROADWAY DESIGN ENGINEER — HYDRAULICS ENGINEER

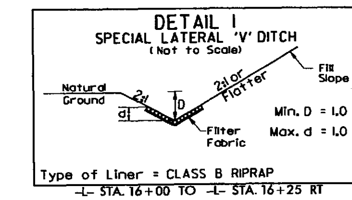
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164, Raleigh, N.C. 27606, Bus: 919 851 8077, Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

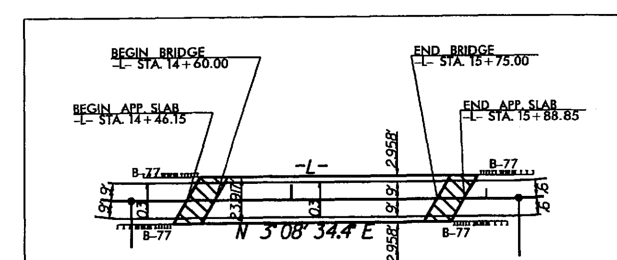
SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD, RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258



NC GRID NAD 83
ANN M. POSTERNAK DB 516 PG 160
CREED GREENE & HOLLIE GREENE DB 256 PG 743
BM #3 -BL- STA 17+69.72 16.19' LEFT ELEV.1976.97'
-BL-104 16+80.18 PINC -L- STA. 20+45.50 OFF 9.85' RT.
-BL-101 5+00.00 POT N 895,461.5683 E 1,272,860.4975
POT Sta. 20+64.37
N 87°04' 22.1" W
PT Sta. 20+38.48
PC Sta. 20+07.74
S 89°24' 16.7" W
PT Sta. 19+68.76
PC Sta. 18+08.79
N 62°29' 56.6" W
N 52°54' 27.8" E
POT Sta. 10+00.00
PC Sta. 10+43.91
PC Sta. 18+98.66
N 74°08' 02.5" W
PT Sta. 18+90.02
GPS-2 12+42.93 PINC -L- STA. 15+96.23 OFF 6.06' RT.
-BL-103 14+21.76 PINC -L- 17+86.53 OFF 14.86' LT.
ISAM SHEPHERD DB 88 PG 273
-BL-102 6+99.32 PINC -L- STA. 10+52.88 OFF 6.76' LT.
END TIP PROJECT B-4322 -L- STA.17+48.79
END CONSTRUCTION
PT Sta. 10+65.70
N 40°25' 35.7" E
PC Sta. 10+86.15
PT Sta. 11+17.20
N 38°38' 50.5" E
PC Sta. 11+49.99
PT Sta. 11+57.56
PT Sta. 17+48.79
EXCAVATE EXISTING ROAD FILL EST 75 CY (STRUCTURE PAY ITEM)
REMOVE EXISTING BRIDGE
CLASS B RIPRAP EST 1.7 TONS FF=13 SY
STONY FORK CREEK
BEGIN TIP PROJECT B-4322 -L- STA.13+00.00
BEGIN CONSTRUCTION
PC Sta. 13+37.56
GPS-1 9+89.32 PINC -L- STA. 13+42.17 OFF 7.47' LT.
PT Sta. 14+17.53
CLASS B RIPRAP EST 1 TN FF=5 SY
EXCAVATE EXISTING ROAD FILL EST 110 CY (STRUCTURE PAY ITEM)
CLASS I RIPRAP EST 4 TONS FF=10 SY (DAYLIGHT DITCH @15+50)
18" CSP W/ELBOWS
SPECIAL LAT. V-DITCH SEE DETAIL #1 CLASS B RIP RAP EST 9 TONS EST 27 SY FF
PC Sta. 16+17.04
DEBRA KAY B. HORTON & STEVEN MINGA HORTON DB 868 PG 230
STEVEN C. GREENE DB 769 PG 54
WOODS



SPREAD AT BRIDGE END = 2.85 FT
USE STD 4" DECK DRAINS ON 12' CENTERS
BEGIN BRIDGE TO STA. 14+96 -L- LT
STA. 15+40 -L- LT TO END BRIDGE



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

-L-

PI Sta 13+79.24	PI Sta 16+91.21
Δ = 39°50' 31.3" (LT)	Δ = 65°38' 31.0" (LT)
D = 49°49' 20.7"	D = 49°49' 20.7"
L = 79.97'	L = 131.75'
T = 41.68'	T = 74.17'
R = 115.00'	R = 115.00'
*SE = 0.03	*SE = 0.03
RO = SEE PLANS	RO = SEE PLANS
V_{DES} = 20 MPH	V_{DES} = 20 MPH

*NOTE: A DESIGN EXCEPTION IS REQUIRED FOR THE SUPERELEVATION.

SEE SHEET S-1 THRU S-__ FOR STRUCTURE PLANS
SEE SHEET 5 FOR PROFILE

REVISIONS

8/17/99

7:28:37 AM
P:\B-4322\Roadway\Proj\B-4322_rdy_psh.dgn
1/28/2008

5/28/99

BM #1
R/R SPIKE SET IN 12" OAK
-BL- STA. 5+70, 15' RT.
N 895488 E 1272927

BM #2
R/R SPIKE SET IN 19" WHITE PINE
-BL- STA. 12+16, 35' RT.
N 896010 E 1273278
-L- STA. 15+67.03 28.13' RT

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 1500	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 1953.4	FT
BASE DISCHARGE	= 2200	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1954.9	FT
OVERTOPPING DISCHARGE	= 3400+	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 1959.8	FT

PI = 13+64.00
EL = 1,962.12'
VC = 50'
*K = 5.6
V_{DES} = 20 MPH

PI = 14+32.00
EL = 1,959.30'
VC = 50'
*K = 10.1
V_{DES} = 15 MPH

PI = 16+42.00
EL = 1,960.95'
VC = 130'
*K = 10.6
V_{DES} = 15 MPH

BEGIN GRADE -L- STA. 13+00.00
ELEV. = 1,959.10

BEGIN BRIDGE
14+60.00

END BRIDGE
15+75.00

END GRADE -L- STA 17+48.79
ELEV. = 1,974.90

(+)14.7187%

(-)14.1574%

(+)10.7895%

(+)13.0552%

(+)8.00%

BEGIN DITCH GRADE RT
-L- STA.16+00.00
ELEV.= 1,958.00

END DITCH GRADE RT.
-L- STA.16+25.00
ELEV.= 1,960.00

BM #3
R/R SPIKE SET IN 24" WHITE OAK
-BL- STA 17+70, 16' LT.
N 896224 E 1272817

-L-

*NOTE: DESIGN EXCEPTION IS REQUIRED FOR THE VERTICAL ALIGNMENT.

SEE SHEET 4 FOR -L- PLAN VIEW

1,990
1,980
1,970
1,960
1,950
1,940
1,930

10 11 12 13 14 15 16 17 18 19 20

ETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258

PROJECT REFERENCE NO.	SHEET NO.
B-4322	5

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 21116 BOB A. MAY

PRELIMINARY PLANS NOT TO BE USED FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 6934 W. HENRY WELLS, JR.

7:28:05 AM
P:\B-4322\Roadway\Proj\B-4322_rdy_pfl.dgn
12/2/2005

Wilkes County
SR 1167
Bridge No. 71 over Stony Fork Creek
Federal-Aid Project BRZ-1167 (1)
State Project 8.2761301
TIP Project B-4322

Categorical Exclusion

US Department of Transportation
Federal Highway Administration
and
NC Department of Transportation

Approved:

11/26/03
Date

FOR L. Gail Grimes, PE, Assistant Manager
Project Development and Environmental Analysis Branch

11/28/03
Date

for John F. Sullivan, III
Division Administrator, FHWA

Wilkes County
SR 1167
Bridge No. 71 over Stony Fork Creek
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Categorical Exclusion

US Department of Transportation
Federal Highway Administration
and
NC Department of Transportation

November 2003

Document Prepared
by

Wetherill Engineering, Inc.

Nathan B. Benson, PE

in coordination with
North Carolina Department of Transportation

Derrick Weaver, PE, Unit Head
Project Development and Environmental Analysis Branch

Mary Alice Dickens, PE, Project Manager
Project Development and Environmental Analysis Branch

Wilkes County
SR 1167
Bridge No. 71 over Stony Fork Creek
Federal-Aid Project BRZ-1167 (1)
State Project 8.2761301
TIP Project B-4322

SUMMARY OF ENVIRONMENTAL COMMITMENTS

Construction Branch and Division 11 Resident Engineer: Best Management Practices (BMPs) for Bridge Demolition and Removal will be implemented for Bridge No. 71.

Roadside Environmental, Design Services and Division 11 Resident Engineer: Sedimentation and Erosion Control for Sensitive Watersheds (15A NCAC 4B.0124) will be incorporated into the design and followed during the construction of this project.

Division 11 and Design Services: Stony Fork Creek is Designated Public Mountain Trout Water. Wild brook trout are found in this stream; therefore, in-stream construction is prohibited from November 1 to April 15 to avoid impacts on trout reproduction.

Hydraulics and Structure Design: The bridge deck drains will be designed and constructed so that no discharge will go directly into the stream.

Project Development and Environmental Analysis: Since Stony Fork Creek is classified as trout waters the NCWRC will be given the opportunity to review the project for additional measures to protect trout and trout habitat and the option of recommending processing of a individual '404' permit.

Wilkes County
SR 1167
Bridge No. 71 over Stony Fork Creek
Federal-Aid Project BRZ-1167 (1)
State Project 8.2761301
TIP Project B-4322

INTRODUCTION

The replacement of Bridge No. 71 is included in the 2004-2010 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) as a Federal-Aid Bridge Replacement. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

The existing bridge, built in 1960, is classified as being "structurally deficient" and has restricted load limits for trucks. The structural evaluation of the bridge is poor. Presently, the bridge is posted with a weight limit of 14 tons for a single vehicle and 20 tons for the legal gross weight for truck tractor semi-trailers (TTST). NCDOT Bridge Maintenance Unit records in 2003 indicated the bridge has a sufficiency rating of 32.9 out of a possible 100. The bridge has poor deck geometry with a bridge width of 11.1 feet (3.4 meters). The replacement of this inadequate structure will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

SR 1167 (Stony Fork Road) is a one-lane road. The road surface is gravel. SR 1167 has a functional classification of "local roadway". The speed limit along SR 1167 is not posted. The project vicinity is rural with sparsely scattered residents.

The existing bridge was completed in 1960. The superstructure consists of timber floor on I-beams and channels. The substructure consists of timber caps, timber posts and concrete footings. It is 57 feet (17.4 meters) long and 11.1 feet (3.4 meters) wide (inside curb to inside curb). This provides for a single travel lane. The bridge crosses Stony Fork Creek at an approximate 80° angle. Photographs of the existing bridge are included on Figures 2A and 2B.

SR 1167 has over-all poor alignment. The horizontal alignment of SR 1167 is tangent immediately across the bridge. Approximately 60 feet (18 meters) south of the bridge, SR 1167 has a sharp curve with a radius of 90 feet (27 meters). The unpaved approach roadway is only about 10 feet (3 - meters) wide. The widths of the grass shoulders are approximately 1 foot (0.3-meter). The maintained right of way width is 12 feet (3.6 meters), symmetrical about the centerline of the existing roadway.

The Average Annual Daily Traffic (AADT) volume for the year 2002 is estimated to be 100 vehicles per day (VPD) and is projected to increase to 200 VPD in the year 2025. The percent of tractor-truck-semi-trailer (TTST) and dual tired trucks (DTT) are estimated to be 1 percent and 2 percent, respectively.

There is one accident recorded which occurred in the vicinity of the bridge during the last three years. This accident involved a vehicle trying to pass another vehicle traveling in the opposite direction. One vehicle moved to the outside edge of the roadway to allow the other vehicle to pass. The edge of the roadway collapsed and the vehicle rolled over and tumbled down the steep embankment.

The Wilkes County School Transportation Director has been contacted regarding the proposed replacement. There are no school buses routed on the bridge.

No utility services are located in proximity of the bridge, which would be affected by the proposed project.

The land use in the project vicinity is primarily undeveloped woodland. Several residences are scattered along the length of SR 1167 but none in proximity to the proposed bridge replacement.

Research of public records and an on-site inspection did not indicate any evidence of the presence of hazardous/toxic material in the immediate project area.

III. ALTERNATIVES

A. Project Description

Bridge No. 71 will be replaced with a new bridge at or near the existing location on SR 1167. Traffic will be will be maintained on site during construction. The new structure will be approximately 60 feet (18.3 meters) in length with a 22-foot (6.7-meter) clear roadway width. This width is measured from the inside to inside of the bridge rails. The 22-foot clear roadway width includes an 18-foot (5.5-meter) travel-way. The bridge typical section is shown on Figure 3.

The roadway approaches to the bridge will consist of an 18-foot pavement and 4-foot useable shoulder widths (grassed). The typical section for the roadway approaches to the bridge is shown on Figure 3.

The clear roadway width of the proposed bridge of 22 feet (6.7 meters) is in conformance

with the NCDOT's bridge policy for low volume highways in mountainous terrain.

B. Build Alternatives

Two alternatives were studied for B-4322. A comparison of the cost of the two alternatives is provided in Item V. Cost Estimate (Table 1). The alternatives are:

Alternative 1 would replace Bridge No. 71 with a new bridge on new alignment on the downstream or east side of the existing bridge. Alternative 1 is shown on Figure 4A. The existing bridge would provide an on-site detour during construction. The existing bridge would be removed upon completion of the new bridge and roadway approaches.

Alternative 2 (Preferred) would replace Bridge No. 71 on the existing alignment of SR 1167. A temporary one-lane detour bridge would be constructed immediately downstream for the maintenance of traffic. Alternative 2 is shown on Figure 4B. The temporary detour bridge and its approach roadways would be removed upon completion of the new bridge and approaches.

The NCDOT Division 11 Engineer has reviewed the proposed project and concurs with the recommended replacement.

The local officials have been made aware of the project and concur with the recommended replacement.

C. Alternatives Eliminated from Further Study

The following alternatives were eliminated from further study.

The alternative of closing the bridge to traffic during construction, providing an off-site detour and replacing the bridge at the existing location was considered. The off-site detour would follow SR 1167 to the community of Mt. Zion and then follow SR 1155, SR 1157, SR 1155, and US 421. The detour is approximately 22 miles along mountainous roads; and is estimated to increase driving time by approximately 40 minutes. The detour includes approximately 4 miles of unpaved single lane road. NCDOT Division 11 Staff advised that this would not be a reasonable detour. Consequently, this alternative of closing the bridge to traffic during construction was eliminated from further consideration.

An alternative located on the upstream side was eliminated because of the steep mountain terrain, with topographical features introducing poorer horizontal alignment.

In addition to these alternatives, a "do-nothing" alternative, and a rehabilitation alternative were considered for the improvement of Bridge No. 71. Rehabilitation of the existing deteriorating bridge is neither practical nor economically feasible. It would require significant repairs to the substructure and superstructure because of their overall poor condition. The "do-nothing" alternative is not feasible. This will require the closing of the road as the existing bridge deteriorates to a point where it is unsafe at any posted weight limits.

D. Preferred Alternative

Alternative 2, replacing the permanent bridge on the existing alignment and providing a temporary one lane bridge and on-site detour immediately downstream, is the preferred alternative. Alternative 2 is shown on Figure 4B. The temporary one lane bridge and one

lane detour roadway would be removed upon completion of the permanent bridge and roadway approaches.

Alternative 2 was selected because it is anticipated to lessen the effects to Stony Fork Creek, which is designated as a trout stream. Stony Fork Creek progressively widens downstream and another stream flows into Stony Creek. Therefore, the closer the construction area can be located downstream and confined near the existing bridge location the shorter the bridge. Also, the least footprint of the construction will minimize impact to trout resources. Placing a one-lane detour bridge and roadway (Alternative 2) rather than a two lane permanent road and bridge (Alternative 1) immediately on the downstream side reduces this footprint to the minimum. Upon completion of the permanent bridge, the temporary bridge and its approaches will be removed. The temporary one lane on-site detour for Alternative 2 would include the minimum possible design due to the very low volume of traffic. This will also minimize earthwork and the potential for impacting Stony Fork Creek.

Alternative 2 is estimated to cost $659,000, including $600,000 for construction and $59,000 for right of way. A breakdown of the estimated cost is shown in Item V. Estimated Costs (Table 1).

The total funding in the 2004-2010 Transportation Improvement Program is $495,000, including $45,000 for right of way and $450,000 for construction.

It appears that the use of precast concrete cored slab components may be appropriate for this location. It is expected to provide two spans, for an estimated total length of 60 feet (18.3 meters). The two span lengths will be adjusted to avoid placing the bridge piers in the stream. The structure will have a 22-foot (6.7-meter) clear roadway width (face of rail to face of rails). Construction limits along the approaches to the bridge extend approximately 165 feet (50 meters) north of the bridge to approximately 200 feet (61 meters) south of the bridge. The approach roadways consist of an 18-foot (5.5-meter) wide pavement and shoulder section. The typical sections for the bridge and roadway are shown on Figure 3.

The proposed design speed is 30 miles per hour (45 kilometers per hour) for the permanent alignment. The temporary detour is to be designed commensurate with the existing road. SR 1167 functions as a one-lane road and the speed limit is not posted.

IV. DESIGN EXCEPTIONS ANTICIPATED

A design exception is needed for the minimum horizontal curve radius. This design exception is consistent with the rest of the road's horizontal alignment.

V. ESTIMATED COST

Table 1

Item	Alternative 1	Alternative 2
Structure	$148,500	$118,800
Temporary Bridge (Includes Placement & Removal)		$28,800
Mobilization and clearing and grubbing	$148,441	$152,529
Removal of existing bridge	$6,840	$6,840
Roadway and misc. costs (including pavement removal, onsite detour traffic control, construction surveys)	$189,800	$199,185
Engineering & contingencies	$81,419	$93,846
Right of way	$62,300	$59,000
Total Cost	$637,300	$659,000

VI. NATURAL RESOURCES

A. General

A study was performed to inventory and describe the various natural resources likely to be impacted by the proposed action. Assessments of the nature and severity of probable impacts to these natural resources are provided, along with recommendations for measures that will minimize resource impacts. This study is included in the natural system technical report on the subject bridge replacement prepared by Stantec Consulting Services, Inc., dated March 12, 2002.

Areas of particular concern are identified that may have affected the selection of a preferred alignment or may necessitate changes in design criteria. Such environmental concerns have been addressed during the preliminary planning stages of the proposed project in order to maintain environmental quality in the most efficient and effective manner. The analyses contained in this document are relevant only in the context of the existing preliminary project boundaries. It may become necessary to conduct additional field investigations should design parameters and criteria change.

1. Methodology

Prior to the field investigation published resource information pertaining to the project study area was gathered and reviewed. The information sources used to prepare this report include:

- U.S. Geological Survey (USGS) quadrangle map (Maple Springs);
- Soil Survey of Wilkes County, North Carolina (1997);
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory Map;
- USFWS list of protected species (March 22, 2001);

- North Carolina Natural Heritage Program (NCNHP) database of rare species and unique habitats (January 2001);
- North Carolina Department of Transportation (NCDOT) aerial photography of the project study area (1:100); and
- North Carolina Division of Water Quality (DWQ) water resource data..

A general field survey was conducted within the project study area on August 29, 2001. Water resources were identified and their physical characteristics were recorded. Terrestrial community classifications generally follow Schafale and Weakley (1990) where possible, and plant taxonomy follows Radford, *et al.* (1968). Vegetative communities were mapped utilizing aerial photography of the project site. Wildlife was identified using a variety of observation techniques including active searching, visual observations with binoculars, and identifying characteristic signs of wildlife (sounds, tracks, scat, and burrows). Cursory surveys for aquatic organisms, including tactile searches for benthic macroinvertebrates, were performed as well.

Investigation into wetland occurrence in the project study area was conducted using methods outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987).

The principal investigator was Michael P. Eagan. Mr. Eagan has a Bachelor of Science in Biology.

The project study area is identified as an area approximately 800 feet (244 meters) long and approximately 400 feet (122 meters) wide.

B. Physical Resources

1. Physiography and Soils

The project 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 1,960 to 2,600 feet (597 to 792 meters) above mean sea level (msl). The elevation in the project study area varies from approximately 1,960 to 2,040 feet (597 to 622 meters) above msl.

According to the general soil map for Wilkes County (USDA, 1997), the project study area is found within the Chestnut-Ashe-Edneyville soil association. The soils in this association are described as strongly sloping to very steep, well-drained soils that have a loamy subsoil and are found on mountain uplands at elevations of 2,000 to 4,100 feet (610 to 1,250 meters). Soil series found within the project study area are described below.

Tate-Cullowhee complex, zero to 25 percent slopes, is mapped along the stream. This map unit consists of a very deep, well-drained Tate soil and a very deep, somewhat poorly drained Cullowhee soil. This map unit is found in valleys and coves along the headwaters of streams flowing out of the mountains. Permeability is moderate and surface runoff is rapid in bare and unprotected areas in the Tate soil. Permeability is moderately rapid and surface runoff is slow in bare and unprotected areas in the Cullowhee soil. The soil is frequently flooded for brief periods. This mapping unit is listed as having hydric inclusions of poorly drained soils in toe slopes and along drainageways.

Chestnut-Ashe complex, 25 to 90 percent slopes, very stony, is mapped in the area south of the bridge. This map unit consists of a moderately deep, well-drained Chestnut soil and a moderately deep, somewhat excessively well-drained Ashe soil.

This map unit is found on steep ridgetops and side slopes in the mountains. Permeability is moderately rapid and surface runoff is rapid to very rapid in bare and unprotected areas. This mapping unit is not listed on the hydric soils list.

2. Water Resources

The proposed project falls within the Yadkin-Pee Dee River Basin, with a subbasin designation of 03-07-01. Waters within the project study area include Stony Fork Creek and two unnamed tributaries to Stony Fork Creek.

a. Water Resource Characteristics

Stony Fork Creek flows west through the proposed project study area with a width of approximately 37 feet (11.3 meters). The flow was moderate on the day of the field investigation. The substrate consisted of bedrock, boulders, cobbles, sand, and silt. The stream is comprised of step/pool sequences. The water was turbid on the day of the site visit due to disturbance upstream of the project study area. The depth of the water ranged from a few inches in the riffles to over three feet (0.9 meters) in some of the pools.

An unnamed tributary flows into Stony Fork Creek on the northeast side of Bridge No. 71. The tributary is approximately four feet (1.2 meters) wide and at the time of the site visit was several inches deep. The substrate consists of cobbles, gravel, and sand.

A second unnamed tributary flows into Stony Fork Creek northwest of the bridge. This intermittent tributary is approximately two feet (0.6 meters) wide; the channel was dry in some sections on the day of the site visit. The substrate consists of gravel and sand.

Streams have been assigned a best usage classification by the North Carolina Division of Water Quality (DWQ) [formerly the Division of Environmental Management (DEM)], which reflects water quality conditions and potential resource usage. Within the project study area, the classification for Stony Fork Creek (Index No. 12-26-(1), 4/15/63) is "C Tr". Class "C" waters are suitable for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, and agriculture. The "Tr" denotes trout waters which is a supplemental classification to protect freshwaters for natural trout propagation and survival of stocked trout.

No waters classified as High Quality Waters (HQW), Water Supplies (WS-I: undeveloped watershed, or WS-II: predominately undeveloped watersheds), or Outstanding Resource Waters (ORW) occur within one mile (1.6 kilometers) of the project study area.

Point sources, such as wastewater discharges, located throughout North Carolina are permitted through the National Pollutant Discharge Elimination System (NPDES) program. No NPDES permitted facilities are located in or directly upstream from the project study area.

Non-point source refers to runoff that enters surface waters through stormwater flow or no defined point of discharge. Stormwater runoff from SR 1167 may reach Stony Fork Creek and cause water quality degradation through the addition of oil or gas residuals, particulate rubber, or other sources of contamination.

The Basinwide Monitoring Program, managed by the DWQ, is part of an ongoing ambient water quality monitoring program that addresses long-term trends in water quality. The program monitors ambient water quality by sampling at fixed sites for selected benthic macroinvertebrates, which are

sensitive to water quality conditions. Samples are evaluated on the number of taxa present of intolerant groups [Ephemoptera, Plecoptera, Trichoptera (EPT)] and a taxa richness value (EPT S) is calculated. A biotic index value is also calculated for the sample that summarizes tolerance data for all species in each collection. The two rankings are given equal weight in final site classification. The biotic index and taxa richness values primarily reflect the effects of chemical pollution and are a poor measure of the effects of such physical pollutants as sediment. Stream and river reaches are assigned a final bioclassification of Excellent, Good, Good/Fair, Fair, or Poor.

According to the information obtained from the Yadkin-Pee Dee River Basinwide Water Quality Management Plan (NCDENR, 1998), the DWQ does not have a sampling station on Stony Fork Creek at the project study area; the closest station is located approximately 1,600 feet (488 meters) upstream of the project site at SR 1500. The station was last sampled in July 1996 and received a rating of Good.

b. Anticipated Impacts to Water Resources

Impacts to water resources in the project study area are likely to result from activities associated with project construction, such as clearing and grubbing on streambanks, riparian canopy removal, instream construction, fertilizers and pesticides used in revegetation, and pavement construction. The following impacts to surface water resources are likely to result from the above mentioned construction activities:

- Increased sedimentation and siltation downstream of the crossing and increased erosion in the project study area;
- Changes in light incidence and water clarity due to increased sedimentation and vegetation removal;

- Alteration of water levels and flows due to interruptions and/or additions to surface and ground water flow from construction;
- Changes in and destabilization of water temperature due to vegetation removal;
- Changes in dissolved oxygen (DO) levels;
- Increased nutrient loading during construction via runoff from exposed areas;
- Increased concentrations of toxic compounds in roadway runoff;
- Increased potential for release of toxic compounds such as fuel and oil from construction equipment and other vehicles; and
- Alteration of stream discharge due to silt loading and changes in surface and groundwater drainage patterns.

In order to minimize potential impacts to water resources in the project study area, NCDOT's Best Management Practices (BMPs) for the Protection of Surface Waters will be strictly enforced during the construction phase of the project. Impacts will be further reduced by limiting in-stream activities and re-vegetating stream banks immediately following the completion of grading.

C. 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.

1. Terrestrial Communities

The predominant terrestrial communities found in the project study area are maintained/disturbed, rich cove forest, and oak-hickory forest. Dominant faunal components associated with these terrestrial areas are discussed in each community description. Many species are adapted to the entire range of habitats found within the project study area but may not be mentioned separately in each community description.

a. Maintained/Disturbed Community

The maintained/disturbed community includes the road shoulders within the project study area. Many plant species are adapted to these disturbed and regularly maintained areas. The dominant species within the project study area include fescue (*Festuca* sp.), ryegrass (*Lolium* sp.), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), ragweed (*Ambrosia artemisiifolia*), goldenrod (*Solidago* sp.), Southern harebell (*Campanula divaricata*), thistle (*Cirsium* sp.), aster (*Aster* sp.), wild onion (*Allium cernuum*), blackberry (*Rubus* sp.), and plantain (*Plantago* sp.).

The animal species present in these disturbed habitats 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. A Ruby-throated Hummingbird (*Archilochus colubris*) was observed during the site visit. Other species such as white-footed mouse (*Peromyscus leucopus*), Eastern mole (*Scalopus aquaticus*), House Sparrow (*Passer domesticus*), Eastern Bluebird (*Sialia sialis*), American Robin (*Turdus migratorius*), American Crow (*Corvus brachyrhynchos*), American Goldfinch (*Carduelis tristis*), Northern Mockingbird (*Mimus polyglottos*), and garter snake (*Thamnophis sirtalis*) are often attracted to these disturbed habitats.

b. Rich Cove Forest Community

This community is found adjacent to Stony Fork Creek and its tributaries. The canopy layer includes Eastern hemlock (*Tsuga canadensis*), cucumber tree (*Magnolia acuminata*), sugar maple (*Acer saccharum*), yellow birch (*Betula lutea*), and black locust (*Robinia pseudoacacia*). The understory consists of dogwood (*Cornus florida*), rhododendron (*Rhododendron* sp.), mountain pepperbush (*Clethra acuminata*), and holly (*Ilex opaca*). The herbaceous layer includes violet (*Viola* sp.), trillium (*Trillium* sp.), goldenrod, upland boneset (*Eupatorium sessilifolium*), dayflower (*Commelina* sp.), common greenbrier (*Smilax rotundifolia*), poison ivy (*Toxicodendron radicans*), and grapevine (*Vitis* sp.).

Species which may reside or forage in these areas include Tufted Titmouse (*Baeolophus bicolor*), Carolina Wren (*Thryothorus ludovicianus*), Ovenbird (*Seiurus aurocapillus*), Northern Cardinal (*Cardinalis cardinalis*), American toad (*Bufo americanus*), Eastern box turtle *(Terrapene carolina carolina*), and white-tailed deer (*Odocoileus virginianus*).

c. Oak-Hickory Forest Community

This community is found along the hillside southwest of the bridge. The canopy layer includes white oak (*Quercus alba*), red oak (*Quercus rubra*), mockernut hickory (*Carya tomentosa*), tulip poplar (*Liriodendron tulipifera*), red maple (*Acer rubrum*), and black locust. The understory consists of dogwood and sassafras (*Sassafras albidum*). The herbaceous layer contains miterwort (*Mitella diphylla*), violet, common greenbrier, poison ivy, and honeysuckle (*Lonicera* sp.).

Species which may reside or forage in these areas include Blue Jay

(*Cyanocitta cristata*), Downy Woodpecker (*Picoides pubescens*), Eastern Screech-owl (*Otus asio*), White-breasted Nuthatch (*Sitta carolinensis*), Eastern chipmunk (*Tamias striatus*), gray squirrel (*Sciurus carolinensis*), and Eastern cottontail (*Sylvilagus floridanus*).

2. Aquatic Communities

The aquatic community in the project study area includes the Stony Fork Creek and two unnamed tributaries. Vegetation along the stream banks includes the tree species mentioned above as well as alder (*Alnus serrulata*), pale jewelweed (*Impatiens pallida*), spotted jewelweed (*Impatiens capensis*), cardinal flower (*Lobelia cardinalis*), and Joe-Pye weed (*Eupatorium* sp.). Mountain dusky salamanders (*Desmognathus ochrophaeus*) were observed in Stony Fork Creek and the tributaries. Stoneflies (Plecoptera), mayflies (Ephemeroptera), caddisflies (Trichoptera), water pennies (Coleoptera), and crayfish (Decapoda) were found under stones and woody debris in Stony Fork Creek.

According to Mr. Kevin Hining, District 7 Assistant Fisheries Biologist for the North Carolina Wildlife Resource Commission (NCWRC), wild brook trout (*Salvelinus fontinalis*) may be found in the Stony Fork Creek.

3. Summary of Anticipated Impacts to Biotic Communities

Biotic community impacts resulting from project construction are addressed separately as terrestrial impacts and aquatic impacts. Impacts to terrestrial communities, particularly in locations exhibiting slopes, can result in the aquatic community receiving heavy sediment loads as a consequence of erosion. Construction impacts may not be restricted to the communities in which the construction activity occurs.

a. Terrestrial Communities

The rich cove forest, oak-hickory forest, and maintained/disturbed communities serve as nesting, foraging, and shelter habitat for fauna. Removal of plants and other construction related activities would result in the displacement and mortality of faunal species in residence. Individual mortalities are likely to occur to terrestrial animals from construction machinery used during clearing activities.

Project construction will result in clearing and degradation of portions of these communities. Often, project construction does not require the use of the entire right-of-way; therefore, actual impacts may be considerably less.

b. Aquatic Communities

Impacts to the aquatic community of Stony Fork Creek will result from the replacement of Bridge No. 71. Impacts are likely to result from the physical disturbance of aquatic habitat. 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. 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.

Impacts to aquatic communities can be minimized by strict adherence to BMPs.

D. Special Topics

1. Waters of the United States: Jurisdictional

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 (USACE).

Investigation into wetland occurrence in the project impact area was conducted using methods outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). No jurisdictional wetlands were found within the project study area.

Project construction cannot be accomplished without infringing on jurisdictional surface waters. Anticipated surface water impacts fall under the jurisdiction of the USACE.

2. Permits

In accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344), a permit is required from the USACE for projects of this type for the discharge of dredged or fill material into "Waters of the United States."

A Nationwide Permit 23 is likely to be applicable for all impacts to Waters of the United States resulting from the proposed project. This permit authorizes activities undertaken, assisted, authorized, regulated, funded or financed, in whole or part, by another federal agency or department where that agency or department has determined, pursuant to the Council on Environmental Quality (CEQ) Regulation for the Implementing the Procedural Provisions of the National Environmental Policy Act:

(1) that the activity, work, or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the environment, and

(2) the office of the Chief of Engineers has been furnished notice of the agency's or department's application for the categorical exclusion and concurs with that determination.

A Nationwide Permit 33 will be required if an on-site temporary detour is needed during construction of Bridge No. 71. This permit authorizes temporary structures, work and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites; provided the associated primary activity is authorized by the USACE or the U.S. Coast Guard, or for other construction activities not subject to the USACE or U.S. Coast Guard regulations.

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.

a. Bridge Demolition

NCDOT's BMPs for Bridge Demolition (Case 2) will be implemented. The removal of the concrete footings may create some disturbance in the streambed. The existing bridge consists of timber components with the exception of concrete footings. The total volume of the three footings is estimated to be approximately 6 cubic yards.

b. Mitigation

The USACE 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 USACE, 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.

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, fill slopes and/or road shoulder widths.

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. Such actions should be undertaken in areas adjacent to or contiguous with the discharge site.

Compensatory mitigation is required for those projects authorized under Section 404 Nationwide Permits that result in the fill or alteration of more than 0.5 acre (0.2 hectare) of wetlands and/or 300 linear feet (91.4 meters) of streams.

3. 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 Wilkes County and any likely impacts to these species as a result of the proposed project construction are discussed in the following sections.

a. 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 one federally protected species for Wilkes County as of the February 25, 2003 listing

(Table 2).

A review of the NCNHP database of rare species and unique habitats shows no recorded occurrences of any federally protected species in the project vicinity.

FEDERALLY PROTECTED SPECIES FOR WILKES COUNTY
TABLE 2

Scientific Name (Common Name)	Status
Clemmyst muhlenbergii (Bog Turtle)	T(S/A)

NOTES:
T(S/A) - A Threatened (due to similarity of appearance) species is one, in which the species so closely resembles in appearance a threatened species that enforcement personnel would have substantial difficulty in differentiating between the listed and unlisted species.

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

Bog turtles are small [three to 4.5 inches (7.6 to 11.4 centimeters)] semi-aquatic 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.

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b. 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. FSC are defined as species that are 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 3 includes listed FSC species for Wilkes County and their state classifications (January 2001).

A review of the NCNHP database of rare species and unique habitats showed no recorded occurrences of any FSC species in the project vicinity.

FEDERAL SPECIES OF CONCERN FOR WILKES COUNTY

TABLE 3

Scientific Name (Common Name)	North Carolina Status	Habitat Present
Dendroica cerulea (Cerulean Warbler)	SR	Yes
Speyeria diana (Diana Fritillary Butterfly)	SR	Yes
Speyeria idalia (Regal Fritillary Butterfly)	SR	Yes
Juglans cinerea (Butternut)	W5A	Yes
Pycnanthemum torrei (Torrey's Mountain-mint)	SR-T	Yes

NOTES:

SR Significantly Rare – Species which are very rare in North Carolina, generally with 1-100 populations in the state, generally substantially reduced in numbers by habitat destruction (and sometimes also by direct exploitation or disease).

SR-T Throughout - These species are rare throughout their ranges (fewer than 100 populations total)

W5A Watch Category 5a (Rare because of severe decline) – Includes species which have declined sharply in North Carolina, but which do not appear yet warrant site-specific monitoring.

c. Summary of Anticipated Impacts

No habitat is present in the project study area for any federally protected species. According to the NCNHP, there have been no recorded occurrences of any rare or protected species within the project vicinity. Therefore, no impacts to either federal or state listed species are anticipated.

VII. CULTURAL RESOURCES

A. Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, implemented by the Advisory Council on Historic Preservation for Compliance with Section 106, codified as 35 CFR Part 800. Section 106 requires that for federally funded, licensed, or permitted projects having an effect on properties listed in or eligible for the National Register of Historic Places, the Advisory Council on Historic Preservation be given the opportunity to comment.

B. Historic Architecture

A field survey of the Area of Potential Effects (APE) was conducted on September 23, 2002. There were only two structures within the APE or anywhere near the bridge. The structures were photographed, and later reviewed by the State Historic Preservation Office (SHPO). In a memorandum dated November 12, 2002, the State Historic Preservation Officer (SHPO) concurred that there are no historic architectural resources either listed in or eligible for listing in the National Register of Historic places within the APE. A copy of the memorandum is included in Appendix A.

C. Archaeology

The State Historic Preservation Officer (SHPO), in a memorandum dated November 12, 2002, recommended, "no archaeological investigation be conducted in connection with this project." A copy of the SHPO memorandum is included in Appendix A.

VII. SECTION 4 (f) RESOURCES

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

(1) there is no prudent and feasible alternative to using that land; and

(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from such use."

No resources protected by Section 4(f) are located in the project area.

VIII. ENVIRONMENTAL EFFECTS

The project will have the following benefits: The proposed improvements will replace the functionally obsolete bridge with a new bridge at minimal effects to the human and natural

environment. The load restriction will be removed from the bridge for truck traffic. The new bridge will provide improved safety due to the increased width and improved sight distance. Utilizing pre-cast bridge components are expected and this should result in a minimal time for construction and less inconvenience to vehicular traffic. The design of the proposed bridge will not change the visual character of the area and should be aesthetically acceptable. There are no residences in proximity to the bridge and therefore there will be no impacts to residences or any other development in the area. An off-site detour route of reasonable length is not available. Travel time will not be increased since an on-site detour will be constructed to maintain traffic during construction of the bridge replacement. The proposed improvement is anticipated to require a limited amount of additional right of way. In summary, the project is expected to have an overall positive impact. Replacement of the inadequate bridge and construction of safety improvements will result in safer and overall more efficient traffic operations.

The proposed project will not adversely impact threatened or endangered species

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

No adverse impact on families or communities is anticipated. No relocatees are expected with the implementation of the proposed project.

The proposed project will not involve lands protected by Section 4(f) of the U.S. Department of Transportation Act of 1966.

No geodetic survey markers will be impacted.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impacts to prime and important farmland soils by all land acquisition and construction

projects. Since the bridge will be replaced at the existing location, the Farmland Protection Policy Act does not apply.

The traffic volumes are not expected to increase or decrease because of this project. The project will not adversely impact noise or air quality in the immediate project area.

Noise levels could increase temporarily during construction. If vegetation is disposed by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) air quality in compliance with 15NCAC2d.0520. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 772) and for air quality (1990 CAAA and NEPA) and no additional reports are required.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no underground storage tanks or hazardous waste sites in the project area.

Wilkes County is a participant in the National Flood Insurance Program. The bridge is not within any study area. The new structure will be designed to match or lower the existing 100-year storm elevation upstream of the roadway. Since the proposed replacement for bridge No. 71 will be a structure similar in waterway opening size, it is not anticipated to have any substantial adverse impact on the existing floodplain and floodway. Additional hydraulic information is included in the technical memorandum prepared by Sungate Design Group, P.A., dated October 31, 2002.

All borrow and solid waste sites will be the responsibility of the Contractor. Solid waste will be disposed of in strict adherence to the NC Division of Highways "Standard Specifications for Roads and Structures." The Contractor will observe and comply with all laws, ordinances, regulations, orders, and decrees regarding the disposal of solid waste. Solid waste will not be placed into any existing land disposal site that is in violation of state or local rules and regulations. Waste and debris will be disposed of in areas that are outside the right of way and provided by the Contractor.

On the basis of the above discussion, it is concluded that no significant adverse environmental effects will result from the implementation of this project. The project is a Federal "Categorical Exclusion" due to its limited scope and lack of significant environmental consequences.

IX. PUBLIC INVOLVEMENT

There are no residences near the bridge. A newsletter was mailed to the local newspapers that serve this area of Wilkes County. Newsletters were also sent to the local officials in Wilkes County. The newsletter announced the proposed replacement of Bridge No. 71 on SR 1167 (Stony Fork Creek Road) over Stony Fork Creek in Wilkes County. A copy of this newsletter is found in Appendix B. No responses were received from the newsletter recipients.

X. AREAS OF CONTROVERSY

No controversial issues have been identified during the project planning process and none are anticipated.

XI. AGENCY COMMENTS

Scoping letters were sent to the following agencies. Agencies that responded are marked with asterisk. Comment letters are included in Appendix A.

Federal Agencies

US Fish and Wildlife Service-Asheville*

US Army Corps of Engineers-Asheville

US Army Corps of Engineers-Wilmington

Environmental Protection Agency-Raleigh

State Agencies

NC Wildlife Resources Commission*

NC Department of Environment and Natural Resources*

Division of Water Quality/Wetlands*

Division of Archives and History*

The Eastern Band of Cherokee Indians, Tribal Historic Preservation Office*

State Clearinghouse

Department of Public Instruction

Regional and Local Agencies

Region D Council of Government

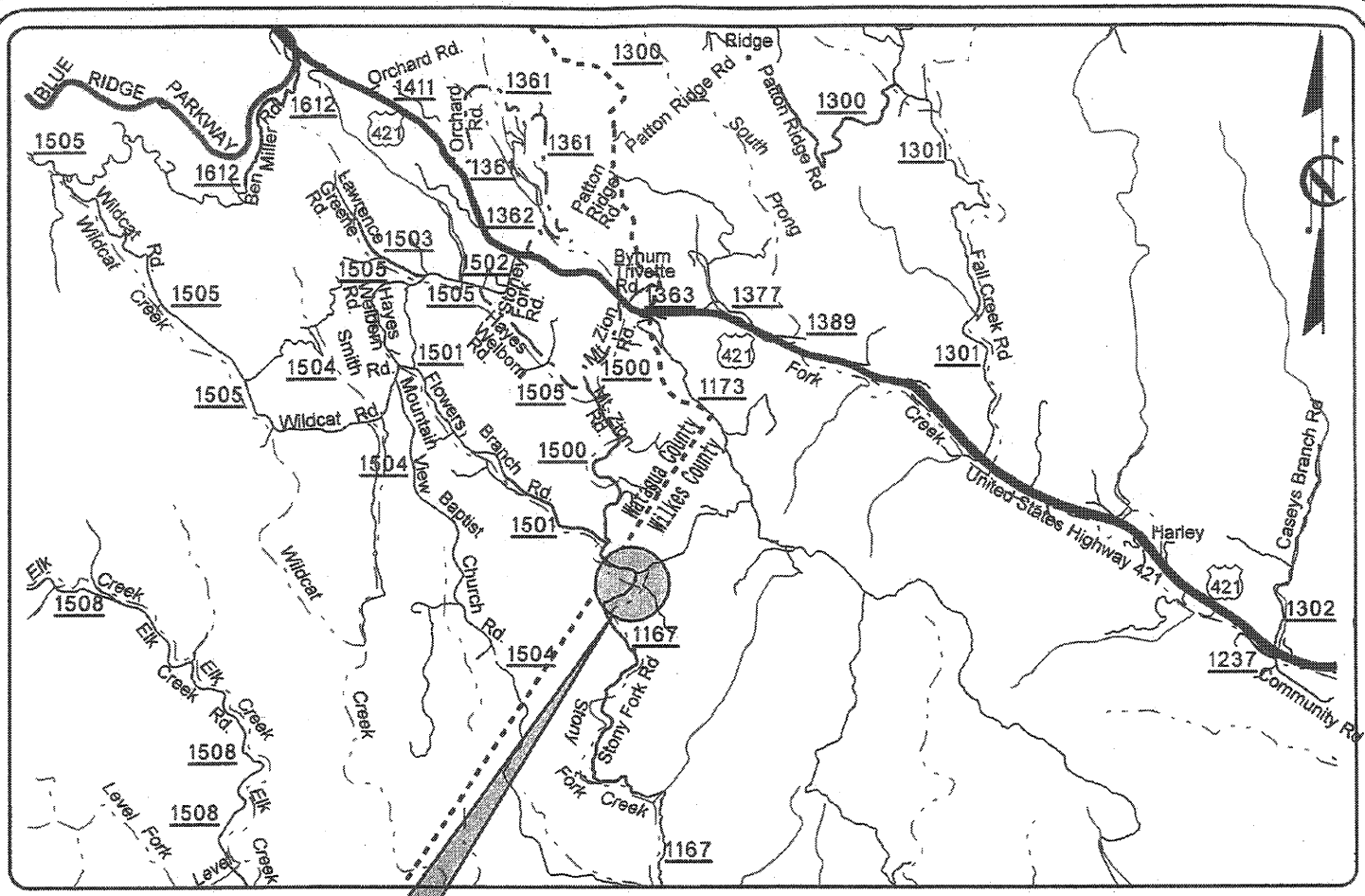
Wilkes County Commissioners, chairperson

Wilkes County Emergency Management Agency*

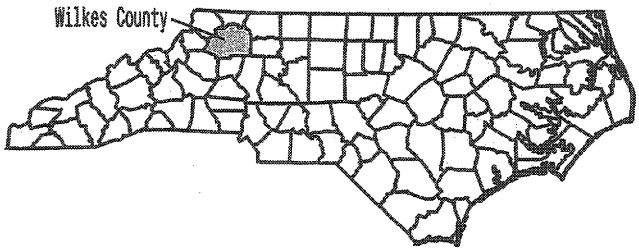
Wilkes County Department of Planning & Inspections

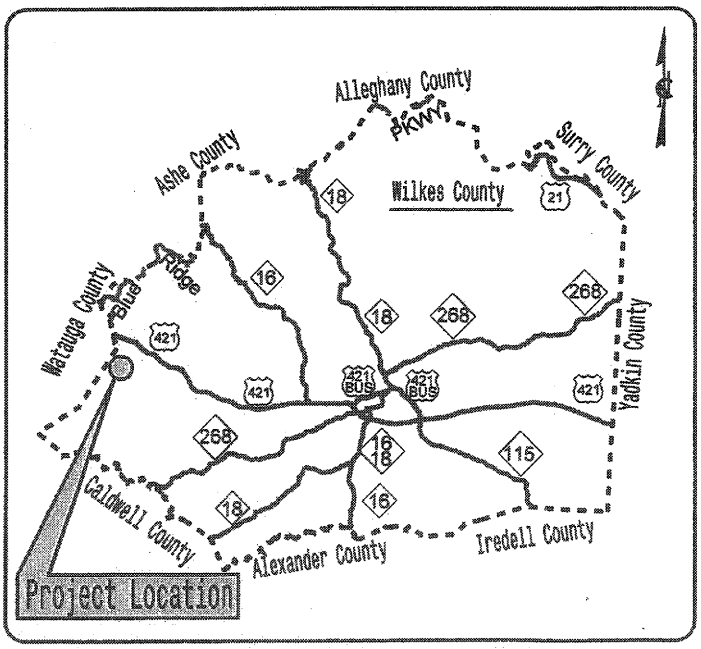
Wilkes County Board of Education*

FIGURES



PROJECT LOCATION





SR 1167
(STONY FORK ROAD)
REPLACE BRIDGE NO. 71 over Stony Fork Creek

B-4322

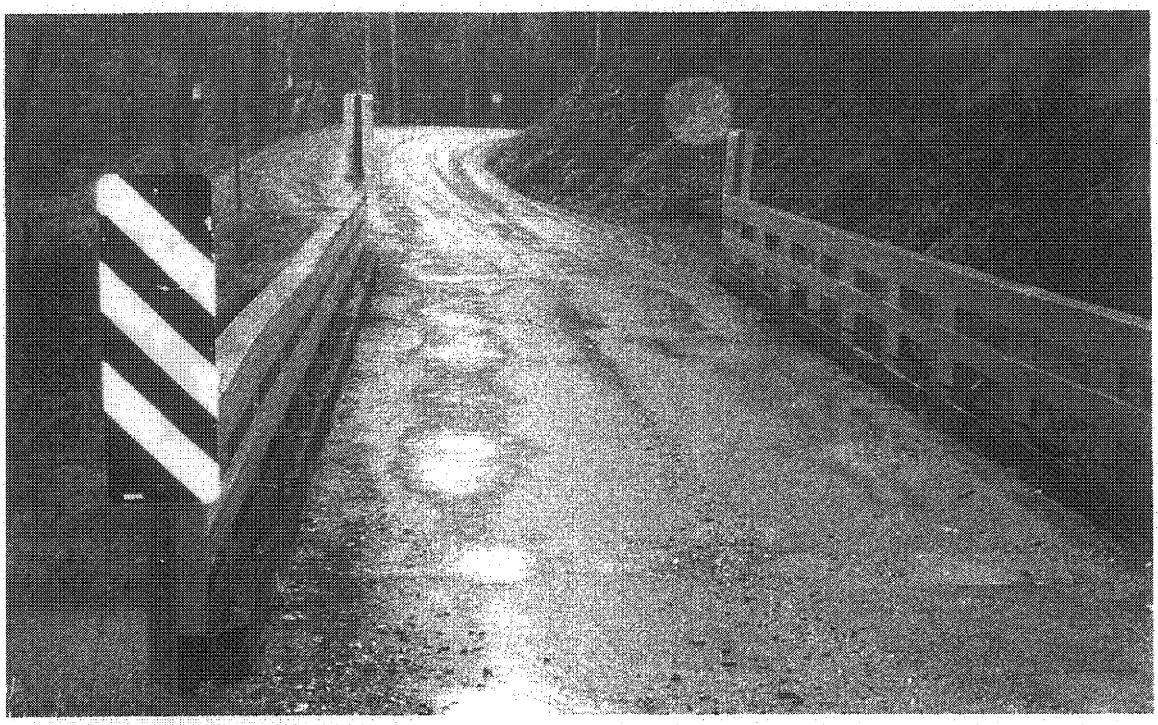
Wilkes County, North Carolina

PROJECT VICINITY

Not To Scale

Figure 1

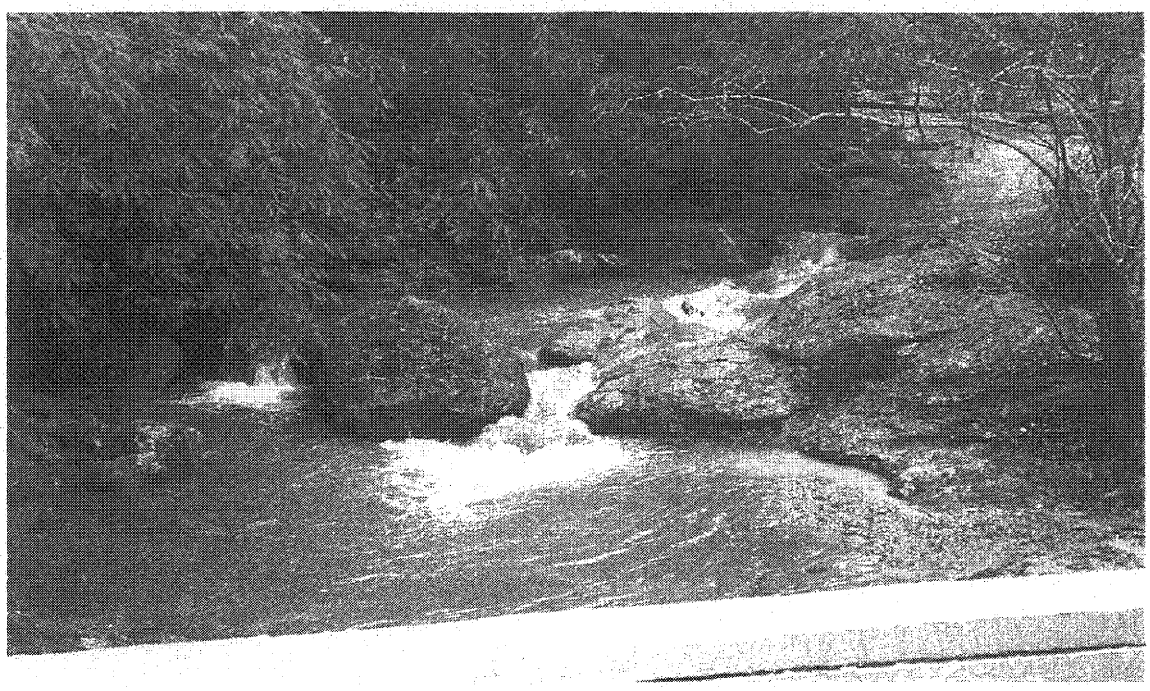
R:\NCDOT\BR_GROUP*40\B4322\Planning\B-4322_fig1.psh



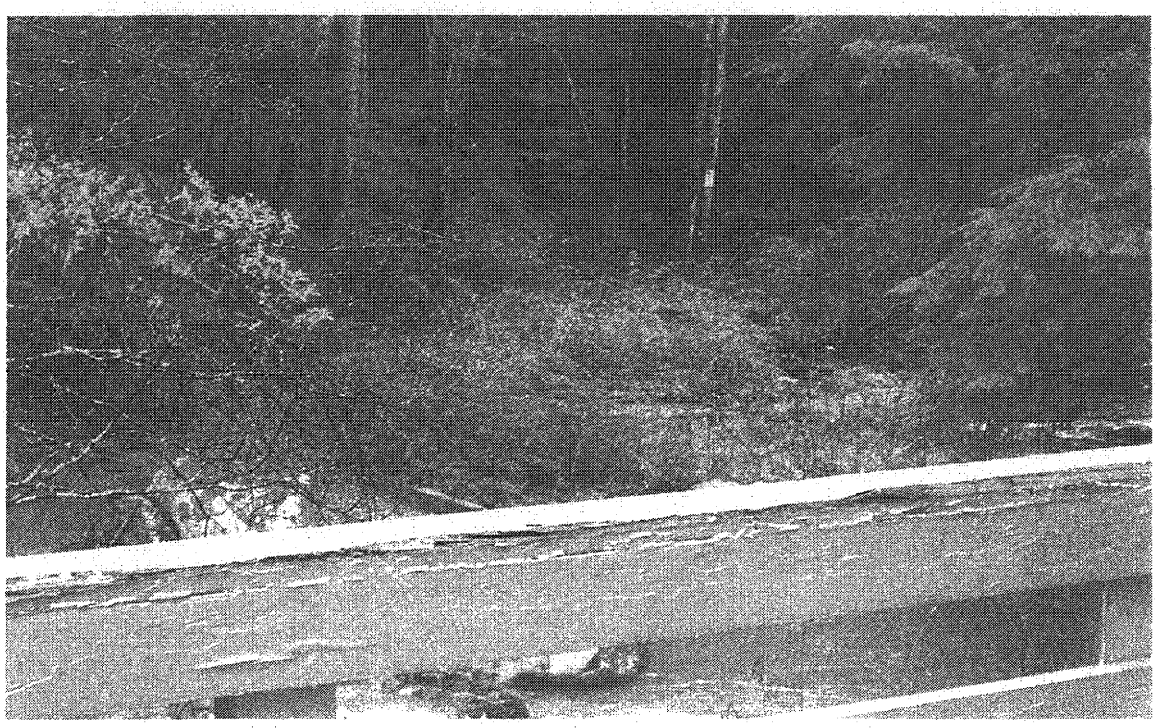
B-4322- VIEW OF BRIDGE NO. 71 LOOKING IN THE SOUTH DIRECTION

B-4322-VIEW UNDERNEATH BRIDGE NO. 71

FIGURE 2 A

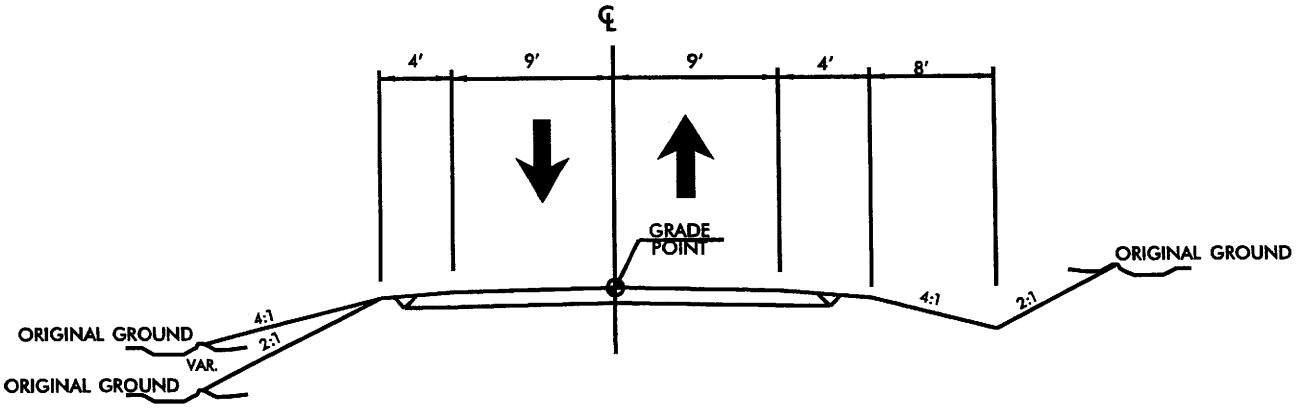


B-4322-VIEW FROM BRIDGE OF STONY FORK CREEK, LOOKING UP-STREAM (EAST)

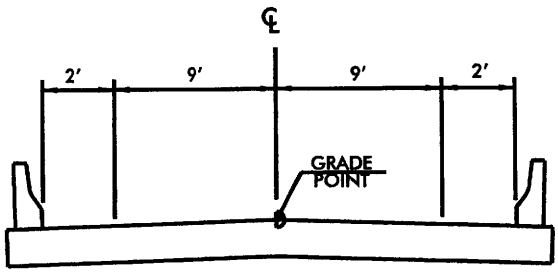


B-4322-VIEW OF STONY FORK CREEK FROM BRIDGE LOOKING DOWN-STREAM (WEST)

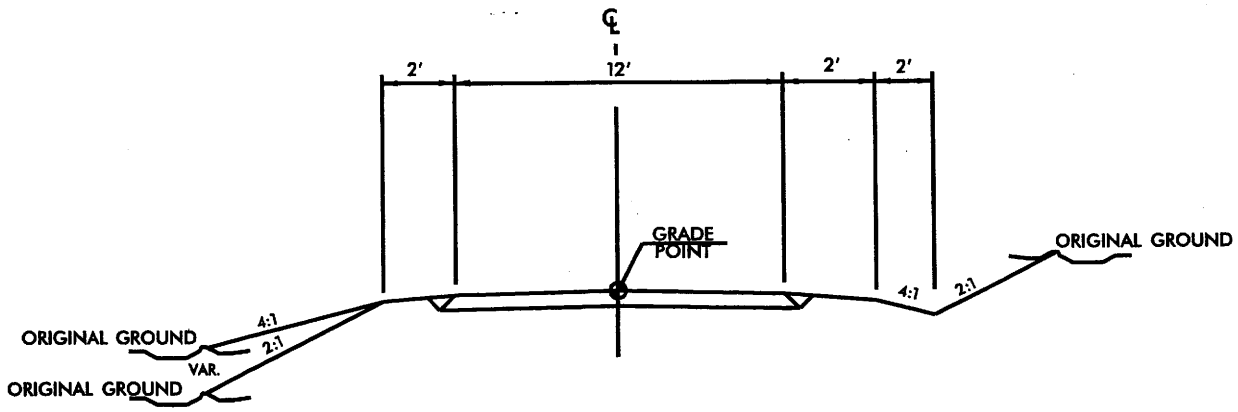
FIGURE 2 B



ROADWAY TYPICAL SECTION



BRIDGE TYPICAL SECTION



DETOUR ROADWAY TYPICAL SECTION (ONE WAY)

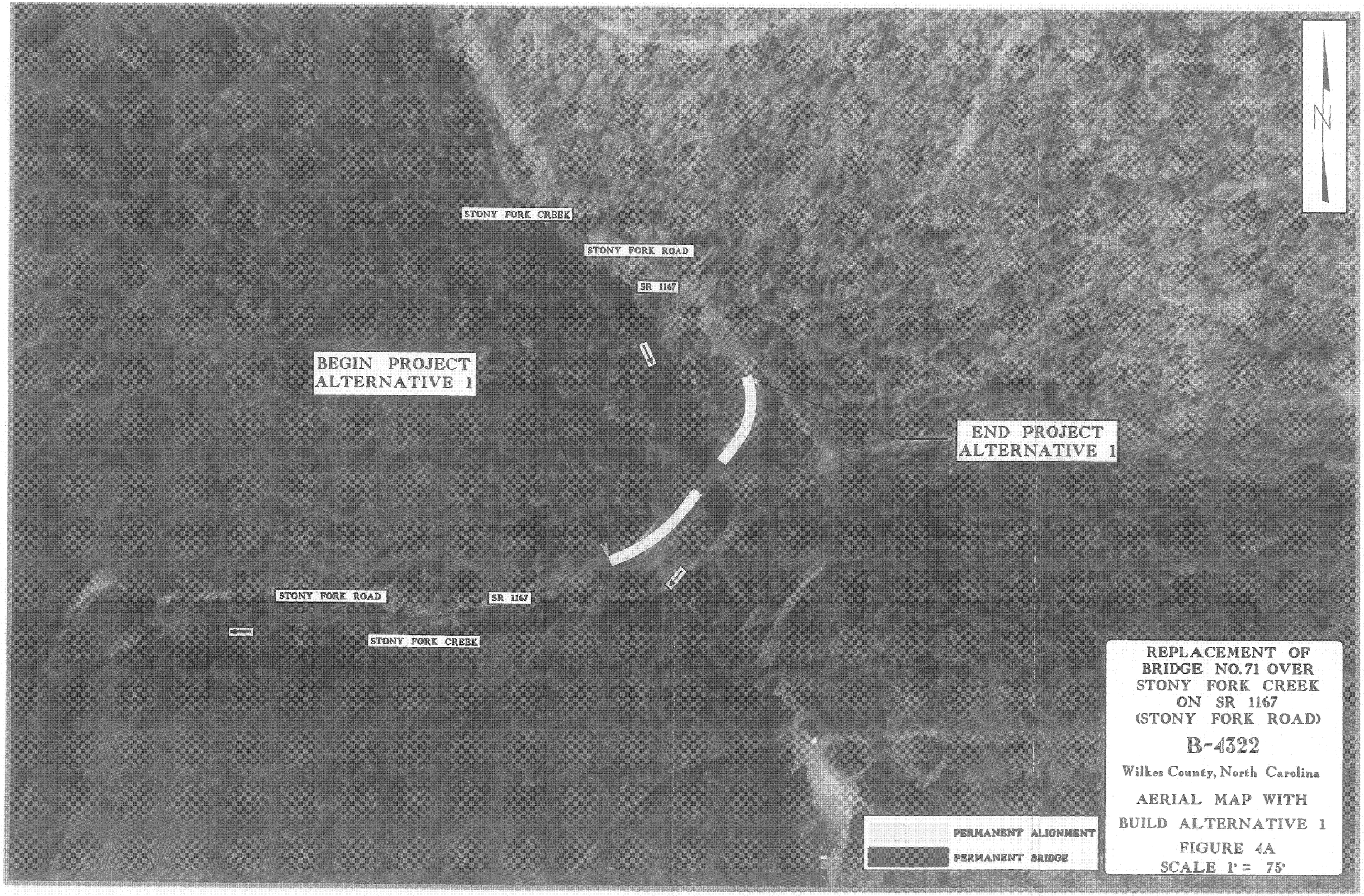
REPLACEMENT OF
BRIDGE NO. 71 OVER
STONY FORK CREEK
ON SR 1167
(STONY FORK ROAD)

B-4322

Wilkes County, North Carolina

TYPICAL SECTIONS FOR
ALTERNATIVES 1 & 2

FIGURE 3



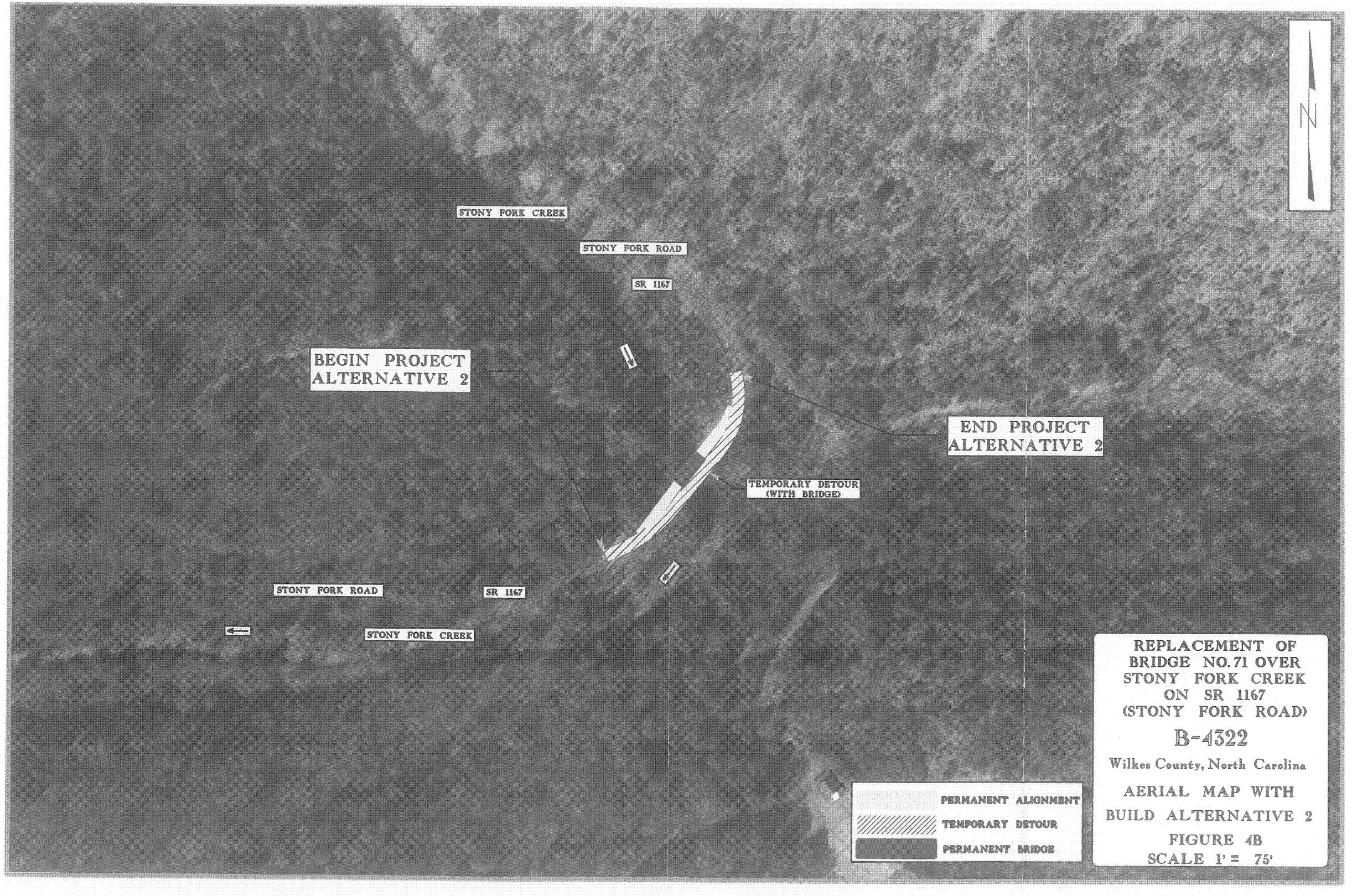
REPLACEMENT OF
BRIDGE NO. 71 OVER
STONY FORK CREEK
ON SR 1167
(STONY FORK ROAD)

B-4322

Wilkes County, North Carolina

AERIAL MAP WITH
BUILD ALTERNATIVE 1

FIGURE 4A
SCALE 1' = 75'



REPLACEMENT OF BRIDGE NO. 71 OVER STONY FORK CREEK ON SR 1167 (STONY FORK ROAD)

B-4322

Wilkes County, North Carolina

AERIAL MAP WITH
BUILD ALTERNATIVE 2

FIGURE 4B
SCALE 1' = 75'

APPENDIX A

US Fish and Wildlife Service

160 Zillicoa Street
Asheville, NC 28801
Phone 828-258-3939 Ext 237, Fax 828-258-5330

MEMO FOR: William T. Goodwin, P.E. **DATE:** June 27, 2002

FROM: Marella Buncick

SUBJECT: Review of NCDOT 2005 Bridge Program

I have completed initial review of the approximately 70 proposed bridge replacements for NCDOT Divisions 9-14 for the year 2005. I would like to commend NCDOT for obtaining the natural resource information up front and allowing the agencies to review the proposals and provide comments so early in the process. It was a large volume of work for everyone involved but I feel that the input will be much more meaningful at this early planning stage.

Attached is a spreadsheet with specific comments for each project reviewed. All of the projects have been assigned a Green, Yellow, or Red ranking depending on the resources affected and the need for future consultation. As you will note, the majority of the projects received a Yellow ranking. This is due in large part to the fact that there are unresolved issues related to listed species. Many of these projects likely will become Green projects after further field review. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) actions are subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

I also have general comments regarding the process and reports. My general comments follow.

Report Content and Organization

1. The reports would be more easily handled if they were not spiral or otherwise bound.
2. Maps need to be much better. Without a significant landmark-- highway, larger town, other feature – it sometimes took a long time to figure out the location of the project within a county.
3. The reports were organized somewhat similarly, but more consistency would aid in the review process. Perhaps a table that has the significant features ---stream width, depth, DWQ class, etc.--also would help.

4. For listed species, it often was difficult to tell whether field surveys had been conducted or whether the information was limited to a database search.
5. In the future, I would appreciate having the Rosgen stream classification included as part of the information.

Listed Species Surveys

Projects currently ranked as Yellow will need to be reviewed in the future after the stated issues are resolved. For those reports with unresolved issues related to listed species, I would recommend that NCDOT wait until closer to implementation time to conduct final surveys. In general, after three to five years we need updated information regarding the project and listed species. Additionally, when aquatic species are involved (particularly mussels) several surveys may be required to adequately determine presence or absence.

The three projects receiving a Red ranking will need to be followed very closely to determine future consultation requirements. These include B-4287 (actually 2 bridge replacements), B-4286, and B-4282. These projects were ranked as Red because of the significance of the number of listed resources potentially affected and the river (either main stem or tributary) involved.

I would encourage NCDOT to require consultants to at least assess habitat for the bog turtle. While the bog turtle technically does not require Section 7 consultation, it is a species of concern and NCDOT is actively managing mitigation sites or parts of sites for this species. Additionally, the Wildlife Resources Commission considers this animal rare in NC and participates actively in surveys and conservation efforts on its behalf.

Bridge Design and Construction Practices

I am assuming that FWS comments/recommendations in the past regarding bridge design, demolition, and construction practices will be folded into each of these projects. Since NCDOT is also working on a BMP manual that covers these practices, I think it would be redundant to state them again. However, if any questions arise, please let me know. I would like to emphasize that we prefer off-site detours wherever possible, to minimize effects to resources.

Each of these projects has been assigned a log number. Please refer to these numbers in future requests regarding the subject projects. Thank you again for the opportunity to provide these comments. If you have questions, please let me know.

PDE	TIP	County	Rank	Reason for Rank	FWS Log Number
SH	B-2988	Haywood	Y	unresolved for listed species, FWS requests review of bridge design	4-2-02-391
MD	B-4011	Ashe	Y	FWS requests resurvey for spiraea, assessment for bog turtle and green floater, review bridge plans	4-2-02-405
MD	B-4012	Ashe	Y	FWS requests resurvey for spiraea and habitat assessment for bog turtle	4-2-02-404
MD	B-4013	Ashe	Y	FWS requests resurvey for spiraea and habitat assessment for bog turtle, review bridge design	4-2-02-403
MD	B-4015	Ashe	Y	FWS requests resurvey for spiraea and habitat assessment for bog turtle, review bridge design	4-2-02-402
MD	B-4016	Ashe	Y	FWS requests resurvey for spiraea and habitat assessment for bog turtle, review bridge design	4-2-02-401
SH	B-4032	Buncombe	G	FWS requests review of bridge design	4-2-02-387
SH	B-4036	Buncombe	Y	unresolved for mussels, FWS requests review of bridge design	4-2-02-39
SH	B-4037	Buncombe	Y	unresolved for mussels, FWS requests review of bridge design	4-2-02-396
DW	B-4038	Burke	Y	unresolved for listed species, be careful of downstream effects	4-2-02-379
DW	B-4039	Burke	Y	unresolved for heartleaf	4-2-02-380
RY	B-4040	Burke	Y	FWS requests resurvey for heartleaf	4-2-02-381
DW	B-4041	Burke	Y	FWS requests resurvey for heartleaf	4-2-02-382
RY	B-4043	Burke	Y	FWS requests mussel survey, requests bridge to bridge and review of bridge design	4-2-02-383
RY	B-4044	Burke	Y	FWS requests resurvey for heartleaf and pogonia, bridge to bridge	4-2-02-384
RY	B-4045	Burke	Y	FWS requests resurvey for heartleaf, new occurrence w/in 1 mile	4-2-02-385
RY	B-4046	Burke	Y	unresolved for pogonia, FWS requests resurvey for heartleaf, request bridge for high quality stream	4-2-02-408
RY	B-4047	Burke	Y	unresolved for heartleaf	4-2-02-386
MD	B-4052	Caldwell	Y	unresolved for heartleaf, be careful of the USGS gaging station at this location	4-2-02-407
JJ	B-4059	Cawtaba	Y	Need survey for heartleaf--habitat assessment inadequate	4-2-02-409
DW	B-4060	Cawtaba	Y	Need survey for heartleaf--habitat assessment inadequate	4-2-02-410
RY	B-4067	Cherokee	Y	unresolved for listed species, close coordination w/USFS, high quality stream	4-2-02-394
DW	B-4070	Cherokee	Y	all listed species unresolved, FWS requests special consideration here for sicklefin redhorse	4-2-02-37
JJ	B-4076	Cleveland	Y	Need survey for heartleaf--habitat assessment inadequate	4-2-02-413
SH	B-4103	Davidson	Y	FWS requests mussel survey, requests bridge to bridge because of stream quality	4-2-02-370
JJ	B-4116	Gaston	Y	Need resurvey for heartleaf	4-2-02-411
DW	B-4123	Graham	Y	unresolved for listed species, Indiana Bat, close coordination w/USFS, high quality stream	4-2-02-39
SH	B-4144	Haywood	Y	unresolved for listed species, FWS requests review of bridge design	4-2-02-39
DP	B-4155	Iredell	G	FWS requests survey for bog turtle	4-2-02-41
DP	B-4158	Iredell	G	FWS requests survey for bog turtle, contractor suggested survey for heartleaf, FWS requests bridge	4-2-02-41
DW	B-4161	Jackson	Y	unresolved for listed species, FWS requests review of bridge design	4-2-02-38
JJ	B-4177	Lincoln	Y	Need resurvey for heartleaf	4-2-02-41
DW	B-4178	Lincoln	Y	Need resurvey for heartleaf	4-2-02-41
DW	B-4179	Macon	Y	unresolved for listed species, FWS requests review of bridge design	4-2-02-38
RY	B-4180	Macon	Y	unresolved for listed species, FWS requests bridge to bridge, consideration for green salamander	4-2-02-39
RY	B-4183	Madison	**These 2 bridge replacements are part of R-2518 and 2519 merger process, review by merger team**		

PDE	TIP	County	Rank	Reason for Rank	FWS Log Number
DW	B-4192	McDowell	Y	Need to assess pogonia	4-2-02-418
JJ	B-4194	McDowell	Y	Need to assess pogonia	4-2-02-419
JJ	B-4195	McDowell	Y	Need to assess pogonia	4-2-02-420
JJ	B-4196	McDowell	Y	Need to assess pogonia	4-2-02-421
DW	B-4197	McDowell	Y	Need to assess pogonia, FWS requests mussel surveys, bridge to bridge for high quality stream	4-2-02-422
JJ	B-4198	McDowell	Y	Need to assess pogonia	4-2-02-423
DW	B-4199	McDowell	Y	Need to assess pogonia	4-2-02-424
DW	B-4202	Mitchell	Y	Unresolved for Elktoe, FWS requests bridge to bridge, **NO SURVEY NEEDED FOR INDIANA BAT**	4-2-02-417
DW	B-4239	Polk	Y	unresolved for small-whorled pogonia and heartleaf	4-2-02-369
DW	B-4240	Polk	Y	unresolved for small-whorled pogonia and heartleaf	4-2-02-361
SH	B-4255	Rowan	G	may need resurvey for Schweinitz's sunflower	4-2-02-375
SH	B-4258	Rutherford	Y	unresolved for small-whorled pogonia	4-2-02-362
RY	B-4259	Rutherford	Y	unresolved for small-whorled pogonia, FWS requests another heartleaf survey	4-2-02-363
RY	B-4260	Rutherford	Y	unresolved for small-whorled pogonia	4-2-02-364
SH	B-4261	Rutherford	Y	unresolved for small-whorled pogonia and heartleaf	4-2-02-365
RY	B-4264	Rutherford	Y	unresolved for small-whorled pogonia, FWS requests another survey for heartleaf	4-2-02-368
RY	B-4265	Rutherford	Y	unresolved for small-whorled pogonia, FWS requests another survey for heartleaf and irisette	4-2-02-366
RY	B-4266	Rutherford	Y	unresolved for small-whorled pogonia, FWS requests another survey for heartleaf	4-2-02-367
	note for Rutherford Co projects--No survey is required for Indiana bat because the record is a winter record.				
SH	B-4282	Stokes	R	unresolved for cardamine and James spiny mussel, FWS concerned about bridge design	4-2-02-376
DP	B-4284	Surry	Y	unresolved for pogonia, FWS requests assessment for bog turtle and brook floater, bridge to bridge	4-2-02-426
DP	B-4285	Surry	Y	unresolved for pogonia, FWS requests assessment for bog turtle and brook floater	4-2-02-425
RY	B-4286	Swain	R	unresolved for listed species, esp. Indiana bat, FWS concerned with bridge design	4-2-02-378
DW	B-4287	Swain	R	unresolved for listed species, esp. Indiana bat, FWS concerned with bridge design	4-2-02-377
RY	B-4288	Transylvania	Y	unresolved for listed species, FWS requests survey for bunched arrowhead	4-2-02-374
SH	B-4290	Transylvania	Y	unresolved for listed species	4-2-02-373
SH	B-4291	Transylvania	Y	need mussel surveys	4-2-02-372
MD	B-4316	Watauga	Y	FWS requests bridge to bridge for high quality stream, FWS requests survey for green floater	4-2-02-39
JJ	B-4317	Watauga	G	FWS requests bridge to bridge for high quality stream	4-2-02-39
MD	B-4318	Watauga	G	FWS requests bridge to bridge for high quality stream, FWS requests survey for green floater	4-2-02-40
MD	B-4322	Wilkes	G	FWS requests bridge to bridge for high quality stream, assessment for bog turtle	4-2-02-40
DW	B-4330	Yancey	Y	unresolved for elktoe, FWS requests resurvey for Spiraea, be careful of downstream effects	4-2-02-39

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

TO: Gregory J. Thorpe, Environmental Management Director
Project Development and Environmental Analysis, NCDOT

FROM: Marla Chambers, Highway Projects Coordinator *Marla Chambers*
Habitat Conservation Program, NCWRC

DATE: August 27, 2003

SUBJECT: Scoping review of NCDOT's proposed replacement of Bridge No. 71 over the Stony Fork Creek on SR 1167 (Stony Fork Road), Wilkes County. TIP No. B-4322.

North Carolina Department of Transportation (NCDOT) has requested comments from the North Carolina Wildlife Resources Commission (NCWRC) regarding impacts to fish and wildlife resources resulting from the subject project. Staff biologists have reviewed the information provided. The following preliminary comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

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

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.

2. Bridge deck drains should not discharge directly into the stream.

3. Live concrete should not be allowed to contact the water in or entering into the stream.

4. If possible, bridge supports (bents) should not be placed in the stream.

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

5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.

6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the steam underneath the bridge.

7. In trout waters, the N.C. Wildlife Resources Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.

8. In streams that contain threatened or endangered species, Mr. Hal Bain with the NCDOT - ONE should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.

9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997)" should be followed.

10. In areas with significant fisheries for sunfish, seasonal exclusions may also be recommended.

11. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.

12. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.

13. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.

14. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.

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

16. 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.

17. If culvert installation is being considered, conduct subsurface investigations prior to structure design to determine design options and constraints and to ensure that wildlife passage issues are addressed.

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

1. The culvert must be designed to allow for aquatic life and fish passage. Generally, the culvert or pipe invert should be buried at least 1 foot below the natural streambed (measured from the natural thalweg depth). If multiple barrels are required, barrels other than the base flow barrel(s) should be placed on or near stream bankfull or floodplain bench elevation (similar to Lyonsfield design). These should be reconnected to floodplain benches as appropriate. This may be accomplished by utilizing sills on the upstream end to restrict or divert flow to the base flow barrel(s). Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes, and 3) by providing resting places for fish and other aquatic organisms. In essence, the base flow barrel(s) should provide a continuum of water depth and channel width without substantial modifications of velocity.

2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.

3. Culverts or pipes should be situated along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

4. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed

down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. Tall fescue should not be used in riparian areas. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. B-4322, Wilkes Co., Bridge No. 71 over Stony Fork Creek on SR 1167 (Stony Fork Road). Stony Fork Creek is classified as C Tr. Very little mussel survey work has been conducted in this portion of the county; therefore we request a survey to determine potentially impacted species. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of brook and brown trout. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. The bridge should be replaced with another spanning structure.

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

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (704) 485-2384. Thank you for the opportunity to review and comment on these projects.

cc: Cynthia Van Der Wiele, DWQ
Marella Buncick, USFWS
Sarah McRae, NHP

State of North Carolina
Department of Environment
and Natural Resources
Division of Water Quality

Michael Easley, Governor
Bill Ross, Secretary
Alan Klimek, Director

NCDENR
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

June 18, 2002

Memorandum To: William T. Goodwin, Jr., PE, Unit Head
Bridge Replacement Planning Unit
Project Development and Environmental Analysis Branch

Through: John Dorney
NC Division of Water Quality, 401 Unit

From: Robert Ridings
NC Division of Water Quality, 401 Unit

Subject: Review of Natural Systems Technical Reports for bridge replacement projects scheduled for construction in CFY 2005: "Yellow Light" Projects: B-4037, B-4076, B-4116, B-4016, B-4052, B-4015, B-4013, B-4012, B-4011, B-4202, B-4199, B-4196, B-4195, B-4322, B-4317, B-4316, B-4285, & B-4028.

On all projects, use of proper sediment and erosion control will be needed. Sediment and erosion control measures should not be placed in wetlands. Sediment should be removed from any water pumped from behind a cofferdam before the water is returned to the stream. Sedimentation and Erosion Control Guidelines for Sensitive Watersheds (15A NCAC 4B .0024) must be implemented prior to any ground-disturbing activities to minimize impacts to downstream aquatic resources. Temporary or permanent herbaceous vegetation must be planted on all bare soil *within 10 days* of ground-disturbing activities to provide long term erosion control.

This office would prefer bridges to be replaced with new bridges. However if the bridge must be replaced by a culvert and 150 linear feet or more of stream is impacted, a stream mitigation plan will be needed prior to the issuance of a 401 Water Quality Certification. While the NCDWQ realizes that this may not always be practical, it should be noted that for projects requiring mitigation, appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

Any proposed culverts shall be installed in such a manner that the original stream profile is not altered (i.e. the depth of the channel must not be reduced by a widening of the streambed). Existing stream dimensions are to be maintained above and below locations of culvert extensions.

For permitting, any project that falls under the Corps of Engineers' Nationwide Permits 23 or 33 do not require written concurrence by the NC Division of Water Quality. Notification and courtesy copies of materials sent to the Corps, including mitigation plans, are required. For projects that fall under the Corps of Engineers Nationwide Permit 14 or Regional General Bridge Permit 31, the formal 401 application process will be required including appropriate fees and mitigation plans.

Do not use any machinery in the stream channels unless absolutely necessary. Additionally, vegetation should not be removed from the stream bank unless it is absolutely necessary. NCDOT should especially avoid removing large trees and undercut banks. If large, undercut trees must be removed, then the trunks should be cut and the stumps and root systems left in place to minimize damage to stream banks.

Use of rip-rap for bank stabilization must be minimized; rather, native vegetation should be planted when practical. If necessary, rip-rap must be limited to the stream bank below the high water mark, and vegetation must be used for stabilization above high water.

Rules regarding stormwater as described in (15A NCAC 2b.0216 (3) (G)) shall be followed for these projects. These activities shall minimize built-upon surface area, divert runoff away from surface waters and maximize utilization of BMPs. Existing vegetated buffers shall not be mowed in order to allow it to be most effectively utilized for storm water sheet flow.

Special Note on projects B-4037 and B-4076: these waters are classified as 303(d) waters. Special measures for sediment control will be needed.

Also note that projects B-4037, B-4052, B-4015,B-4013, B-4012, B-4011, B-4202, B-4196, B-4322, B-4317, and B-4316 occur in Trout waters. Any trout-specific conditions that would be determined by the North Carolina Wildlife Resources Commission, to protect the egg and fry stages of trout from sedimentation during construction, would be required on any 401 certifications.

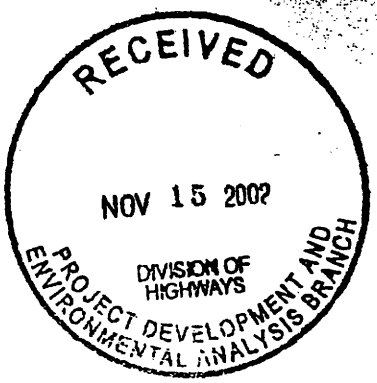
Streams classified as "+" signify a stream draining into another stream that is ORW or HQW. Projects that occur in "+" streams are: B-4016, B-4012, B-4011, and B-4317.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost.

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

el F. Easley, Governor
n C. Evans, Secretary
J. Crow, Deputy Secretary

Division of Historical Resources
David J. Olson, Director



November 12, 2002

MEMORANDUM

TO: Greg Thorpe, Manager
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook

SUBJECT: Bridge 71 on SR 1167 over Stony Fork Creek, B-4322, Wilkes County, ER 02-8543

Thank you for your memorandum of October 22, 2002, providing additional information concerning the above project.

Because of the location and topography of the proposed project area, it is unlikely that any archaeological sites which may be eligible for listing in the National Register of Historic Places will be affected by the proposed construction. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

We have determined that the project as proposed will not affect any historic structures.

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.

The Eastern Band of Cherokee Indians
Tribal Historic Preservation Office
P.O. Box 455, Cherokee, NC 28719
(828) 497-1594 / Fax (828) 497-1590

October 28, 2003

Greg Thorpe, PhD, Manager
Project Development and Environmental Analysis Branch
NC Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

RE: Wilkes County, Bridge No. 71 on SR 1167 Over Fork Creek, Federal-Aid Project BRZ-1167(1), State Project 8.2761301, TIP No. B-4322

Caldwell County, Bridge No. 7 on NC 268 Over Yadkin River, Federal Aid Project BRSTP-0268 (9), State Project 8.1731801, TIP No. B-4052

Ashe County, Bridge No. 338 on SR 1320 Over Roaring Fork Creek, Federal Aid Project BRZ-1320 (4), State Project 8.2712301, TIP No. B-4013

Ashe County, Bridge No. 273 on SR 1347 Over Big Horse Creek, Federal Aid Project BRZ-1347 (1), State Project 8.2712501, TIP No. B-4016

Ashe County, Bridge No. 165 on SR 1362 Over Big Horse Creek, Federal Aid Project BRZ-1362 (1), State Project 8.2712401, TIP No. B-4015

Bridge No. 117 on SR 1118 North Folk New River, Federal-Aid Project BRZ-1118(3), State Project 8.2712201, TIP No. B-4012

Watauga County, Bridge No. 320 on SR 1153 Over Beech Creek, Federal Aid Project BRZ-1153 (6), State Project 8.2752301, TIP No. B-4316

Dear Dr. Thorpe,

The Eastern Band of Cherokee Indians appreciates the invitation to participate as a consulting party in compliance with 36CFR800. According to the information you provided, the EBCI THPO is unaware of any known cultural resources or archaeological sites in the project area significant to our Tribe, or any known cultural resources or archaeological sites eligible for the National Register of Historic Places. However, should any cultural resources or human remains be encountered during the proposed project's activities, work should cease and this office should be contacted immediately.
As a consulting party we request that you send all information pertaining to cultural resources within the above-referenced project(s) area of potential effect (APE) for our review and comment. If you have any questions, please direct them to me at (828) 497-1589. Thank you.

Sincerely,

Mi h

Michelle Hamilton
Tribal Historic Preservation Specialist
Eastern Band of Cherokee Indians

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

November 12, 2002

MEMORANDUM

TO: Missy Dickens, P.E., Project Development Engineer
NCDOT, Project Development & Environmental Analysis

FROM: Cynthia F. Van Der Wiele, NCDOT Coordinator cvdw

SUBJECT: Scoping Comments for Wilkes County, SR 1167, Bridge No. 71 over Stoney Fork Creek, F.A. Project No. BRZ-1167(1), State Project No. 8.2761301,TIP Project B-4322.

This letter is in response to your request for comments on the above-referenced project. Stoney Fork Creek (index 12-26); HU 030701) is classified as C trout.

According to the *Yadkin River Basinwide Water Quality Plan* (NCDWQ 1998), water quality in the upper Yadkin River has improved over the last decade, however sedimentation continues to be an issue. There are no impaired streams in this subbasin.

The NC Division of Water Quality staff has the following recommendations:

- Alternative 1 appears to have less environmental impacts than Alternative 2.
- The bridge should be designed as a single span with *no piers* in the stream.
- Storm water shall be designed to be carried across the bridge (no deck drains over the stream) and diverted through grass-lined ditches, vegetated buffers or directed to a storm water collection device prior to entering Stoney Fork Creek.
- Use *Sedimentation and Erosion Control Guidelines for Sensitive Watersheds* [15A NCAC 4B .0124 (a) – (d)] prior to any ground-disturbing activities to minimize impacts to downstream aquatic resources.
- Temporary or permanent herbaceous vegetation shall be planted on all bare soil *within 10 days* of ground-disturbing activities to provide long term erosion control.
- Use a turbidity curtain or other methods (BMPs) proven to prevent violation of the turbidity standard for trout waters.
- Use BMPs for bridge demolition and removal, Case 1 (9-20-99 NCDOT policy; see http://www.ncdot.org/planning/pe/bmp.pdf).

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

pc: John Thomas, USACE Raleigh Field Office
Chris Militscher, USEPA
Marla Chambers, NCWRC
File Copy

SUZANNE B. HAMBY
COORDINATOR
(910) 651-7305
FAX (910) 651-7566

COUNTY OF WILKES

EMERGENCY MANAGEMENT AGENCY

110 NORTH STREET
WILKESBORO, NC 28697

July 6, 2001

State of North Carolina
Project Development & Environmental Analysis Branch
Davis Moore
1548 Mail Service Center
Raleigh, NC 27699

Subject: Replacement of Bridge No. 71

The Emergency Management office, Fire Department, EMS, and the Communication Department have set down and looked at the proposed project study on SR #1167. We see that re-routing our emergency traffic will not be a problem during an event of emergency.

We would ask that when this project begins, that you would notify our office.

Thank you for your assistance in this matter.

Sincerely,

Suzanne Hamby

B-4322

School Bus Transportation

201 West Main Street
Wilkesboro, NC 28697

Telephone 336-667-1126
Fax 336-667-6315

June 18, 2001

Mr. Davis Moore
Project Development & Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Davis:

At this time the Bridge No. 71 on Highway SR 1167, over Stony Fork Creek, in Wilkes County-TIP Project No. B-4322, is presently beyond where school bus transportation is provided. We travel SR 1167 for a very short distance and turn around.

If you have any questions, please call Julia Call who is responsible for school bus routing.

Sincerely,

Charles Wooten

Charles Wooten, Director of Transportation
Wilkes County Schools

APPENDIX B

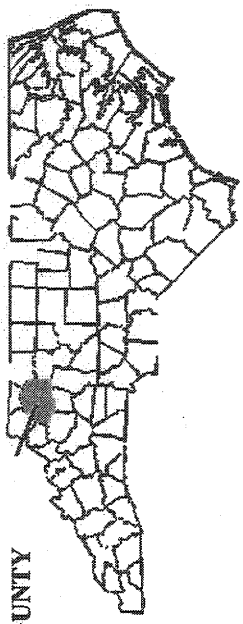
STONY FORK ROAD (SR 1167) BRIDGE OVER STONY FORK CREEK - NEWSLETTER

TRANSPORTATION IMPROVEMENT PROGRAM PROJECT B-4322

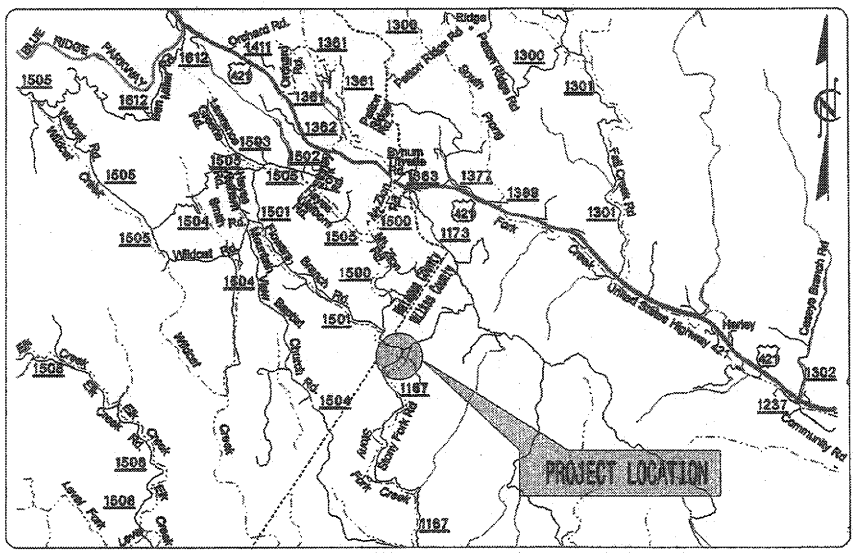
March 2003

North Carolina Department of Transportation

NCDOT has begun the project planning studies to replace Bridge #71 on Stony Fork Road (SR 1167) over Stony Fork Creek, Wilkes County (Transportation Improvement Program Project B-4322)

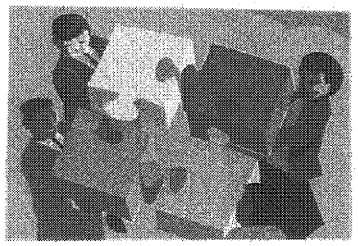


WILKES COUNTY



BRIDGE TO BE REPLACED

Bridge No. 71 on Stony Fork Road (SR 1167) over Stony Fork Creek was built in 1960. The bridge is narrow and does not meet current design standards. NCDOT proposes to replace the existing bridge with a new, wider bridge at the same location. Traffic on Stony Fork Road will be maintained at the site during construction. Construction of the new bridge should take about one year. No relocation of homes or businesses will be required. The need for additional right of way will be limited to properties the bridge.



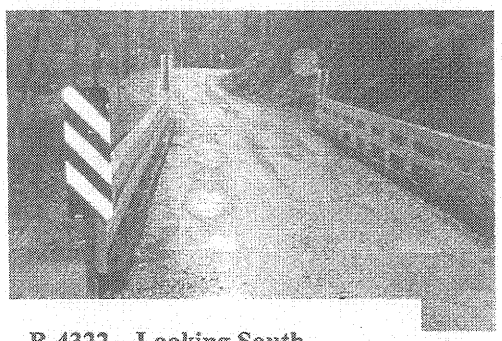
YOUR COMMENTS ARE NEEDED

NCDOT appreciates and encourages input and comments from local citizens. If you have comments or concerns or know of any issues that may help us in our planning, please contact us (see back page).

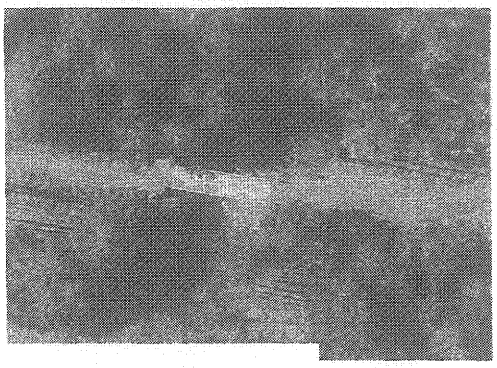
PROJECT PLANNING AND THE ENVIRONMENT

The NCDOT project planning studies include the development of an environmental document - a federal categorical exclusion (CE). The CE will document the project proposal and the environmental effects of the proposed bridge replacement.

Citizen comments will be considered in developing the best over-all plans for replacing the bridge and documented in the environmental document. The document will be available to the public.



B-4322 – Looking South



B-4322 - Aerial Photo

The replacement of Bridge #71 is included on the 2002-2008 Transportation Improvement Program (TIP). Designated in the TIP as Project No. B-4322, the bridge project is scheduled for right-of-way acquisition to begin in 2004 and construction to begin in 2005.

CONTACT US:

Please send your comments, concerns, information, or questions to:

Nate Benson, PE, Project Manager - - Wetherill Engineering, Inc. • 559 Jones Franklin Road, Suite 164 • Raleigh • North Carolina 27606 • 919- 851-8077 • nbenson@wetherilleng.com;

or

Missy Dickens, PE, Project Manager - - North Carolina Department of Transportation• Project Development and Environmental Analysis Branch • 1548 Mail Service Center • Raleigh • North Carolina 27699-1548 • 919-733-7844 ext. 218 • mdickens@dot.state.nc.us

Ms. Missy Dickens, PE
North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, North Carolina 27699-1548