



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 10, 2004

US Army Corps of Engineers
Regulatory Field Office
6508 Falls of Neuse Road, Suite 120
Raleigh, NC 27615

ATTENTION: Mr. John Thomas
NCDOT Coordinator

Dear Sir:

Subject: **Nationwide 23 and 33 Permit Application** for the Replacement of Bridge No. 53 over Brush Creek on SR 1422, Alleghany County. Federal Aid Project No. BRZ-1422(3), State Project No. 8.2700501, TIP Project No. B-3403.

Please find enclosed three copies of the project planning report for the above referenced project. The document states that Bridge No. 53 will be replaced with a new 130-foot long bridge with lane widths of 11 feet, on the existing location of the existing structure. Traffic will be detoured offsite during construction.

There are no wetland impacts associated with this project. The only surface water impacted by this project is Brush Creek. Anticipated impacts to Brush Creek are temporary and consist of 35 feet of channel impacts or 0.061 ac of fill. Brush Creek is located in the New River Basin and is classified by the Division of Water Quality as Class C Tr. NCDOT's High Quality Waters Standards will be enforced throughout project construction.

Demolition: Bridge No. 53 is composed of steel and timbers. Therefore, the bridge will be removed without dropping any of the components into the water during construction. This project is classified as Case 2, which requires no in stream work and land disturbance within the 25-foot wide buffer zone between November 15 through April 15.

Temporary Causeways

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

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

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

temporary rock causeway will be required to remove bent 2 and for bridge demolition. The causeways will consist of plain Class II rip rap.

Restoration Plan: No permanent fill will result from the subject activity. The materials used as temporary fill in the construction of the causeways will be removed. The temporary fill areas will be graded back to the original contours. Elevations and contours in the vicinity of the proposed causeways are available from the field survey notes. No planting will be conducted in the area of the causeway because the area will be covered by the new bridge.

Schedule for Restoration of Temporary Fill Areas: It is assumed that the Contractor will begin construction of the proposed causeway shortly after the date of availability for the project. The Let date is September 21, 2004 with a date of availability of November 2, 2004.

Removal and Disposal: The causeways will be removed within 90 days after it is no longer needed. The temporary rock causeways will be removed by the Contractor using excavating equipment. All materials placed in the stream by the Contractor will be removed. The Class II riprap that is removed will be used as permanent rip rap around end bent 1. All other materials removed by the Contractor will be disposed of at an off site upland location.

FEDERALLY-PROTECTED SPECIES

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered, and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of February 5, 2003 the Fish and Wildlife Service (FWS) lists one federally protected species for Alleghany County, the bog turtle. No biological conclusion was rendered for the bog turtle because it is threatened due to similarity of appearance and not subject to Section 7 consultation.

Regulatory Approvals

Section 404 Permit: It is anticipated that the construction of the causeways will be authorized under Section 404 Nationwide Permit 33 (Temporary Construction Access and Dewatering). We are, therefore, requesting the issuance of a Nationwide Permit 33 authorizing construction of the causeway. All other aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). Therefore, we do not anticipate requesting an individual permit, but propose to proceed under a Nationwide 23 as authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095; January 15, 2002).

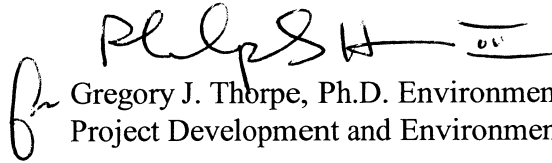
Section 401 Permit: We anticipate 401 General Certifications numbers 3403 and 3366 will apply to this project. In accordance with 15A NCAC 2H .0500(a) and 15A NCAC 2B .0200 we are providing two copies of this application to the North Carolina Department of Environment and Natural Resources, Division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

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

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

If you have any questions or need additional information, please contact Brett Feulner at (919) 715-1488.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory J. Thorpe". The signature is written in a cursive style with a horizontal line extending to the right.

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

w/ attachment:

Mr. John Hennessy, NC DWQ (2 copies)
Mr. Omar Sultan, Programming and TIP
Ms. Marla Chambers, NCWRC
Mr. Art McMillan, PE, Highway Design
Ms. Marella Buncick, USFWS
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Carl McCann, P.E., Division Engineer
Mr. David Franklin, USACE, Wilmington
Mr. Heath Slaughter, DEO
Mr. Jay Bennett, P.E., Roadway Design
Ms. Missy Dickens, Planning Engineer
Mr. Keith Phillips, Roadside Environmental

Office Use Only:

Form Version May 2002

USACE Action ID No. _____

DWQ No. _____

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

I. Processing

1. Check all of the approval(s) requested for this project:

Section 404 Permit

Riparian or Watershed Buffer Rules

Section 10 Permit

Isolated Wetland Permit from DWQ

401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NW 23 and 33

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

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

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

II. Applicant Information

1. Owner/Applicant Information

Name: NCDOT

Mailing Address: Project Development and Environmental Analysis

1548 Mail Service Center

Raleigh, NC 27966-1548

Telephone Number: (919) 733-3141

Fax Number: (919) 733-9794

E-mail Address: gthorpe@dot.state.nc.us

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: _____

Company Affiliation: _____

Mailing Address: _____

Telephone Number: _____

Fax Number: _____

E-mail Address: _____

III. Project Information

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

1. Name of project: B-3403: Replacement of Bridge 53 on SR 1422 over the Brush Creek

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3403

3. Property Identification Number (Tax PIN): _____

4. Location

County: Alleghany Nearest Town: Sparta

Subdivision name (include phase/lot number): _____

Directions to site (include road numbers, landmarks, etc.): _____

Site coordinates, if available (UTM or Lat/Long): UTM 17 498917E 4041185N

(Note – If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)

5. Property size (acres): _____

6. Nearest body of water (stream/river/sound/ocean/lake): Brush Creek

7. River Basin: New River

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

8. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: Forestland, farmland and pasture.

9. Describe the overall project in detail, including the type of equipment to be used: Plans for replacing the bridge include replacing the current bridge on existing location. Equipment used will include regular equipment utilized on bridge replacement projects.

10. Explain the purpose of the proposed work: The purpose is to replace the old bridge that is functionally obsolete and structurally deficient.

IV. Prior Project History

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

N/A

V. Future Project Plans

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

N/A

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

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

1. Provide a written description of the proposed impacts: The proposed project will temporary place 0.061 acres of fill in Brush Creek. The fill will be necessary to construct the new bridge and will act as a work bridge.

2. Individually list wetland impacts below: 0 _____

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

- * List each impact separately and identify temporary impacts. Impacts include, but are not limited to: mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.
- ** 100-Year floodplains are identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at <http://www.fema.gov>.
- *** List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

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

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

Stream Impact Site Number (indicate on map)	Type of Impact*	Length of Impact (linear feet)	Stream Name**	Average Width of Stream Before Impact	Perennial or Intermittent? (please specify)
1	Temporary Fill	35	Brush Creek	30 ft	Perennial

- * List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain), stabilization activities (cement wall, rip-rap, crib wall, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included.
- ** Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the USGS at 1-800-358-9616, or online at www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (linear distance in feet) to all streams on site: 35 ft _____

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

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

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

5. Pond Creation

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

Pond to be created in (check all that apply): uplands stream wetlands
 Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): _____

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

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

VII. Impact Justification (Avoidance and Minimization)

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

The temporary rock causeway will be required to remove bent 2 and for bridge demotion.

VIII. Mitigation

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

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on March 9, 2000, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors

including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

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

- 1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

N/A

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

Amount of stream mitigation requested (linear feet): _____
Amount of buffer mitigation requested (square feet): _____
Amount of Riparian wetland mitigation requested (acres): _____
Amount of Non-riparian wetland mitigation requested (acres): _____
Amount of Coastal wetland mitigation requested (acres): _____

IX. Environmental Documentation (required by DWQ)

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

Yes No

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

Yes No

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

Yes No

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

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

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

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

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

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1		3	
2		1.5	
Total			

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

If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Conservation Easement, Riparian Buffer Restoration / Enhancement, Preservation or

Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0260.

XI. Stormwater (required by DWQ)

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

N/A

XII. Sewage Disposal (required by DWQ)

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

N/A

XIII. Violations (required by DWQ)

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

Yes No

Is this an after-the-fact permit application?

Yes No

XIV. Other Circumstances (Optional):

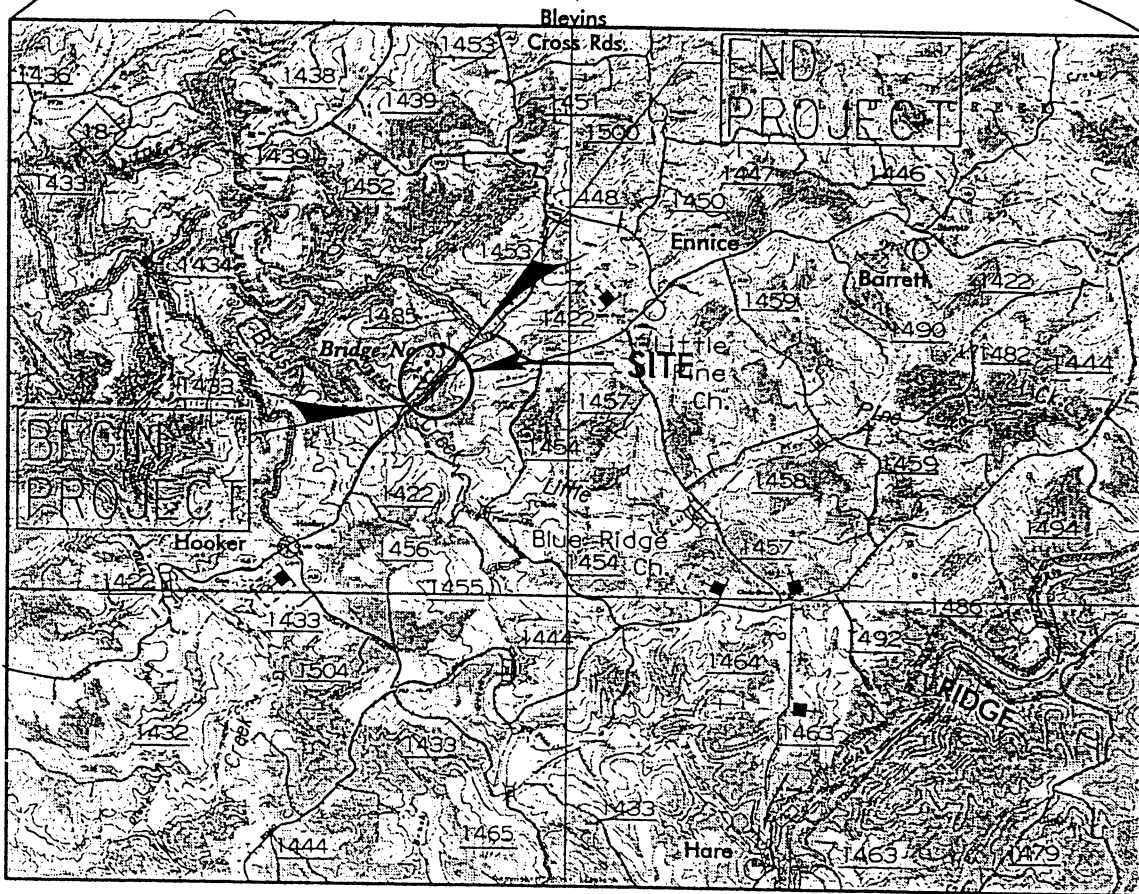
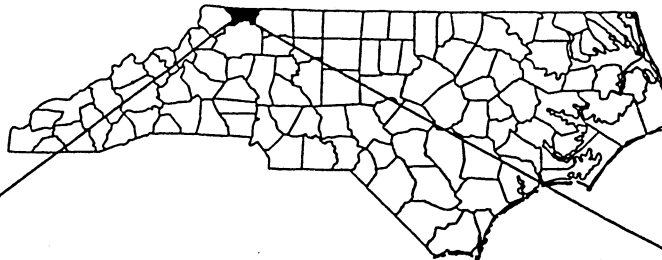
It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g.,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

Applicant/Agent's Signature

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

**SIGN
HERE**

VICINITY MAP



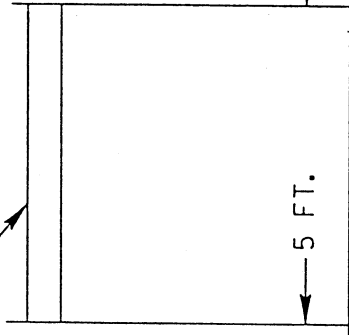
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALLEGHANY COUNTY

PROJECT: 8.2700501 (B-3403)

BRIDGE NO. 53
OVER BRUSH CREEK
ON SR 1422

SHEET 1 OF 5 4/22/03

PROPOSED BRIDGE DECK



30 FT.

5 FT.

WORKPAD

(TYPICALLY 1 FT. - CL 'B' RIPRAP)

N.W.S. ELEV = 2499.54

2 FT.

FLOW →

1.5:1 (TYP.)

ROCK CAUSEWAY
(CL '11' RIPRAP)

STREAM BED

ROCK CAUSEWAY DETAIL

NOT TO SCALE

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

ALLEGHANY COUNTY

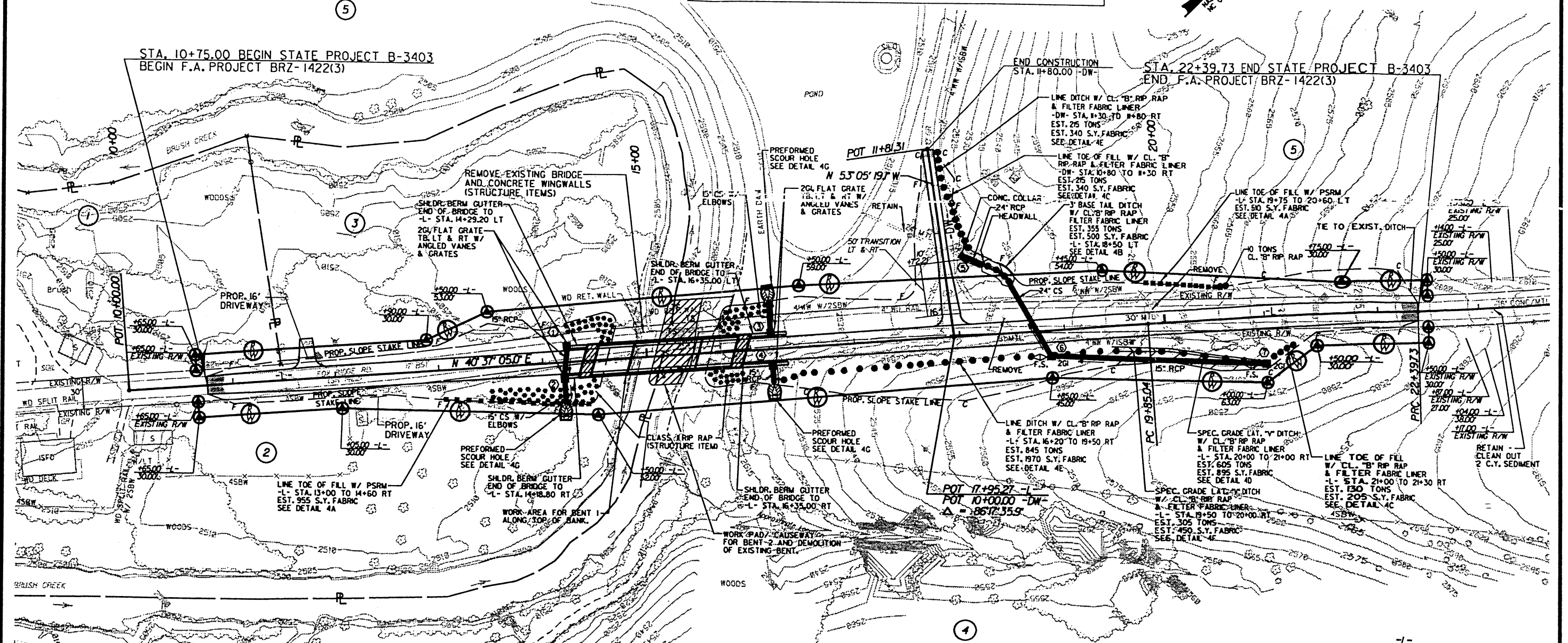
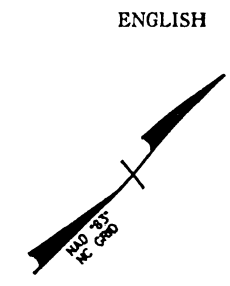
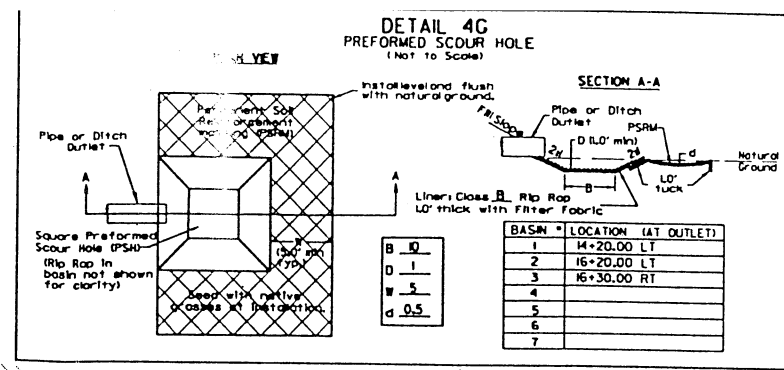
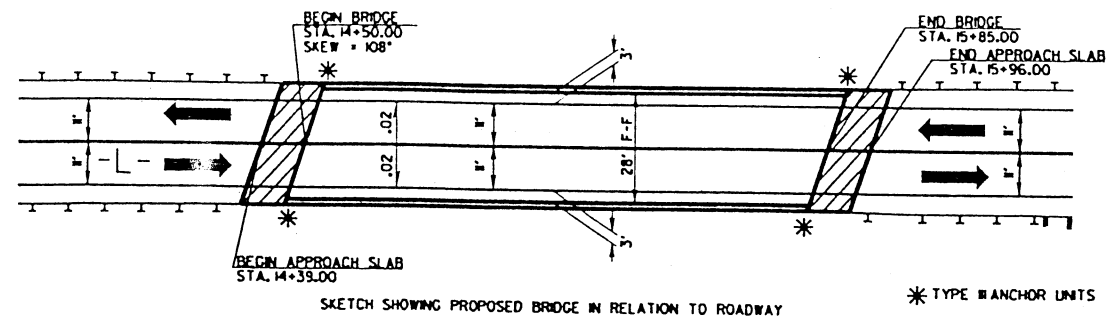
PROJECT: 8.2700501 B-3403

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)		
1	-L- 15+08 to -L- 15+45	Temporary Causeway									0.061	35	
TOTALS:			0	0	0	0	0	0	0	0	0.061	0	0

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 ALLEGHANY COUNTY
 PROJECT 8.2700501 B-3403
 SHEET 3 OF 5
 4/22/2003

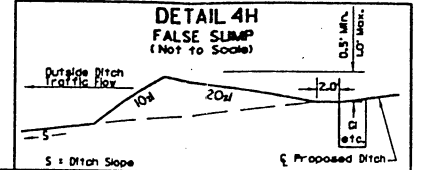
Form Revised 3/22/01



REVISIONS

LEGEND

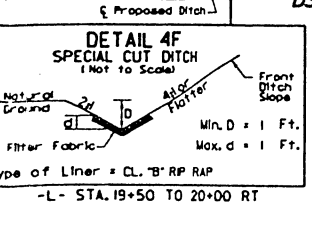
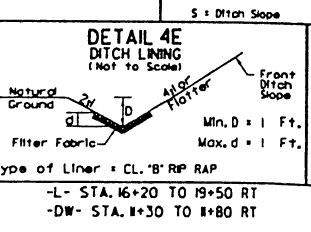
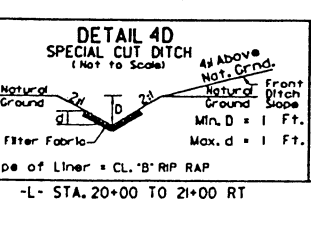
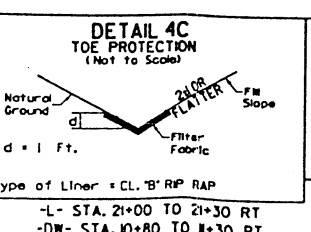
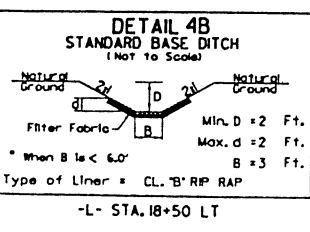
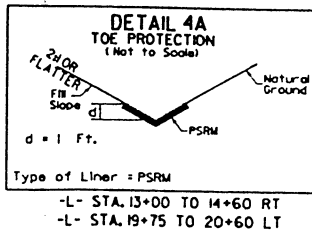
DENOTES TEMPORARY FILL IN SURFACE WATER



PI Sta 21+12.40 Δ = 2'25" 557 (RT) D = 0'57" 17.7 L = 254.69' T = 127.37' R = 6000.00' SE = NC DS = 40 mph	PI Sta 23+23.71 Δ = 4'00" 296 (LT) D = 2'23" 14.4 L = 167.90' T = 83.98' R = 2400.00' SE = EXIST DS = 40 mph
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DATUM DESCRIPTION

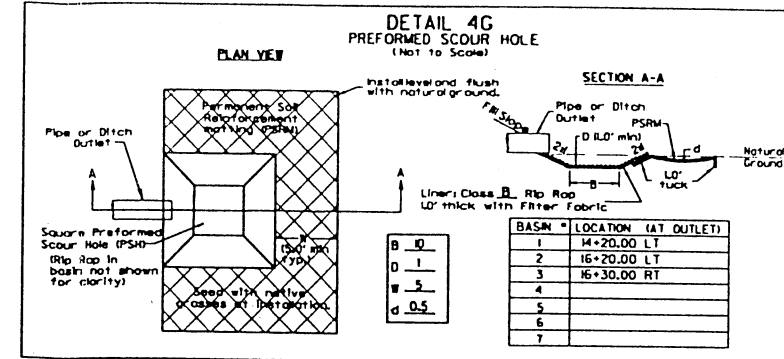
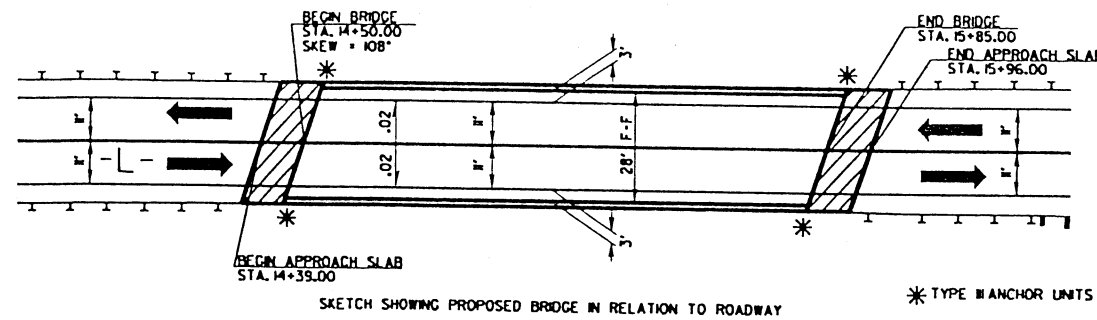
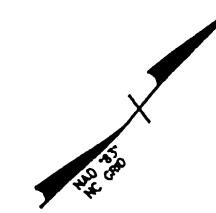
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MGS FOR MONUMENT "SALMON" WITH MAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 1025541.023(11) EASTING: 1408397.139(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (ROUND TO GRID) IS: 0.99999490 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SALMON" TO ± STATION 10+00.00 IS S 0° 12' 51.8" E 13250.95 FT. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS WORD 29



NOTES:
 (1) TEMP. FENCING REQUIRED STA. 10+45.00 TO STA. 14+95.00 RT. STA. 15+15.00 TO STA. 23+30.00 RT. STA. 18+00.00 TO STA. 22+70.00 LT. TO MAINTAIN LIVESTOCK DURING CONSTRUCTION.
 (2) DRIVEWAY RAD AT -L- EOP = 10' UNLESS NOTED OTHERWISE.

SEE SHEET 5 FOR -L- AND -DW- PROFILES

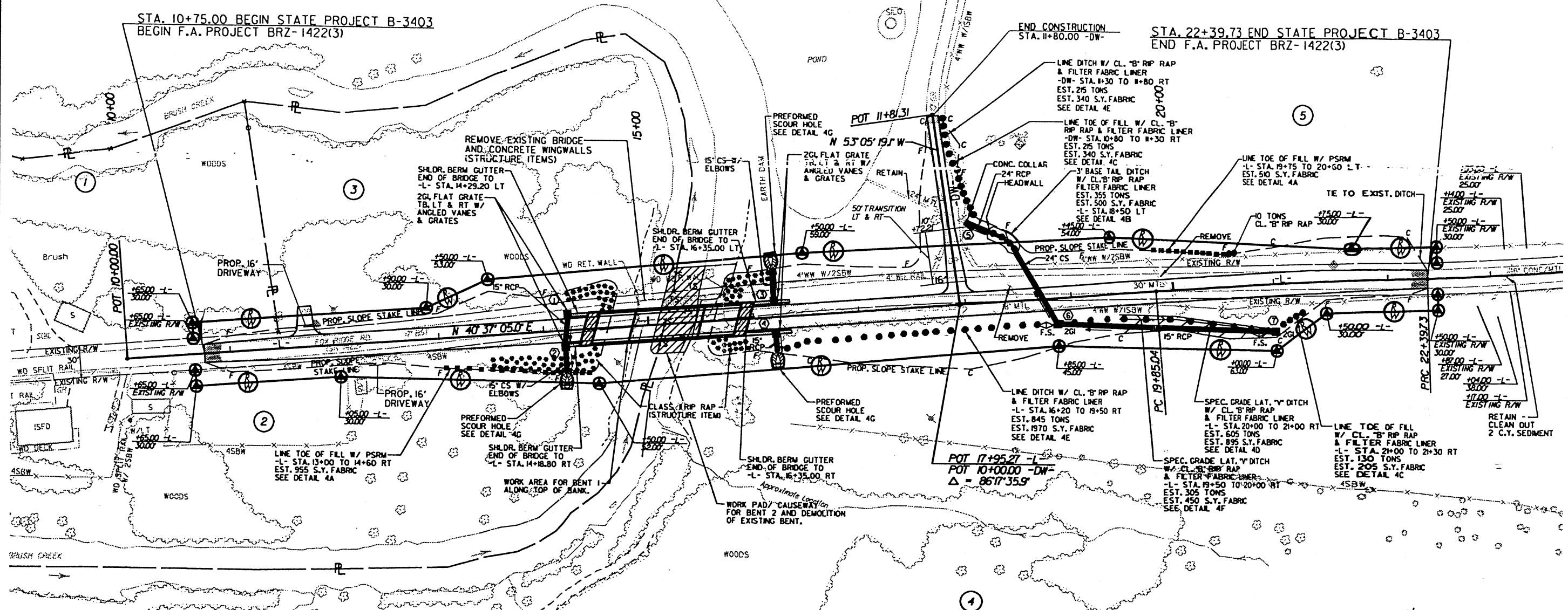
ENGLISH



(5)

STA. 10+75.00 BEGIN STATE PROJECT B-3403
 BEGIN F.A. PROJECT BRZ-1422(3)

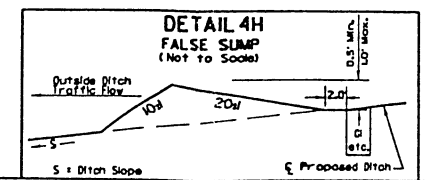
STA. 22+39.73 END STATE PROJECT B-3403
 END F.A. PROJECT BRZ-1422(3)



REVISIONS

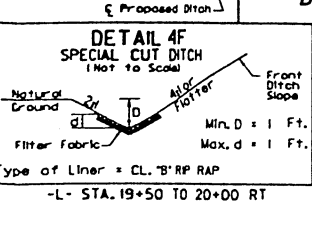
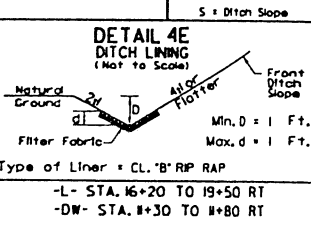
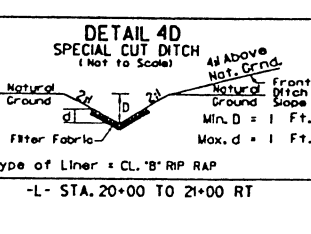
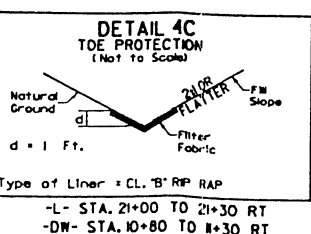
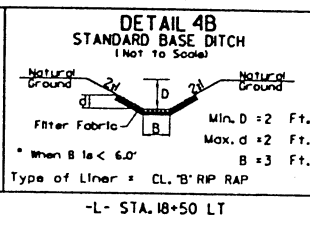
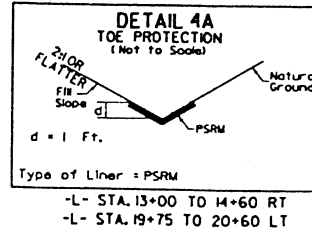
LEGEND

DENOTES TEMPORARY FILL IN SURFACE WATER



PI Sta 21+12.40 $\Delta = 2' 25" 55.7 (RT)$ $D = 0' 57" 17.7$ $L = 254.69$ $T = 127.37$ $R = 6,000.00$ $SE = NC$ $DS = 40 \text{ mph}$	PI Sta 23+23.71 $\Delta = 1' 00" 29.6 (LT)$ $D = 2' 23" 14.4$ $L = 167.90$ $T = 83.98$ $R = 2,400.00$ $SE = EXIST$ $DS = 40 \text{ mph}$
--	--

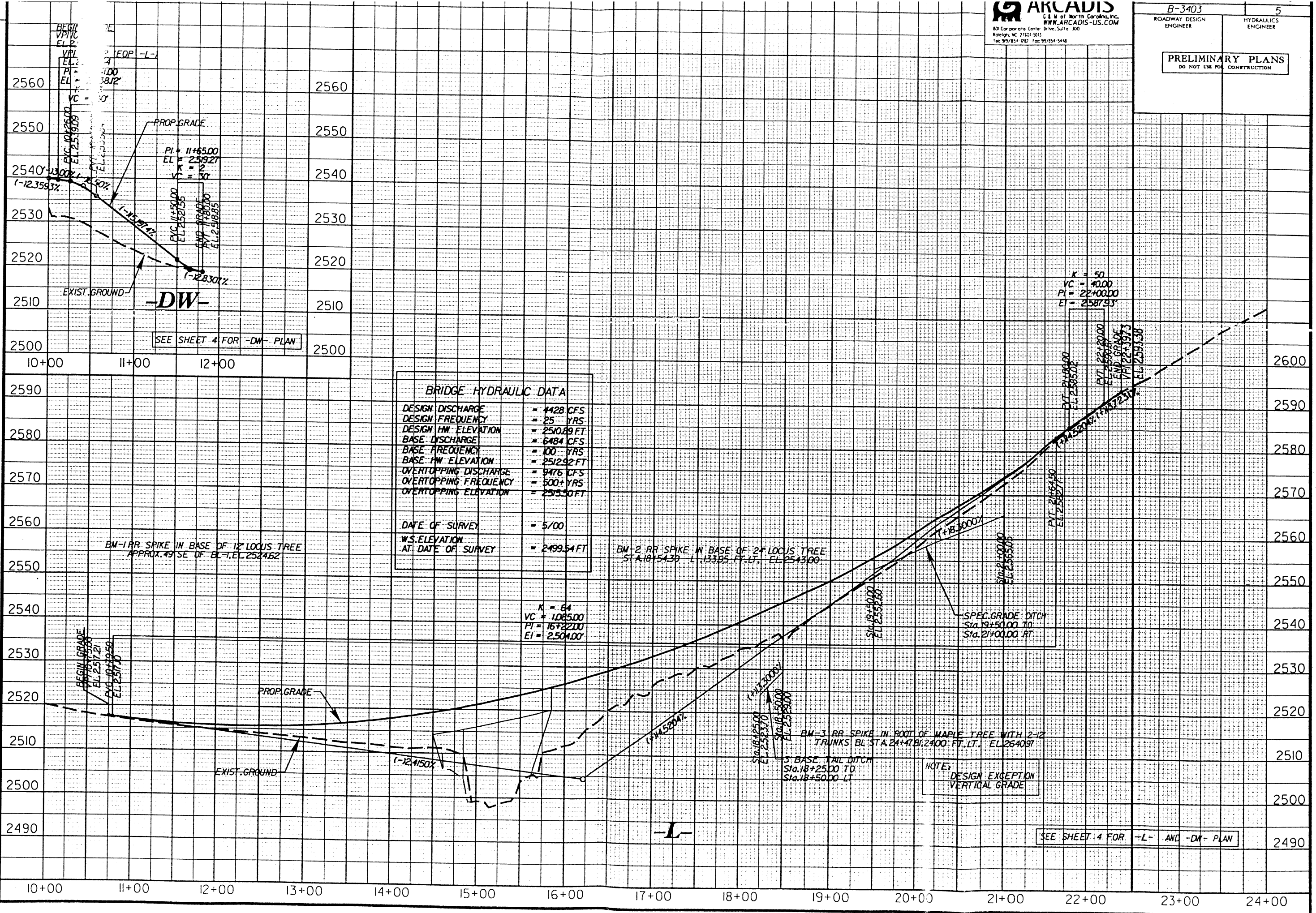
DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY WOODS FOR MONUMENT "SALMON" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 1025541.023111 EASTING: 1408392.391111 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99999490 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SALMON" TO -L- STATION 10+0000 IS 5 0° 12' 51.8" E 1325095.11 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS MVD 29



NOTES:
 (1) TEMP. FENCING REQUIRED STA. 10+45.00 TO STA. 14+95.00 RT, STA. 15+15.00 TO STA. 23+30.00 RT, STA. 18+00.00 TO STA. 22+70.00 LT. TO MAINTAIN LIVESTOCK DURING CONSTRUCTION.
 (2) DRIVEWAY RADIAT -L- EOP = 10' UNLESS NOTED OTHERWISE.

SEE SHEET 5 FOR -L- AND -DW- PROFILES

THOMAS STIMES
 ARCADIS CAN
 DATE: 01/11/11



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 1128 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 2510.89 FT
BASE DISCHARGE	= 6484 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 2529.2 FT
OVERTOPPING DISCHARGE	= 9476 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 2535.30 FT
DATE OF SURVEY	= 5/00
W.S. ELEVATION AT DATE OF SURVEY	= 2499.54 FT

K = 64
 VC = 1085.00
 PI = 16+22.00
 EI = 2504.00'

K = 50
 VC = 40.00
 PI = 22+00.00
 EI = 2587.93

BM-1 RR SPIKE IN BASE OF 12' LOCUS TREE
 APPROX. 49' SE OF BL-1, EL. 2524.62

BM-2 RR SPIKE IN BASE OF 2' LOCUS TREE
 STA. 18+54.39 - L. 133.95 FT. LT. - EL. 2543.90

BM-3 RR SPIKE IN ROOT OF MAPLE TREE WITH 2-1/2" TRUNKS BL. STA. 21+47.81; 2400' FT. LT. - EL. 2640.97

NOTE:
 DESIGN EXCEPTION
 VERTICAL GRADE

SEE SHEET 4 FOR -L- AND -DM- PLAN

REVISIONS

ARCADIS QM
 DATE: 05/11/00
 DRAWN BY: JML

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

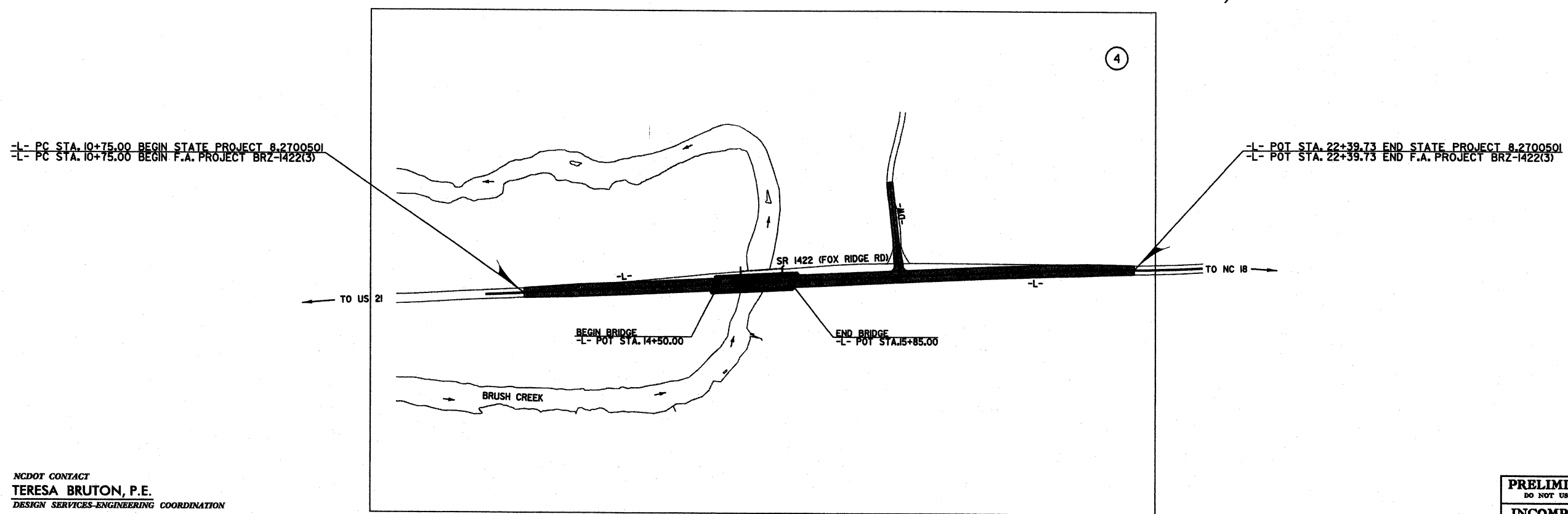
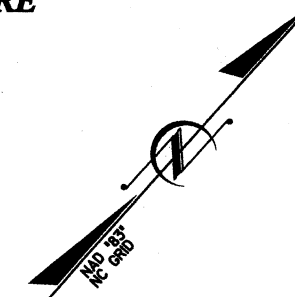
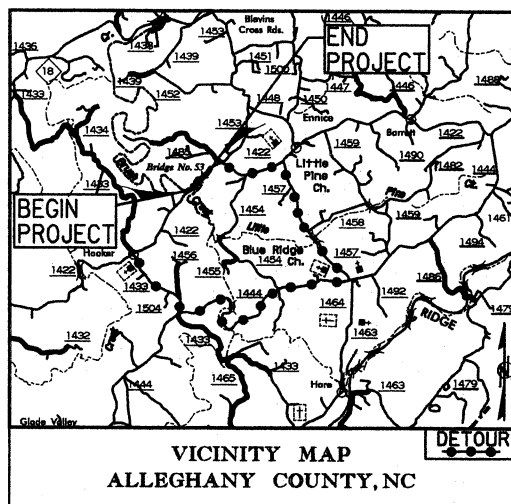
ALLEGHANY COUNTY

LOCATION: REPLACE BRIDGE NO. 53 OVER BRUSH CREEK
ON SR 1422 (FOX RIDGE ROAD)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3403	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
8.2700501	BRZ-1422(3)	P.E.	

B-3403

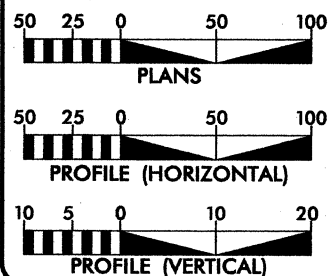


NCDOT CONTACT
TERESA BRUTON, P.E.
DESIGN SERVICES-ENGINEERING COORDINATION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

GRAPHIC SCALES



DESIGN DATA

ADT 2003 = 650
ADT 2023 = 875
DHV = 10 %
D = 60 %
* T = 4 %
V = 40 MPH
*(TTST 1 % + DUAL 3 %)
DESIGN EXCEPTION:
VERTICAL GRADE

PROJECT LENGTH

LENGTH OF ROADWAY F.A. PROJECT BRZ-1422(3) = 0.195 mile
LENGTH OF STRUCTURE F.A. PROJECT BRZ-1422(3) = 0.026 mile
TOTAL LENGTH, STATE PROJECT 8.2700501 = 0.221 mile



For the North Carolina Department of Transportation

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 19, 2003

LETTING DATE:
SEPTEMBER 21, 2004

ARCADIS CONTACT

STEVE SCOTT, P.E.
PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR

DATE




PROJECT: 8.2700501

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

*S.U.E = SUBSURFACE UTILITY ENGINEER

ROADS & RELATED ITEMS

Edge of Pavement	-----
Curb	-----
Prop. Slope Stakes Cut	----- ^C -----
Prop. Slope Stakes Fill	----- ^F -----
Prop. Woven Wire Fence	○-----○
Prop. Chain Link Fence	□-----□
Prop. Barbed Wire Fence	◇-----◇
Prop. Wheelchair Ramp	
Curb Cut for Future Wheelchair Ramp	
Exist. Guardrail	-----
Prop. Guardrail	-----
Equality Symbol	⊕
Pavement Removal and Obliteration	

RIGHT OF WAY

Baseline Control Point	◆
Existing Right of Way Marker	△
Exist. Right of Way Line wMarker	-----△-----
Prop. Right of Way Line with Proposed RW Marker (Iron Pin & Cap)	-----▲-----
Prop. Right of Way Line with Proposed (Concrete or Granite) RW Marker	-----▲-----
Exist. Control of Access Line	○
Prop. Control of Access Line	○
Exist. Easement Line	-----E-----
Prop. Temp. Construction Easement Line	-----E-----
Prop. Temp. Drainage Easement Line	-----TDE-----
Prop. Perm. Drainage Easement Line	-----PDE-----

HYDROLOGY

Stream or Body of Water	-----
River Basin Buffer	----- ^{RBB} -----
Flow Arrow	→
Disappearing Stream	-----
Spring	○
Swamp Marsh	-----
Shoreline	-----
Falls, Rapids	-----
Prop Lateral, Tail, Head Ditches	----- ^{FLOW} -----

STRUCTURES

MAJOR	
Bridge, Tunnel, or Box Culvert	----- ^{CONC} -----
Bridge Wing Wall, Head Wall and End Wall	----- ^{CONC WW} -----

MINOR	
Head & End Wall	----- ^{CONC HW} -----
Pipe Culvert	-----
Footbridge	-----
Drainage Boxes	□ ^{CB}
Paved Ditch Gutter	-----

UTILITIES











Exist. Pole	•
Exist. Power Pole	•
Prop. Power Pole	○
Exist. Telephone Pole	○
Prop. Telephone Pole	○
Exist. Joint Use Pole	+
Prop. Joint Use Pole	+
Telephone Pedestal	⊕
UG Telephone Cable Hand Hold	⊕
Cable TV Pedestal	⊕
UG TV Cable Hand Hold	⊕
UG Power Cable Hand Hold	⊕
Hydrant	⊕
Satellite Dish	⊕
Exist. Water Valve	⊕
Sewer Clean Out	⊕
Power Manhole	⊕
Telephone Booth	⊕
Cellular Telephone Tower	⊕
Water Manhole	⊕
Light Pole	⊕
H-Frame Pole	⊕
Power Line Tower	⊕
Pole with Base	⊕
Gas Valve	⊕
Gas Meter	⊕
Telephone Manhole	⊕
Power Transformer	⊕
Sanitary Sewer Manhole	⊕
Storm Sewer Manhole	⊕
Tank; Water, Gas, Oil	⊕
Water Tank With Legs	⊕
Traffic Signal Junction Box	⊕
Fiber Optic Splice Box	⊕
Television or Radio Tower	⊕
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	----- ^{TS} -----

Recorded Water Line	-----
Designated Water Line (S.U.E.*)	-----
Sanitary Sewer	----- ^{SS} -----
Recorded Sanitary Sewer Force Main	----- ^{FSS} -----
Designated Sanitary Sewer Force Main(S.U.E.*)	----- ^{FSS} -----
Recorded Gas Line	-----
Designated Gas Line (S.U.E.*)	-----
Storm Sewer	-----
Recorded Power Line	-----
Designated Power Line (S.U.E.*)	-----
Recorded Telephone Cable	----- ^T -----
Designated Telephone Cable (S.U.E.*)	----- ^T -----
Recorded UG Telephone Conduit	----- ^{TC} -----
Designated UG Telephone Conduit (S.U.E.*)	----- ^{TC} -----
Unknown Utility (S.U.E.*)	----- ^{UTL} -----
Recorded Television Cable	----- ^{TV} -----
Designated Television Cable (S.U.E.*)	----- ^{TV} -----
Recorded Fiber Optics Cable	----- ^{FO} -----
Designated Fiber Optics Cable (S.U.E.*)	----- ^{FO} -----
Exist. Water Meter	○
UG Test Hole (S.U.E.*)	⊕
Abandoned According to UG Record	ATTUR
End of Information	E.O.I.

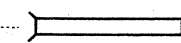
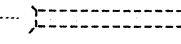

BOUNDARIES & PROPERTIES

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Property Line Symbol	PL
Exist. Iron Pin	⊕
Property Corner	+
Property Monument	⊕
Property Number	123
Parcel Number	6
Fence Line	----- ^{WW & ISBW} -----
Existing Wetland Boundaries	----- ^{WLB} -----
High Quality Wetland Boundary	----- ^{HQ WLB} -----
Medium Quality Wetland Boundaries	----- ^{MQ WLB} -----
Low Quality Wetland Boundaries	----- ^{LQ WLB} -----
Proposed Wetland Boundaries	----- ^{WLB} -----
Existing Endangered Animal Boundaries	----- ^{EAB} -----
Existing Endangered Plant Boundaries	----- ^{EPB} -----


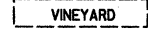
BUILDINGS & OTHER CULTURE

Buildings	
Foundations	
Area Outline	
Gate	
Gas Pump Vent or UG Tank Cap	○
Church	
School	
Park	
Cemetery	
Dam	
Sign	⊕
Well	⊕
Small Mine	⊕
Swimming Pool	




TOPOGRAPHY

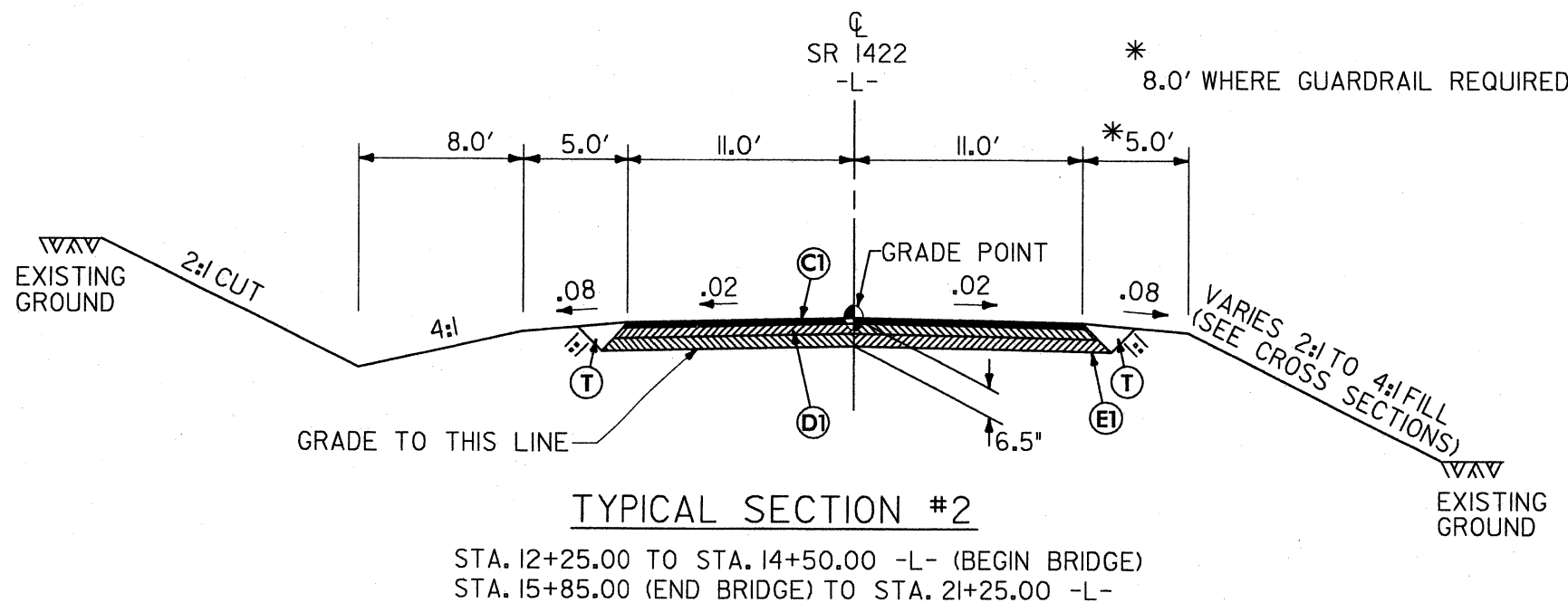
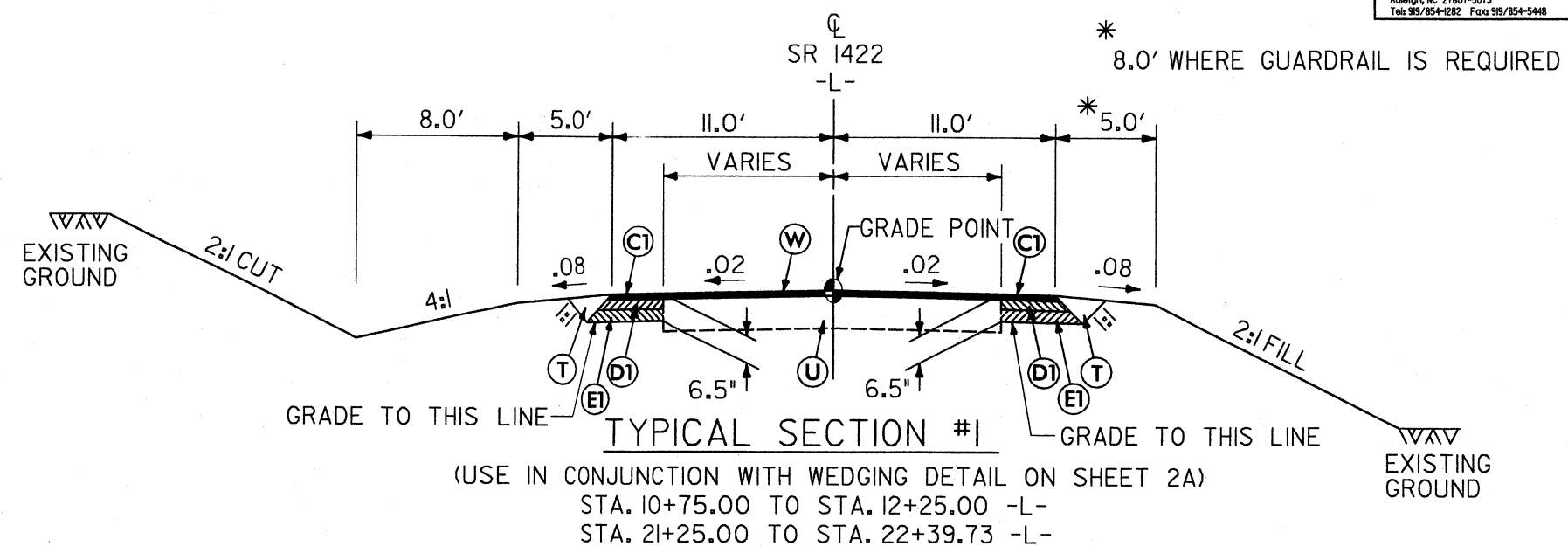
Loose Surface	-----
Hard Surface	-----
Change in Road Surface	-----
Curb	-----
Right of Way Symbol	R/W
Guard Post	○ GP
Paved Walk	-----
Bridge	
Box Culvert or Tunnel	
Ferry	-----
Culvert	-----
Footbridge	-----
Trail, Footpath	-----
Light House	

VEGETATION

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

RAILROADS

Standard Gauge	
RR Signal Milepost	
Switch	



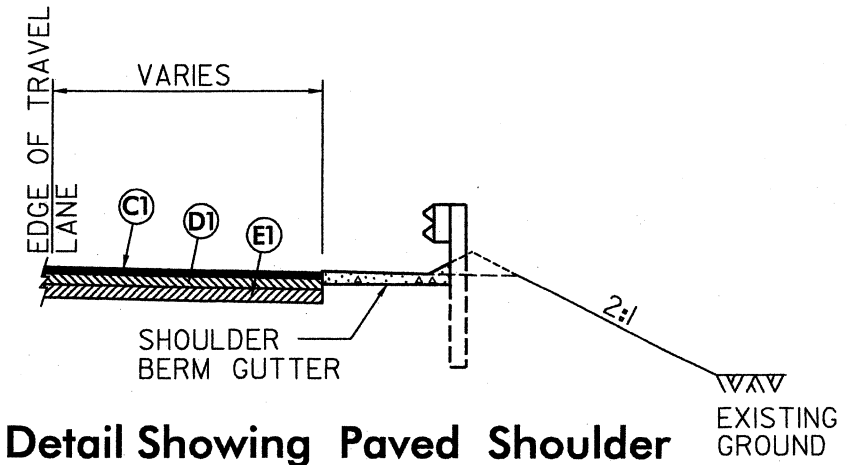
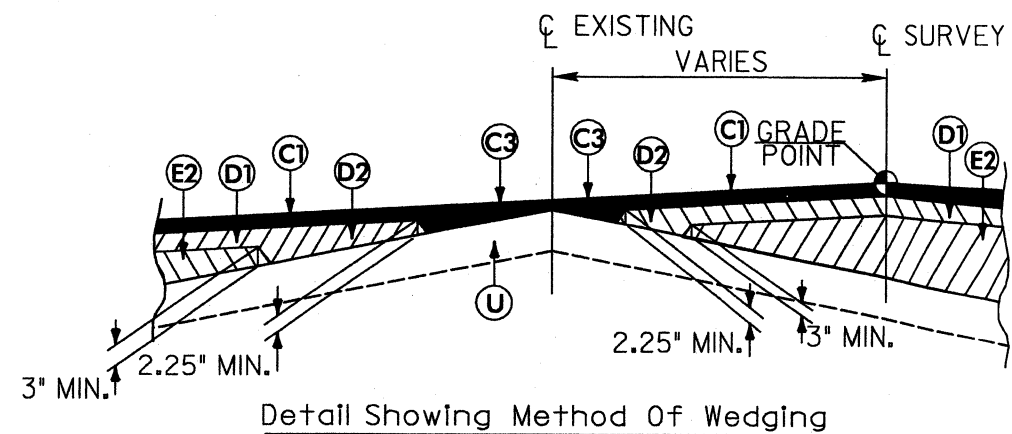
CODE	PAVEMENT SCHEDULE
C1	PROP. APPROX. 1.25" ASPHALT CONC. SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C3	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.25" OR GREATER THAN 1.5" IN DEPTH.
D1	PROP. APPROX. 2.25" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 256.5 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.25" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 3" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
J1	PROP. 8" AGGREGATE BASE COURSE.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT CONCRETE PAVEMENT (SEE WEDGING DETAIL ON SHEET 2A)

Note: Pavement Edge Slopes are 1:1 Unless Shown Otherwise

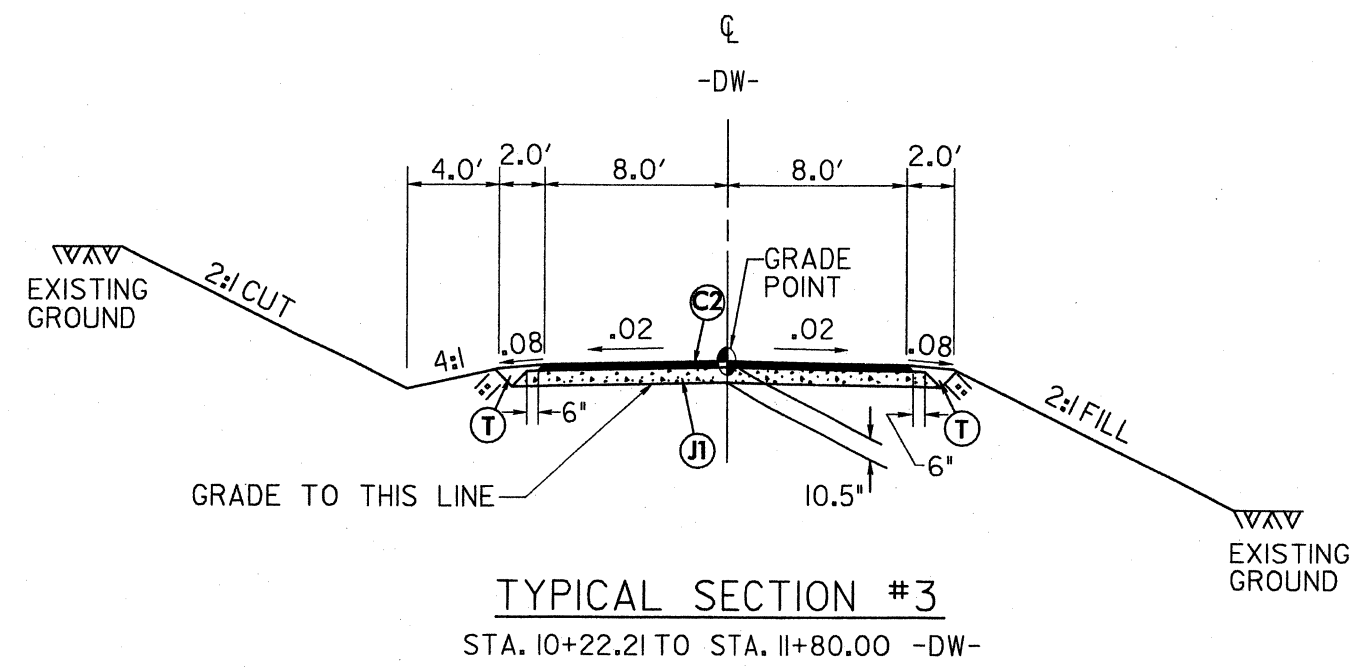
REVISIONS

ARCADIS GDM
 Date: 01/07/2003
 Time: 10:51:45 AM
 File: \\s01\proj\030220\proj\030220\pav\030220-05.dwg

INCOMPLETE PLANS
 DO NOT USE FOR ACQUISITION
PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



SEE PLANS FOR LOCATIONS OF PAVED SHOULDER IN RELATION TO GUARDRAIL



PAVEMENT SCHEDULE	
C1	1.25", TYPE S9.5A
C2	2.50", TYPE S9.5A
C3	VAR. DEPTH, TYPE S9.5A
D1	2.25", TYPE I19.0B
D2	VAR. DEPTH, TYPE I19.0B
E1	3.0", TYPE B25.0B
E2	VAR. DEPTH, TYPE B25.0B
J1	8.0" AGGREGATE BASE COURSE.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT

Note: Pavement Edge Slopes are 1:1 Unless Shown Otherwise

REVISIONS

INCOMPLETE PLANS
DO NOT USE FOR A/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

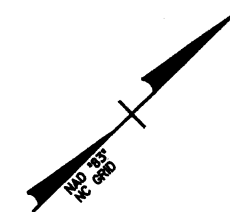
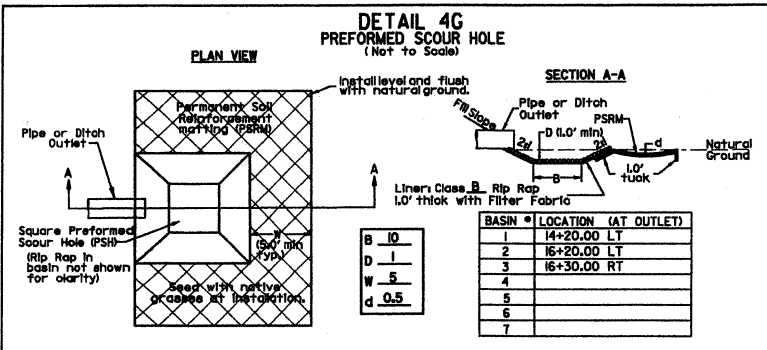
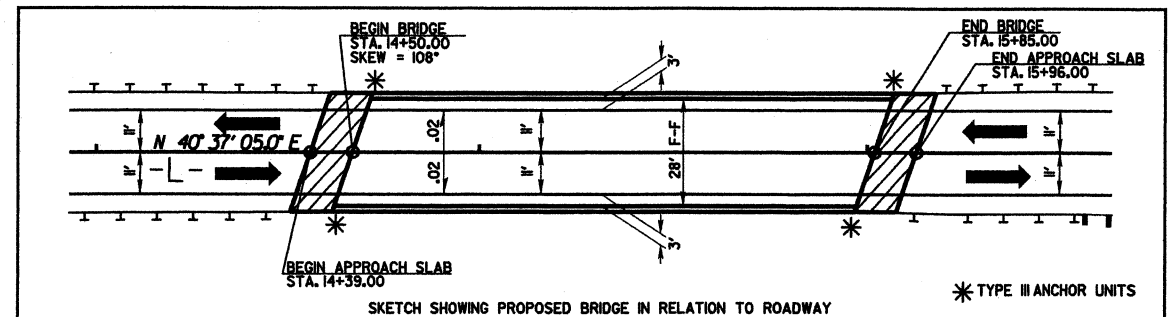
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCL. EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY #1					
-L- 10+75 TO 14+50.00 (BRIDGE)	10	0	2308	2298	0
TOTAL SUMMARY #1	10	0	2308	2298	0
SUMMARY #2					
-L- 15+85 (BRIDGE) TO 22+39.73	2072	0	6348	4276	0
-DW- 10+11.02 TO 11+80.00	12	0	1107	1095	0
TOTAL SUMMARY #2	2084	0	7455	5371	0
SUBTOTAL SUMMARY #1&#2	2094	0	9764	7670	0
PROJECT TOTALS	2094	0	9764	7670	0
LOSS DUE TO CLEARING & GRUBBING	0	0	0	0	0
WASTE TO REPLACE BORROW	0	0	0	0	0
PROJECT TOTALS	2094	0	9764	7670	0
EST. 5% TO REPLACE TOPSOIL	0	0	0	383	0
GRAND TOTALS	2094	0	9764	8053	0
SAY	2100			8100	

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL AND OBLITERATION OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

REVISIONS

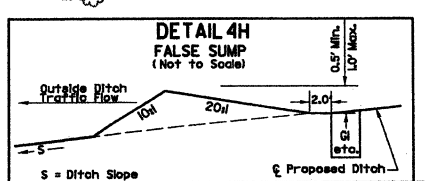
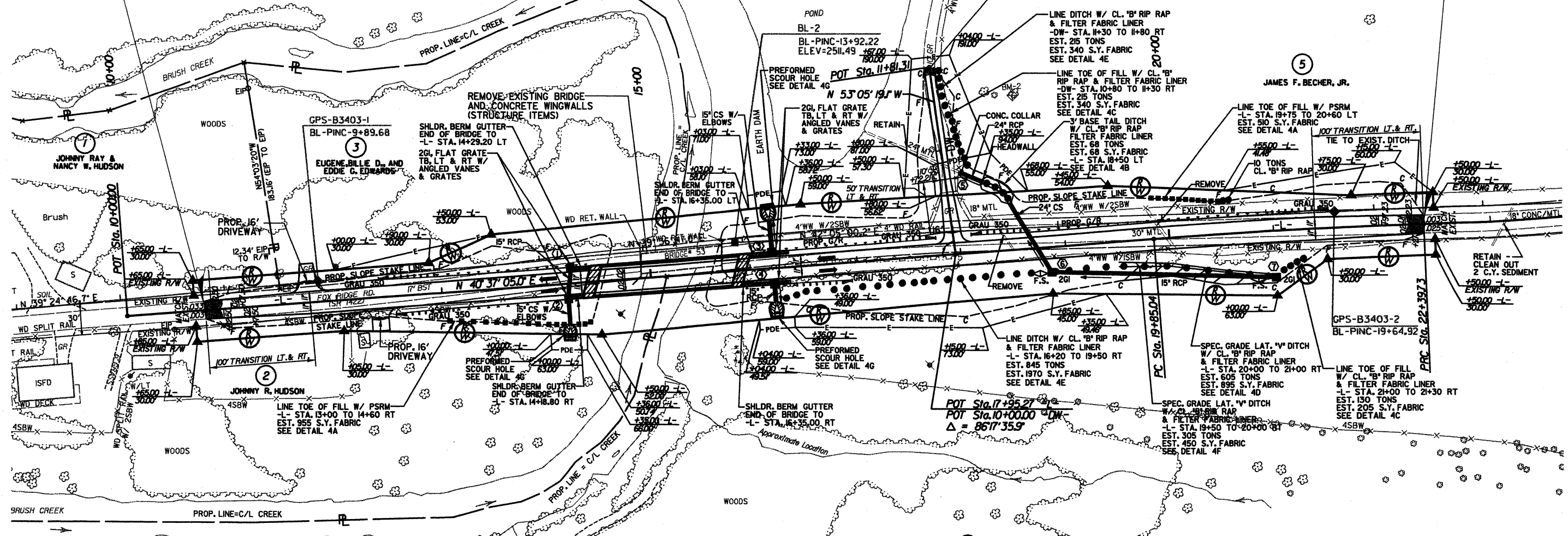


JAMES F. BECHER, JR.

STA. 10+75.00 BEGIN STATE PROJECT B-3403
 BEGIN F.A. PROJECT BRZ-1422(3)

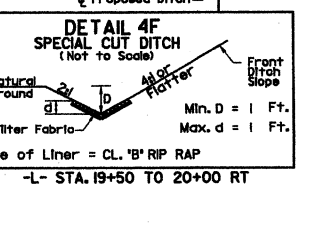
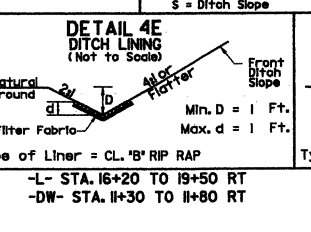
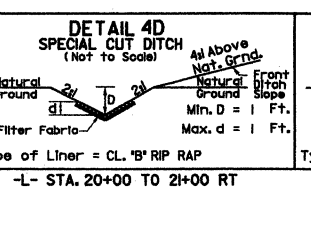
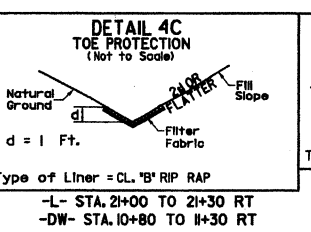
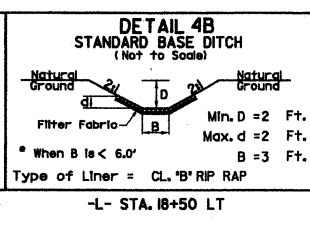
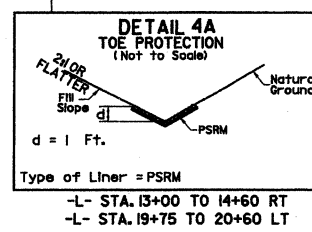
END CONSTRUCTION
 STA. 11+80.00 -DW-

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 END F.A. PROJECT BRZ-1422(3)



PI Sta 21+12.40 Δ = 2' 25" 55.7" (RT) D = 0' 57" 17.7" L = 254.69' T = 127.37' R = 6,000.00' SE = NC DS = 40 mph	PI Sta 23+23.71 Δ = 4' 00" 29.6" (LT) D = 2' 23" 14.4" L = 167.90' T = 83.98' R = 2,400.00' SE = EXIST DS = 40 mph
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DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MOSS FOR MONUMENT "SALMON" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 102541023(N) EASTING: 1408319233(E) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS 0.999997400 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SALMON" TO L- STATION 10+00.00 IS S 0° 12' 51.8" E 13250.95 FT ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 29

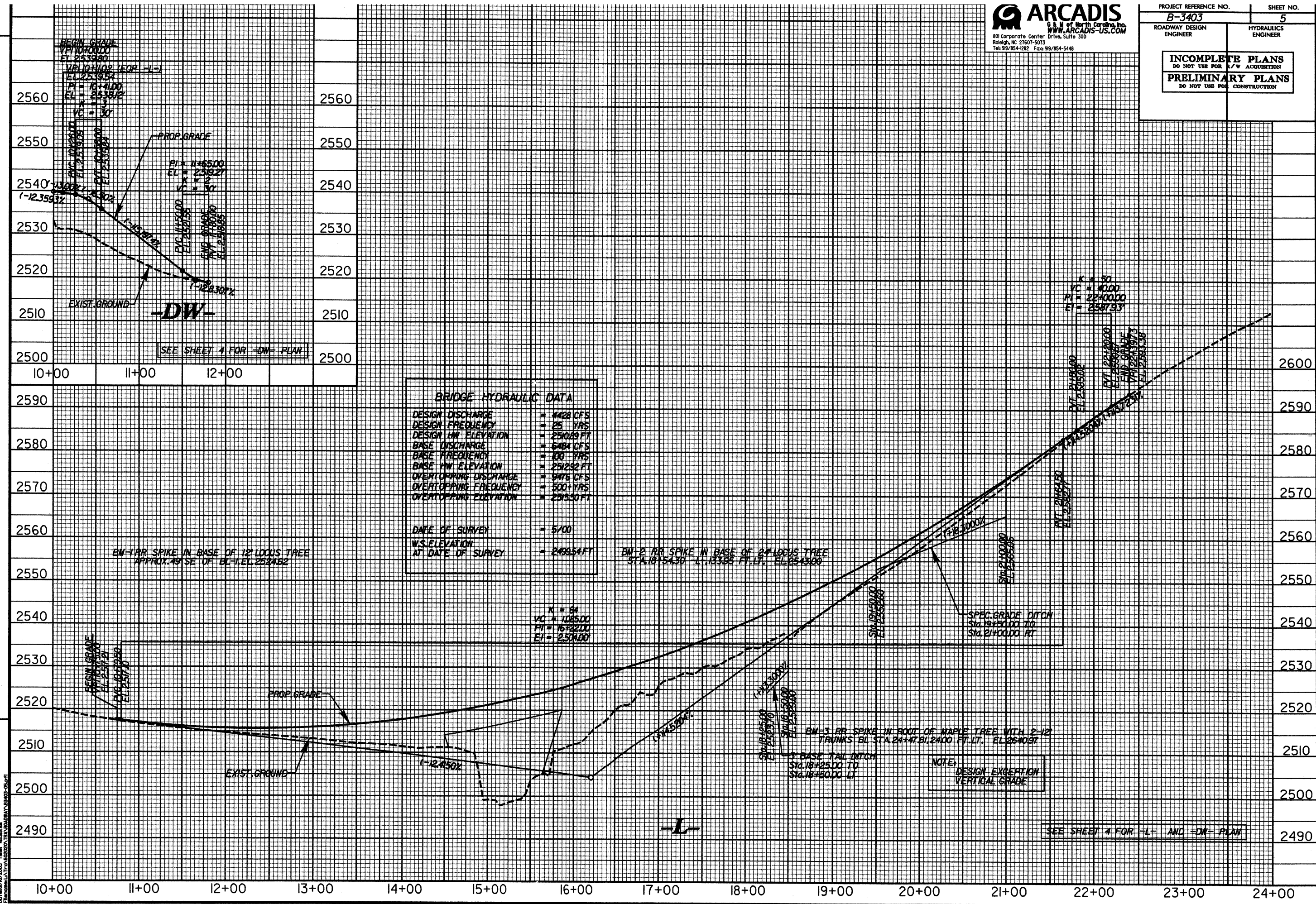


NOTES:
 (1) TEMP. FENCING REQUIRED STA. ???+???.00 TO STA. ???+???.00 RT. & STA. ???+???.00 TO STA. ???+???.00 LT. TO MAINTAIN LIVESTOCK DURING CONSTRUCTION.
 (2) DRIVEWAY RADIAT -L- EOP = 10' UNLESS NOTED OTHERWISE.

SEE SHEET 5 FOR -L- AND -DW- PROFILES

ARCADIS CONSULTANTS
 DRAWING NUMBER: 1422(3)
 DATE: 07/2009

REVISIONS



ARCADIS G&M
 Drawn: 07/2003
 Checked: 07/2003
 Date: 07/2003
 File: B-3403-DWG-05.dwg

NOTE:
DESIGN EXCEPTION
VERTICAL GRADE

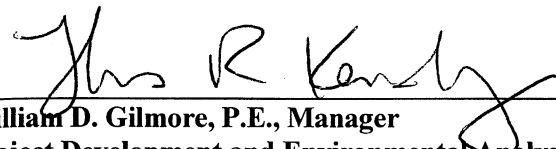
SEE SHEET 4 FOR -L- AND -DW- PLAN

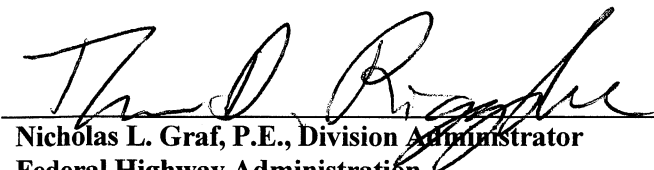
**SR 1422 (Fox Ridge Road)
Bridge No. 53 Over Brush Creek
Alleghany County
State Project 8.2700501
Federal Project BRZ-1422(3)
TIP Project B-3403**

CATEGORICAL EXCLUSION

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
N.C. DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

APPROVED:

3/11/02
Date *for* 
William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation

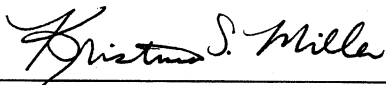
3/11/02
Date *for* 
Nicholas L. Graf, P.E., Division Administrator
Federal Highway Administration

**SR 1422 (Fox Ridge Road)
Bridge No. 53 Over Brush Creek
Alleghany County
State Project 8.2700501
Federal Project BRZ-1422(3)
TIP Project B-3403**

CATEGORICAL EXCLUSION

January 2002

**Documentation Prepared By
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For the North Carolina Department of Transportation:



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Project Development and Environmental Analysis Branch
North Carolina Department of Transportation**



**Thomas R. Kendig, Consultant Engineering Unit Head
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation**

SUMMARY OF SPECIAL PROJECT COMMITMENTS

**SR 1422 (Fox Ridge Road)
Bridge No. 53 Over Brush Creek
Alleghany County
State Project 8.2700501
Federal Project BRZ-1422(3)
TIP Project B-3403**

Division 11:

- A. The North Carolina Department of Transportation (NCDOT) will observe a moratorium on in-stream construction from November 1 to April 15, required by the North Carolina Wildlife Resources Commission, for designated trout waters.

- B. The existing bridge will be removed without dropping any components into the stream. The existing bridge has one pier in Brush Creek. The proposed project will remove the timber pile by cutting it off level with the surface of the streambed. The concrete sill will be removed in its entirety. In the event that there is not a practical alternative to non-shattering methods of removal, alternative methods that may include the use of explosives will be discussed with and approved by the Army Corps of Engineers and other federal and state resource agencies having jurisdiction over the resource. Bridge demolition activities associated with this project will strictly follow NCDOT's *Best Management Practices for Bridge Demolition and Removal* (BMPs-BDR). The proposed project falls under Case 2 of the BMPs-BDR.

Hydraulics/Roadside Environmental:

- C. *Design Standards in Sensitive Watersheds* will be strictly followed throughout design and construction of the project due to anticipated impacts to waters classified as Class C trout waters.

Structures/ Hydraulics:

- D. Bridge bents will be placed outside the bankfull width.

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Figure 6	100-Year Floodplain

Appendices

Appendix A: Agency Coordination response letters

Federal

United States Department of the Interior, Fish and Wildlife Service, January 27, 2000 A-1 through A-4

Federal Energy Regulatory Commission, Atlanta Regional Office, February 10, 2000 A-5

U.S. Army Corps of Engineers, Wilmington District, June 29, 2000 A-6 through A-7

State

North Carolina Department of Environment and Natural Resources, Division of Water Quality, January 19, 2000 A-8 through A-9

State Historic Preservation Office (SHPO), March 3, 2000 A-10

SHPO, Federal Highway Administration (FHWA), North Carolina Department of Transportation (NCDOT) Concurrence Form for Properties Not Eligible for the National Register of Historic Places, February 3, 2000 A-11

State Historic Preservation Office (SHPO), January 4, 2001 A-12

Local

Alleghany County Board of Commissioners, January 19, 2000 A-13

Appendix B: USDA-NRCS Farmland Conversion Impact Rating

USDA-NRCS Farmland Conversion Impact Rating Sheet B-1 through B-2

I. Purpose of and Need for the Proposed Project

I.A. General Description

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 53 on SR 1422 (Fox Ridge Road) over the Brush Creek in Alleghany County. Figure 1 illustrates the project area. The proposed action is included in the 2002-2008 Transportation Improvement Program (TIP) as a bridge replacement project with \$155,000 allocated for right-of-way acquisition and \$420,000 for construction. The TIP indicates that the proposed project is programmed for right-of-way acquisition in fiscal year 2002 and for construction during fiscal year 2003. This project is part of the Federal Highway Bridge Replacement and Rehabilitation Program and has been classified as a "Categorical Exclusion." The proposed project is not anticipated to have substantial, detrimental environmental impacts.

I.B. Purpose Of the Proposed Project

NCDOT Bridge Maintenance Unit records indicate that Bridge No. 53 is structurally deficient and functionally obsolete. The September 2000 Bridge Inspection Report states that Bridge No. 53 has a sufficiency rating of 27.7 out of a possible 100 for a new structure. Replacement of the inadequate structure will result in safer traffic operations.

I.C. Existing Conditions

The proposed bridge replacement is located along SR 1422, approximately 0.4 mile (0.6 kilometer) southwest of SR 1485 and six miles (9.7 kilometers) east of Sparta in northeastern Alleghany County. SR 1422 is not currently part of a state designated bicycle route, nor is it listed in the TIP as needing incidental bicycle accommodations. No geodetic survey markers are located within the project area. SR 1422, also known as Fox Ridge Road, is classified as a rural minor collector in the Statewide Functional Classification System and is not a National Highway System route.

The terrain of the study area is mountainous. Nearby land use is primarily rural residential. Two homes are located near the beginning of the proposed project, approximately 500 feet (152 meters) south of the existing bridge. A sawmill is located on the west side of the roadway, near one of the homes. Associated with the sawmill is an old millrace that runs between the bends of the creek, on both sides of SR 1422. A cattle farm and trout pond are located north of the bridge, on the west side of SR 1422. Photographs of existing conditions in the project area are shown in Figures 2a and 2b.

Bridge No. 53, constructed in 1959, carries SR 1422 over Brush Creek. The bridge consists of a two-span, timber deck on steel I-beams, with an asphalt wearing surface. The interior and end bents consist of timber caps and posts with concrete sills. The existing bridge has an overall length of 81 feet (24.7 meters) and a deck width of approximately 19.8 feet (6 meters) wide, measured from the face of the guardrail. The clear roadway width across the bridge (curb to curb) is 19.2 feet (5.9 meters) and carries two lanes of two-way traffic. Approaching Bridge No. 53, SR 1422 is a 17-foot (5.2-meter) paved, two-lane travelway with five-foot (1.5-meter) grass shoulders. Both of the roadway approach sections are located in horizontal tangent sections and appear to have adequate sight distance. The existing right-of-way along SR 1422 is approximately 30 feet (9 meters).

The current weight limit posting for Bridge No. 53 is 14 tons (12,700 kilograms) for single vehicles and 17 tons (15,422 kilograms) for trucks, tractors, and semi-trailers. Within the study area, SR 1422 is

aligned in a southwest to northeast direction in a tangent section. SR 1422 crosses Brush Creek at an angle of approximately 100 degrees. As shown in Figure 3a, the stream flows from southeast to northwest at the bridge site. The bridge is located at a straight section of the creek, approximately 200 feet (61 meters) upstream of a 90 degree bend and 200 feet (61 meters) downstream of a 90 degree bend.

As shown in Figure 3b, the existing profile along SR 1422 contains a vertical sag with grades of approximately 3 and 15 percent. The low point within the study area is just beyond the southwestern end of the Bridge No. 53. The roadway approach sections include ditches that end at the bridge embankment and grass shoulders that drain to the fill embankment. The deck drains over its edge into the creek.

During site visits in the Spring of 2000, hydraulic engineers determined that the embankments and grass ditches were in stable condition, having no drainage problems. Flood debris was observed amidst the bridge I-beams immediately below deck, causing the hydraulic engineers to believe that the bridge had recently overtopped. One resident of the study area noted two occasions in the past 40 years when Bridge No. 53 was overtopped by approximately three feet (0.9 meter). The same resident reported flows near, or in contact with, the low chord almost every year. The resident also noted that the home located approximately 500 feet (152 meters) from the bridge had trouble with flooding in its basement.

I.D. Traffic Volumes, Speed Limit, School Bus Usage, and Emergency Services

The estimated 2003 (project letting year) average daily traffic (ADT) volume for SR 1422 is 650 vehicles per day (vpd). Traffic volumes are predicted to increase to 875 vpd by the design year 2023. Truck percentages are expected to remain at three percent for dual-tired vehicles and one percent for truck-tractors and semi-trailers. The speed limit is not posted within the study area.

To date, no written comments have been received from the Alleghany County School System. Verbal comments were collected during a January 18, 2002 telephone interview with Mr. Claude Nunley, a representative from the Alleghany County School System. During the interview, Mr. Nunley stated that approximately two Alleghany County school buses, one for Glade Creek Elementary School and one for Sparta High School, cross Bridge No. 53 twice per day during the 2002 school year. A proposed off-site detour route, to maintain traffic during construction, would add approximately 6.4 miles (10.3 kilometers) to these trips.

Verbal comments were collected during a March 15, 2001 telephone interview with Ms. Linda Edwards, the Alleghany County Administration Supervisor for Emergency Medical Services (EMS), who directed comments on the proposed off-site detour route to Mr. Stanley Crouse, Shift Supervisor. Mr. Crouse stated that he did not expect a proposed off-site detour would create a problem for the EMS. He explained that emergency vehicles coming from Sparta normally use NC 18 North or US 21 South. He said that alternate routes EMS would use if SR 1422 (Fox Ridge Road) were closed during construction include SR 1433 (Ridgeglen Road), SR 1444 (Glade Valley Road), SR 1457 (Big Oak Road), and SR 1422 (Barrett Road); or NC 18 North to SR 1453 (Little Pine Road). Mr. Crouse recommended obtaining comments on a proposed off-site detour route from the Glade Creek Fire Department. During a telephone conversation on March 15, 2001, Tim Dunkin, of the Glade Creek Fire Department, explained that the fire department is located on Glade Valley Road and that they do not normally use SR 1422 (Fox Ridge Road). Mr. Dunkin said that he did not foresee a problem for the fire department if the proposed project were to use an off-site detour route during construction.

Further investigation of potential off-site detour routes took place on December 17, 2001 with an on-site meeting by the Division 11 Construction Engineer, Mr. Trent Beaver; staff engineer, Mr. Patrick Norman; the Alleghany County Emergency Medical Services (EMS) Coordinator, Mr. Gerald Leftwich; and ARCADIS Roadway Design Engineer, Mr. Don Hurlbut. As a result of the meeting, consensus was achieved on the route determined to be the preferred off-site detour choice, which includes SR 1433 (Ridgeglen Road), SR 1444 (Glade Valley Road), SR 1457 (Glade Creek School Road), and SR 1422 (Barrett Road). According to Mr. Leftwich, EMS and police services are dispatched from Sparta while the fire department serving this area is located near the intersection of SR 1457 (Glade Creek School Road) and SR 1444 (Glade Valley Road). Because of the extensive network of local roads, Mr. Leftwich believes that the EMS, police, and fire responders would not have difficulty getting to calls in the vicinity of the proposed project if the dispatchers and agencies are made aware of the road closure.

I.E. Accident History

During telephone interviews conducted in February 2000, none of the study area property owners recalled any recent accidents in the project area. Records from the NCDOT Traffic Engineering Branch indicate that one accident was reported in the vicinity of Bridge No. 53 between November 1, 1996 and October 31, 1999. It involved a passenger car striking an animal approximately 0.2 mile (0.3 kilometer) from the bridge.

I.F. Relation to the Thoroughfare Plan

Alleghany County is included in the Region D Thoroughfare Plan, which received local approval in November 1993 and was adopted by the North Carolina Board of Transportation on May 6, 1994. The proposed project is consistent with the Region D Thoroughfare Plan.

II. Description of the Proposed Action

II.A. Proposed Improvements

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 53 on SR 1422 over Brush Creek in Alleghany County. The proposed functional plans and typical sections are shown in Figures 3a, 3b, and 4. The proposed roadway typical section contains two 11-foot (3.4-meter) travel lanes and 5-foot (1.5-meter) grass shoulders. The proposed construction limits are estimated to be approximately 1,090 feet (330 meters) long, requiring a proposed right-of-way width that is estimated to vary between 30 and 130 feet (9 and 40 meters). The proposed vertical curve is longer than that which currently exists, improving the design speed through the study area from 20 mph (32 km/hr) to 40 mph (65 km/hr).

A new bridge, approximately 130 feet (40 meters) long, will be constructed along the existing SR 1422 horizontal alignment with modifications to the vertical alignment. The new bridge will be constructed approximately 10 feet (3 meters) higher than the existing bridge to lessen the chance of the bridge being flooded. According to the March 2000 Preliminary Hydraulic Investigation Report, the center span of the proposed bridge is recommended to be about 55 feet (16.8 meters) long to clear the bankfull channel width and minimize impact to the stream morphology. The proposed bridge will have a clear roadway width of 28 feet (8.4 meters) between rails, including two 11-foot (3.3-meter) lanes and 3-foot (0.9-meter) offsets. While the stream channel is not expected to require realignment, the bridge abutment slopes are proposed to be armored with riprap to avoid surface erosion.

The proposed detour route, illustrated in Figure 5, includes SR 1433 (Ridgeglen Road), SR 1444 (Glade Valley Road), SR 1457 (Glade Creek School Road), and SR 1422 (Barrett Road). The Division 11 Office has concurred with the use of this route to maintain traffic off-site during construction. The proposed detour is approximately 6.4 miles (10.3 kilometers) long. While the proposed route includes a 35 mph (55 km/hr) curve advisory speed on SR 1433 and a 35 mph (55 km/hr) approaching intersection speed limit at SR 1444 and SR 1457, it has fewer sharp curves and generally a better overall alignment than other existing roadways in the vicinity of the proposed project.

II.B. Estimated Construction, Right-of-Way, and Road User Costs

Alternative A, which permanently realigns SR 1422 upstream, has an estimated project cost of \$1,082,000. This includes \$82,000 for right-of-way, \$125,000 for engineering and contingencies, and \$875,000 for construction, as detailed in Table 1. Alternative B, which replaces Bridge No. 53 along the existing horizontal alignment using an on-site detour route during construction, has an estimated project cost of \$1,582,000. This includes \$82,000 for right-of-way, \$200,000 for engineering and contingencies, and \$1,300,000 for construction. Alternative C, the recommended alternative, which replaces Bridge No. 53 along the existing horizontal alignment using an off-site detour during construction, has an estimated project cost of \$886,000. This includes \$86,000 for right-of-way, \$110,000 for engineering and contingencies, and \$690,000 for construction.

The 2002-2008 TIP lists the estimated cost of the project at \$575,000, including \$155,000 for right-of-way in fiscal year 2002 and \$420,000 for construction in fiscal year 2003. The total project costs for Alternatives A, B, and C are greater than the cost estimated in the TIP. Alternative C is expected to cost roughly 18 percent less than Alternative A and 44 percent less than Alternative B.

**Table 1: Estimated Construction and Right-of-Way Costs
(Based on Current Year 2002 Prices)**

Component	Alternative A (Realignment of SR 1422)	Alternative B (Maintain the Existing Horizontal Alignment using an On-Site Detour)	Recommended Alternative C (Maintain the Existing Horizontal Alignment using an Off-Site Detour)
Existing Structure Removal	\$13,120	\$13,120	\$13,120
Proposed Structure	\$273,000	\$273,000	\$277,500
Roadway Improvements	\$306,050	\$315,230	\$212,000
Temporary On-Site Detour: Roadway, Structure, Traffic Control and Signing, & Miscellaneous and Mobilization	\$0	\$406,689	\$0
Traffic Control and Signing	\$14,000	\$14,000	\$7,500
Miscellaneous and Mobilization	\$268,830	\$277,961	\$179,880
Total Construction Cost	\$875,000	\$1,300,000	\$690,000
Engineering and Contingencies	\$125,000	\$200,000	\$110,000
Total Right-of-way Cost	\$82,000	\$82,000	\$86,000
Total Project Cost	\$1,082,000	\$1,582,000	\$886,000

An additional cost variable, the road user cost (RUC), was evaluated for the off-site detour used in Alternative C. The RUC is the total estimated operating cost incurred by motorists to travel along an off-site detour route during construction activities. It is calculated using the following formula:

$$RUC = (N) (T) (D) (\$)$$

The “N” is the expected number of days the road will be closed for construction. The “T” is the average daily traffic volume expected on the road at the time of construction. The “D” is the distance in miles (or kilometers) that the average road user would have to travel out of his or her way during the time of construction. The “\$” is the estimated cost of operating a vehicle expressed in dollars per mile (or in dollars per kilometer). Therefore, the RDU for Alternative A is estimated at \$493,480, as calculated below:

$$RUC = (365 \text{ days}) (650 \text{ vpd}) (6.4 \text{ miles}) (\$0.325/\text{mile}) = \$493,480$$

II.C. Anticipated Design Exceptions

A design exception is required in order to minimize property acquisition impacts and tie the proposed improvements into the existing vertical alignment. The existing grade along SR 1422 north of the bridge is approximately 15 percent. Since the purpose of the proposed project is to replace a structurally deficient and functionally obsolete structure, the proposed roadway approach ties directly into the existing alignment and does not include additional modifications outside the proposed study area. A vertical design exception is required for use of a grade of nearly 15 percent, which has a 40 mph (65 km/hr) design speed. Even with

this design exception, the proposed vertical design speed is an improvement over existing conditions because the proposed vertical curve is longer than that which currently exists. As such, the vertical design speed is expected to improve from 20 mph (32 km/hr) to 40 mph (65 km/hr).

II.D. Utility Involvement

No utilities are attached to the bridge structure. Overhead power lines cross the stream about 40 feet (12.2 meters) from the upstream side of Bridge No. 53 and cross the road about 300 feet (91 meters) southwest of the bridge. During construction, the existing utilities may need to be relocated. Relocation of public utilities will be completed without long-term interruptions in service.

III. Public Involvement

In February 2000, property owners in the study area were contacted by telephone and were sent letters summarizing both the conversations and current project information. Six property owners were contacted pertaining to the four properties located nearest to Bridge No. 53. The purpose of the phone calls and letters was to inform them of the proposed project, give them the opportunity to ask questions, and document any comments that they wished to make about the project.

One study area homeowner requested that the new bridge should be built at a higher elevation because the creek occasionally rises above the existing bridge rails. Another homeowner requested that NCDOT lessen the grade north of the bridge, and improve the vertical curvature on SR 1422. The new bridge will be constructed approximately 10 feet (3 meters) higher than the existing bridge in order to lessen the chance of the bridge being flooded. While the proposed project must tie into the existing grades, it still provides an improved vertical design. The proposed vertical curve is longer than that which currently exists, improving the design speed through the study area from 20 mph (32 km/hr) to 40 mph (65 km/hr).

A property owner asked if NCDOT would consider building the new or detour bridge on the downstream (west) side of SR 1422. Constructing a temporary detour or realigning the roadway on the downstream (west) side of the road would result in impacts to a stocked trout pond located on the west side of the road, north of the creek. A downstream option would increase impacts to surface water and forested land and is not recommended.

In order to minimize costs, one property owner asked if NCDOT could replace the Bridge No. 53 in its existing location and route traffic along other roads during construction. At the time of this initial coordination with public, only Alternatives A and B were under evaluation. Alternative C was added later, as discussed below. The property owner was concerned for the safety of the slower moving farm vehicles that use SR 1422. He worried that the proposed improvements would allow vehicles to travel faster along SR 1422. In order to meet current design standards, the bridge and roadway approaches will be wider than the existing bridge and approaches. These improvements are necessary to enhance overall safety for motorists.

This same property owner contacted NCDOT by phone and urged NCDOT to revisit the possibility of an off-site detour to reduce impacts to his property. In response to his request, the option of using an off-site detour was re-examined and a suitable off-site detour was identified. The use of an off-site detour would minimize impacts to personal property, natural habitat, and the stream channel while also reducing the cost of the project. As such, NCDOT decided that the inconveniences of closing the road were outweighed by the reduction in costs and impacts. Project update letters dated April 10, 2001 were sent to the six property study area property owners to describe the recommended Alternative C, discuss the proposed off-site detour, and solicit comments on the project. No written comments have been received from property owners in response to this letter.

IV. Alternatives Considered

IV.A. “Do Nothing” Alternative

The “Do-Nothing” Alternative is not practical as it would require the closing of the road as the existing bridge continues to deteriorate. Closing the existing bridge is not desirable due to the traffic service provided by SR 1422. Rehabilitation of the existing bridge is neither practical nor economical.

IV.B. Postponement Alternative

The Postponement Alternative would delay the necessary replacement of the bridge. Postponement of the proposed improvements would allow the deterioration of the existing bridge to continue. This alternative is not practical or recommended.

IV.C. Alternatives Eliminated from Further Consideration

Replacing Bridge No. 53 by building a new bridge on the downstream (west) side of SR 1422 was considered. Constructing a temporary detour or realigning the roadway on the downstream (west) side of the road would result in impacts to a stocked trout pond located on the west side of the road, north of the creek. A downstream option would increase impacts to surface water and forested land and is therefore not recommended.

IV.D. Build Alternatives

Three build alternatives were evaluated for replacing the existing structure with a new 130-foot (40-meter) long bridge over Brush Creek. Alternatives A and B maintain traffic during construction on-site while Alternative C uses an off-site detour.

Alternative A realigns SR 1422, just upstream (east) of the existing bridge while maintaining traffic on the existing SR 1422 alignment during construction. Alternative B improves SR 1422 along its existing horizontal alignment while using a temporary on-site detour during construction. The on-site detour in Alternative B follows the same horizontal alignment as Alternative A, but includes construction of an 80-foot (24.4-meter) temporary bridge. As such, the construction limits required for Alternative B are similar to those for Alternative A at roughly 1,450 feet (442 meters) long.

Alternative C is the recommended build alternative because it satisfies the purpose of and need for the proposed action and creates less impacts to personal property, natural habitats, and the stream channel as compared to Alternatives A and B. The estimated construction and right-of-way costs for Alternative C are also expected to be approximately 18 percent less than Alternative A and 44 percent less than Alternative B.

V. Effects To The Man-Made and Natural Environment

V.A. Effects To The Man-Made Environment

V.A.1. Land Use

V.A.1.a. Local Planning Activities

While the project is located in Alleghany County, it is not located within the municipal limits of any town or city. Currently, there is no zoning by the County in the project vicinity, nor is there a land use plan for the area.

V.A.1.b. Existing Land Use

Land use in the project area is primarily rural residential. One business, a beef cattle farm, is located north of the bridge on the west side of SR 1422. Two homes are located within the project limits, south of the bridge, one on each side of the road. A sawmill is located on the west side of the roadway, near one of the homes. Associated with the sawmill is an old millrace that runs between the bends of the creek, on both sides of SR 1422. A beef cattle farm and trout pond are both located on the west side of SR 1422, north of Bridge No. 53.

V.A.1.c. Future Land Use

No land use changes are planned for the proposed study area.

V.A.1.d. Prime and Important Farmland

The Farmland Protection Policy Act of 1981 requires all federal agencies or their representatives to consider the impact on prime and important farmland of all construction and land acquisition projects. To comply, National Resource Conservation Service (NRCS), formerly the U.S. Soil Conservation Service, was asked to determine the location of all important soils which may be impacted by the proposed project. The U.S. Department of Agriculture determines which soil types meet the criteria for important farmland soils, based on a variety of factors that contribute to a sustained high yield of crops.

Of the 147,200 acres (59,570 hectares) of land in Alleghany County, an estimated 4,809 acres (1,946 hectares) are identified as prime and unique farmland soils. As shown in Appendix B, the NRCS indicated on the Farmland Conversion Impact Rating Form AD-1006 that the project area does not contain prime, unique, or statewide or local important farmland.

V.A.1.e. Underground Storage Tanks and Hazardous Materials

The NCDOT Geotechnical Unit/GeoEnvironmental Section performed a field reconnaissance of the study area and a public record review to identify UST facilities, hazardous waste sites (dump sites), regulated landfills, and Superfund sites. Based on the field reconnaissance and records search, there should be no environmental liability concerns for the project. However, unregulated USTs and unregulated landfills may be encountered during the initial right-of-way process. If a site with an unregulated UST or a landfill is identified during the right-of-way process, a Preliminary Site Assessment will be performed prior to right-of-way acquisition to determine the extent of any contamination.

V.A.2. Community Impact Assessment and Socioeconomic Impacts

No adverse effect on families or communities is expected to result from the proposed project. Residential and commercial relocations are not anticipated. The area of proposed right-of-way acquisition is estimated at approximately 2.33 acres (0.93 hectare) for both Alternatives A and B, and is estimated at roughly 1.46 acres (0.59 hectare) for Alternative C. Alternatives A and B maintain traffic during construction on-site while Alternative C uses an off-site detour. The proposed off-site detour route in Alternative C is approximately 6.4 miles (10.3 kilometers) long, as shown in Figure 5.

V.A.2.a. Neighborhood Characteristics

The proposed project is located in Alleghany County, outside nearby municipal boundaries. Alleghany County is located in the northwestern portion of North Carolina, bordered by Virginia to the north and surrounded by Ashe, Wilkes, and Surry Counties in North Carolina. In 2000, Alleghany County had a total population of 10,677 with 49 percent males and 51 percent females. From 1990 to 2000, the population of Alleghany County increased by roughly 11 percent. During the same 10-year period, the U.S. Census shows a growth rate of 21 percent for the State of North Carolina, with a 2000 population of 8,049,313.

The racial composition of the county in 2000 consisted of approximately 95.7 percent Caucasians; 1.2 percent African Americans; 0.3 percent American Indian and Alaska Native, and 0.2 percent Asian, and 2.6 percent “other races” or “two or more races” (2000 U.S. Census). The racial composition of the State in 1990 consisted of 75.5 percent Caucasians; 22.0 percent African Americans; 1.2 percent American Indians, Eskimos, or Aleuts; 0.8 percent Asians or Pacific Islanders; and 0.5 percent classified as “other races” (1990 U.S. Census).

V.A.2.b. Social and Economic Impacts

While motorists traveling through the proposed study area may experience temporary inconveniences during project construction, they are not expected to sustain any long-term adverse impacts. The local area and surrounding communities are expected to have a beneficial impact due to the replacement of the insufficient bridge. The labor force data from the 2000 Census are still being processed and not available at this time. As such, the 1990 data is summarized below.

According to the U.S. Census, Alleghany County had a civilian labor force of 4,662 people in 1990. Of the total civilian labor force, 4,510 people were employed and 152 people were unemployed, indicating an unemployment rate of almost 3.3 percent. Alleghany County’s unemployment rate compared favorably to the State’s rate of almost 4.8 percent during the same time period. Approximately 20 percent of Alleghany County’s population was living below the poverty level in 1989 as compared to almost 13 percent of the State’s population (1990 U.S. Census).

V.A.2.c. Religious Centers, Schools, and Other Public Facilities

No religious centers, schools, or other public facilities are located along the proposed project, or within the general study area. Therefore, this project is not expected to adversely affect any public facilities.

V.A.2.d. Relocations

No relocations are expected to result from the proposed project.

V.A.2.e. Environmental Justice

This Categorical Exclusion has proceeded in accordance with the Executive Order 12898 requirement that each federal agency, to the greatest extent allowed by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid “disproportionately high and adverse” effects on minority and low-income populations. The proposed project will not segment existing minority communities or separate residential areas from nearby services, such as schools, businesses, or parks. The proposed improvements are expected to have an overall positive impact on the surrounding community. Replacing the inadequate bridge will result in safer traffic operations for the public.

V.A.3. Historic and Cultural Resources

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

V.A.3.a. Archaeological Resources

According to the State Historic Preservation Office (SHPO), there are no recorded archaeological sites within the project boundaries. The area has never been systematically surveyed to determine the location or significance of archaeological resources. The SHPO recommended in a letter dated March 3, 2000 that an archaeological survey be conducted only if construction is planned on a new alignment (see Appendix A, page A-9). Since Alternative A consists of construction on new alignment, an archaeological survey of the study corridor was conducted on August 2, 2000, as documented in the January 2001 *Archaeological Survey and Evaluation, Bridge 53 Over Brush Creek, Alleghany County, North Carolina*, by the Louis Berger Group, Inc. The *Archaeological Survey* identified one historic archaeological site, referenced as Site 31AL93**, as described below.

*Site 31AL93** consists of a historic artifact scatter, a millrace, an old road, and the remains of two stone dams on the south side of Brush Creek. Based on information derived from historical maps, it appears that the millrace is associated with the Richardson Mill.... Portions of the millrace at Site 31AL93** are located within the limits of the proposed right-of-way [for Alternatives A and B], but all other cultural features are outside the limits of the proposed right-of-way.... While Site 31AL93** meets the age criterion for listing in the National Register of Historic Places, the site is unlikely to yield important information for the study of the history of the Piedmont region owing to the low artifact density, low artifact quantity, and low artifact type variability evidenced in the shovel tests.... The site is therefore not eligible for inclusion in the National Register as: (1) it is not associated with the broad patterns of local, state, or national history (Criterion A); (2) it is not associated with individuals of local, state, or national significance (Criterion B); (3) Criterion C is not applicable; and (4)*

the archaeological information at the site will not contribute important information about history or prehistory (Criterion D) (January 2001, Louis Berger Group, Inc.).

In a January 4, 2001 letter, the SHPO concurs with the January 2001 *Archaeological Survey* recommendation that “no further archaeological investigation be conducted in connection with this project...since this project will not involve significant archaeological resources” (see Appendix A, page A-12). Compliance with Section 106 of the National Historic Preservation Act is complete for historic archaeological resources.

V.A.3.b. Historic Architectural Resources

No properties listed on or eligible for the National Register of Historic Places are located inside the area of potential effect for the proposed project. The State Historic Preservation Office has concurred with this determination (see Appendix A, page A-10). Since there are no historic properties affected by the proposed action, compliance with Section 106 of the National Historic Preservation Act is complete for historic architectural resources.

V.A.4. Section 4(f) and Section 6(f) Resources

V.A.4.a. Section 4(f) Properties

The study area does not contain public parks, recreation areas, historic sites, or wildlife and waterfowl refuges of national, state, or local significance. No properties subject to protection under Section 4(f) of the USDOT Act of 1966 will be used or directly impacted by the proposed project.

V.A.4.b. Section 6(f) Properties

No section 6(f) properties are located within the project’s study area. Therefore, no right-of-way for the proposed bridge replacement will be required from properties that have been acquired or developed with assistance of Section 6(f) funds.

V.B. Effects To The Natural Environment

V.B.1. Physical Resources

Alleghany County is situated in the northeastern portion of the Blue Ridge Physiographic Province. The geography of the county consists predominantly of gently sloping to very steep uplands. Narrow, nearly level floodplains exist along most of the streams. Elevations in the project area range from approximately 2,500 feet (762 meters) above mean sea level (msl) at Brush Creek to approximately 2,600 feet (793 meters) at both the western and eastern perimeters of the project area as depicted on the Sparta East, North Carolina-Virginia, USGS topographic quadrangle map.

V.B.1.a. Soils

The mountain region of North Carolina is composed of rocks dating back 500 million to one billion years. These rocks are associated with the Blue Ridge Belt. This complex mixture of igneous, sedimentary, and metamorphic rock has been squeezed, fractured, faulted, and twisted into folds. The Blue Ridge Belt is well known for its deposits of feldspar, mica, and quartz-basic materials used in the ceramic, paint, and electronic

industries. The project study area is situated within the Ashe Metamorphic Suite and Tallulah Falls Formation, which includes gneiss, schist, metagraywacke, amphibolite, and calc-silicate granafels (NCGS, 1991).

The Watagua-Chandler-Fannin Soil Association is present in the project area. Soil associations are defined as landscapes that exhibit distinctive proportional patterns of soils consisting of one or more major soils and at least one minor soil. The soils within an association generally vary in slope, depth, stoniness, drainage, and other characteristics (NRCS, 2000).

During field visits on March 3, 2000, biologists met with the NRCS. According to the NRCS, the published soil survey for Alleghany County is out of date and not available; however, information was ascertained throughout the project study area. According to the NRCS, the Watagua-Chandler-Fannin Association is comprised of well drained to somewhat excessively drained, micaceous soils occurring on narrow ridges and steep side slopes. The association occupies approximately 39 percent of the county. Watagua soils are the major soils of the association followed by lesser percentages of Chandler and Fannin soils. Comus fine sandy loam and Fannin silt loam are the dominant mapping units in the project study area. Comus fine sandy loam is a well drained, nearly level soil found primarily along floodplains. Fannin silt loam is a well drained, micaceous soil situated in bands between the middle ridges and steeper side slopes breaking to the drainageways. Other series at the site include Suncook loamy sand and Chester loam.

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (Cowardin et al., 1979). According to the NRCS, there are no mapped hydric soils in the project study area.

V.B.1.b. Water Resources

V.B.1.b.i. Water Characteristics in the Project Area

Streams, creeks, and tributaries within the project region are part of the New River Basin, the fourth smallest river basin in the State. The basin originates at the confluence of the North Fork and the South Fork New Rivers in northeastern Ashe County. It flows northward from North Carolina into Virginia, then northwestward into West Virginia where it converges with the Kanawha River. Waters associated with this basin eventually empty into the Gulf of Mexico, via the Ohio and Mississippi Rivers. The New River system is part of the oldest river system in North America, flowing through a terrain containing metamorphic rocks that date up to 1.1 billion years old (NCDEM, 1995).

Brush Creek and a small unnamed tributary account for the majority of surface waters in the project area. The tributary empties into Brush Creek approximately 100 feet (32 meters) upstream of the existing bridge. The project study area is situated approximately two miles (3.2 kilometers) upstream of the confluence of Brush Creek and the Little River.

V.B.1.b.ii. Water Classifications

The North Carolina Division of Water Quality (NCDWQ) classifies surface waters of the state based on their intended best uses. Brush Creek and its tributaries are classified as “C Tr” waters. Class C denotes waters suitable for all general uses including aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture, while “Tr” denotes trout waters, which are suitable for natural trout propagation and the maintenance of stocked trout.

No High Quality Waters (HQW), Water Supplies (WS-I or WS-II), or Outstanding Resource Waters (ORW) occur within the project vicinity. However, the Little River, approximately two miles (3.2 kilometers) downstream of the project area, is classified as HQW. High Quality Waters are waters that are rated as excellent based on biological and physical/chemical characteristics through division monitoring or special studies, native and special trout waters, primary nursery areas, critical habitat areas, water supply watersheds classified as WS-I or WS-II, and all Class SA waters.

V.B.1.b.iii. Water Quality

The Ambient Monitoring System (AMS) is a network of stream, lake, and estuarine water-quality monitoring stations strategically located for the collection of physical and chemical water-quality data. The type of water-quality data or parameters collected is determined by the waterbody's classification and corresponding water-quality standards. The AMS determines the "use support" status of waterbodies, meaning how well a waterbody supports its designated uses. The waters in the project area are currently rated as "*supporting*."

Benthic macroinvertebrate sampling areas on Brush Creek were taken within the project study area in 1993. The water-quality bioclassification was rated as "good." Sampling was also taken at the NC 18 crossing of the Little River, approximately three miles (4.8 kilometers) downstream of the project area and along Laurel Branch, a tributary that empties into Brush Creek approximately three miles (4.8 kilometers) upstream of the project area. The water-quality bioclassification at the Little River was rated as "excellent" in 1986, 1988, 1989, 1990, and 1993. Three locations along Laurel Branch were sampled in 1988, 1989, and 1992. Laurel Branch was rated both "poor" and "fair" during those times.

Point source dischargers throughout North Carolina are regulated through the National Pollutant Discharge Elimination System (NPDES) program. Dischargers are required by law to register for a permit. According to NCDWQ (2000), there are four permitted NPDES dischargers in the subbasin, all of which are minor dischargers that typically release less than one million gallons per day (MGD) (3,785 cubic meters per day). Three of the dischargers, the O.B.G.P. Company, Parkway Heritage Inn, and High Meadow Inn, are upstream of the project area. They are located along Laurel Branch and one of its unnamed tributaries. The dischargers are located in the vicinity of Roaring Gap, approximately eight miles (13 kilometers) upstream of the project study area. The fourth discharger is associated with the Town of Sparta's wastewater treatment plant, approximately 10 miles (16 kilometers) downstream, along the Little River.

V.B.1.c. Physical Resource Impacts

The proposed project would have minimal impacts to both soils and topography for all three of the build alternatives. Both Alternative A and Alternative B have the same quantity of impacts since both the proposed new bridge and the proposed temporary bridge utilize the same design and location. Since Alternative C utilizes an off-site detour, it is expected to have less impacts than either A or B.

The primary sources of water quality degradation in rural areas are agricultural operations and construction. Precautions should be taken to minimize impacts to water resources in the project area. Construction related impacts to water resources include: loss of aesthetic values, substrate destabilization, bank erosion, increased turbidity, altered flow rates, and possible temperature fluctuations within the stream channel caused by removal of stream-side vegetation. Short-term impacts to water quality from construction activities are related to increased sedimentation and turbidity. Aquatic organisms are very sensitive to discharges and inputs resulting from construction. Appropriate measures must be taken to avoid spillage and control runoff. Measures to minimize these potential impacts include the formulation of an erosion and sedimentation control plan,

provisions for waste materials and storage, stormwater management measures, and appropriate road maintenance measures. NCDOT's *Best Management Practices for Protection of Surface Waters* and Sedimentation Control guidelines will be strictly enforced during the construction stages of the project. In addition, impacts to waters classified as Class C TR are anticipated. NCDWQ requests, in a letter dated January 19, 2000, that NCDOT strictly adhere to North Carolina regulation entitled, "*Design Standards in Sensitive Watersheds*" (15A NCAC 04B .0024) throughout design and construction of the project. These measures will be used during construction.

V.B.2. Biotic Resources

Biotic resources include aquatic and terrestrial ecosystems. This section describes the existing vegetation and associated wildlife that occur within the project area, as well as the potential impacts of the proposed project on the biotic communities. The project area is composed of different vegetative communities based on topography, soils, hydrology, and disturbance. These systems are interrelated and in many aspects interdependent. The following natural community profiles conform to descriptions according to Weakley et al. (1998, Draft) when applicable. These community names are capitalized in this report. Scientific nomenclature and common name (when applicable) are provided for each plant and animal species listed. Subsequent references to the same organism include only the common name.

V.B.2.a. Terrestrial Communities

Four plant communities are found in the project area: mixed hardwood forest, alluvial forest, pasture, and maintained. The mixed hardwood and alluvial forest communities offer high plant diversity due to increased soil fertility and water availability, and thus provide high quality wildlife habitat. These forests provide a variety of habitat for amphibians, reptiles, birds, and mammals.

The mixed hardwood forest community is situated along the western edge of SR 1422 near the southern terminus of the project study area. This community is a variation of the Northern Hardwood Forest, as identified by Schafale and Weakley (1990). The Northern Hardwood Forest occurs along medium to high elevation coves, flats, and slopes. These forests are naturally uneven-aged climax forests with reproduction occurring only in canopy openings. They are common in high mountain areas, especially those in the northern part of the State. The age of the forested stand was estimated at approximately 25 years old, based on an average diameter-at-breast height (dbh) of approximately eight inches (20 centimeters). Dominant species noted in the canopy included eastern white pine (*Pinus strobus*), black cherry (*Prunus serotina*), red maple (*Acer rubrum*), and various oaks (*Quercus* spp.). Rose (*Rosa multiflora*), viburnums (*Viburnum* spp.), eastern red cedar (*Juniperus virginiana*), dogwoods (*Cornus* spp.), great laurel (*Rhododendron maximum*), mountain laurel (*Kalmia latifolia*), and poison ivy (*Toxicodendron radicans*) were commonly observed shrubs and vines. Herbaceous vegetation consisted primarily of Christmas fern (*Polystichum acrostichoides*), chickweed (*Stellaria* sp.), plantain (*Plantago* sp.), violet (*Viola* spp.), aster (*Aster* sp.), and broomsedge (*Andropogon* sp.).

An alluvial forest community was observed along the southern portion of Brush Creek downstream (west) of the existing bridge and along the northern edge upstream (east) of the bridge. The alluvial forest community appears to be a variation of Schafale and Weakley's (1990) Montane Alluvial Forest. These forests occur along stream and river floodplains at moderate to high elevations. They are palustrine and flood on an intermittent basis. According to Schafale and Weakley (1990), the Montane Alluvial Forest may be eroded or disturbed by catastrophic floods. Flood-carried sediment undoubtedly provides nutrient input to this community and also serves as a natural disturbance factor. These forests occur throughout the mountain region except in the lower

valleys. Dominant canopy species associated with this community consisted primarily of red maple, black cherry, and several oaks. Tag alder (*Alnus serrulata*) and rose were commonly observed shrubs.

Pasture lands were observed along the eastern portion of SR 1422, upstream of the existing bridge and along the western portion of SR 1422 on the northern side of Brush Creek. Species composition included black cherry, pokeweed (*Phytolacca americana*), Joe-pye weed (*Eupatorium fistulosum*), fescue (*Festuca* sp.), red maple, poison ivy, and dogwood.

Maintained communities were observed along the right-of-way of SR 1422, as well as the area northwest of the bridge crossing over Brush Creek. Maintained communities represent areas that are periodically maintained by human influences. These areas include, but are not restricted to, roadside and power line rights-of-way, regularly mowed lawns, and open areas. The dominant vegetative species inhabiting this community are primarily herbaceous. The study area includes fescue, dandelion (*Taraxacum officinale*), chickweed, henbit (*Lamium* sp.), clover (*Trifolium* sp.), asters, and plantain in these areas.

The project study area likely exhibits a diverse amphibian population. During field reconnaissance in May 2000, biologists observed several species. These species are indicated by an asterisk (*) in the following text. Species such as the eastern newt (*Notophthalmus viridescens*), and various salamanders, such as the northern dusky (*Desmognathus fuscus*), seal (*D. monticola*), mountain dusky (*D. ochrophaeus*), blackbelly (*D. quadramaculatus*), two-lined (*Eurycea bislineata*), Jordan's (*Plethodon jordani*), ravine (*P. richmondi*), and red (*Pseudotriton ruber*), may exist within the project study area. Newts and salamanders forage on insects, both aquatic and terrestrial, crustaceans, worms, and other organisms along the forest floor and in Brush Creek and its unnamed tributary. The eastern newt spends its juvenile life in wooded areas adjacent to streams. Once it reaches adulthood, the newt inhabits primarily streams. Salamanders can be found in a variety of habitats, although most are associated with small streams and seepages. Species such as the mountain dusky, Jordan's, and the ravine salamander are found primarily in terrestrial habitats under rocks, leaves, and woody debris. In addition, spring peepers (*Hyla crucifer*) and pickerel frogs (*Rana palustris*) are also likely present. Spring peepers mainly inhabit woodlands while pickerel frogs are found along shaded streams and wet areas. No amphibians were observed in the study area during field surveys.

Reptile species associated with the project study area likely include brown snake (*Storeria dekayi*), timber rattlesnake (*Crotalus horridus*), and northern water snake (*Nerodia sipedon*). Other species, including lizards and turtles, may also exist. The brown snake forages mainly on slugs, earthworms, and insects in the leaf layer. Timber rattlesnakes inhabit rocky hillsides and river valleys. They forage primarily on small mammals. The northern water snake is commonly observed resting on overhanging limbs and logs at the water's edge. It forages primarily on fish and amphibians.

Bird species inhabiting or migrating through the study area may include red-bellied woodpecker* (*Melanerpes carolinus*), hairy woodpecker (*Picoides villosus*), downy woodpecker (*P. pubescens*), eastern wood-pewee (*Contopus virens*), eastern phoebe (*Sayornis phoebe*), eastern kingbird (*Tyrannus tyrannus*), blue jay (*Cyanocitta cristata*), barn swallow (*Hirundo rustica*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), white-breasted nuthatch (*Sitta carolinensis*), ruby-crowned kinglet (*Regulus calendula*), American robin* (*Turdus migratorius*), yellow warbler (*Dendroica petechia*), pine warbler (*D. pinus*), northern cardinal (*Cardinalis cardinalis*), and brown-headed cowbird (*Molothrus ater*). Game species such as woodcock* (*Scolopax minor*), ruffed grouse (*Bonasa umbellus*), and wild turkey (*Meleagris gallopavo*) may also be present. Other predatory species include great blue heron* (*Ardea herodias*), red-tailed hawk (*Buteo jamaicensis*), eastern screech owl (*Otus asio*), and northern saw-whet owl (*Aegolius acadicus*).

A diverse mammal population is expected in and surrounding the project study area. Virginia opossum (*Didelphis virginiana*), smokey shrew (*Sorex fumeus*), star-nosed mole (*Condylura cristata*), eastern cottontail* (*Sylvilagus floridanus*), eastern chipmunk (*Tamias striatus*), woodchuck (*Marmota monax*), gray squirrel* (*Sciurus carolinensis*), eastern harvest mouse (*Reithrodontomys humulis*), muskrat* (*Ondatra zibethicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), mink (*Mustela vison*), eastern spotted skunk (*Spilogale putorius*), and white-tailed deer (*Odocoileus virginianus*) are likely inhabitants of the project region. In addition, bats such as the little brown myotis (*Myotis lucifugus*), silver-haired (*Lasionycteris noctivagans*), eastern pipistrelle (*Pipistrellus subflavus*), red (*Lasiurus borealis*), and Rafinesque's big-eared (*Plecotus rafinesquii*) may be present in the project study area.

V.B.2.b. Aquatic Habitats and Wildlife

The quality of aquatic habitat in Brush Creek and its unnamed tributary is expected to be diverse in the riffle section upstream, under, and downstream of the existing bridge. The project region is experiencing increased disturbance to water resources as a result of timber harvesting operations, land clearing, and construction. Brush Creek, upstream of the project study area, is a relatively slow-moving, deep stream with numerous underwater bar areas. The substrate is composed primarily of sand and silt. Aquatic diversity is expected to be low to moderate through this section of the creek.

Central stoneroller (*Campostoma anomalum*), rosieside dace (*Clinostomus funduloides*), warpaint shiner (*Luxilus coccogenis*), New river shiner (*Notropis scabriceps*), Kanawha minnow (*Phenacobius teretulus*), Mountain redbelly dace (*Phoxinus oreas*), bluntnose minnow (*Pimephales notatus*), blacknose dace (*Rhinichthys atratulus*), longnose dace (*R. cataractae*), creek chub (*Semotilus atromaculatus*), white sucker (*Catostomus commersoni*), northern hog sucker (*Hypentelium nigricans*), brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), brook trout (*Salvelinus fontinalis*), and mottled sculpin (*Cottus bairdi*) are species that may exist near the bridge and immediately downstream. These fish feed on a variety of living and organic matter, including algae, insects, worms, crustaceans, snails, and detritus. Other fish species, including the brown bullhead (*Ameiurus nebulosus*), is likely present in the slow-moving waters upstream of the bridge. It is omnivorous, foraging primarily on crustaceans, insects, worms, mollusks, and other fish.

During field investigations, rocks were over-turned throughout the riffle section at the bridge and immediately downstream. Benthic macroinvertebrates including caddisfly* (Order Tricoptera), crane fly* (Family Tipulidae), and dragonfly* (Order Odonata) larvae were commonly observed clinging to the undersides of these rocks. Other benthic macroinvertebrates including stonefly (Order Plecoptera), mayfly (Order Ephemeroptera), and damselfly (Order Odonata) larvae also likely exist. These macroinvertebrates are a link in the aquatic food chain. They act primarily as a source of food for larger organisms and serve as an indicator of water quality. A survey for freshwater mussels was not conducted due to the cold water temperatures. No shells were observed in the study area during site visits.

Other aquatic species likely include several of the previously mentioned amphibian, reptilian, and mammal species. Salamanders, frogs, turtles, muskrat, and mink are a few of the species that inhabit both terrestrial and aquatic communities.

V.B.2.c. Biotic Resource Impacts

V.B.2.c.i. Impacts to Terrestrial Communities

As shown in Table 2, all of the build alternatives will impact terrestrial communities in the project area. Alternatives A and B are expected to impact an estimated 2.33 acres (0.93 hectare) of biotic communities while Alternative C is expected to impact an estimated 1.46 acres (0.59 hectare) of biotic communities in the project study area. As such, Alternative C impacts approximately 0.87 acre (0.34 hectare) less area of terrestrial communities as compared to Alternatives A and B. Temporary fluctuations in population of animal species that utilize these communities are anticipated during the course of construction. Slow-moving, burrowing, and/or subterranean organisms will be directly impacted by construction activities, while mobile organisms will be displaced to adjacent communities. Competitive forces in the adapted communities will result in a redefinition of population equilibria.

Table 2: Estimated Area of Impacts to Terrestrial Communities

Community	Alternative A (Realignment of SR 1422)	Alternative B (Maintain the Existing Horizontal Alignment & Use an On-Site Detour)	RECOMMENDED Alternative C (Maintain the Existing Horizontal Alignment & Use an Off-Site Detour)
Alluvial Forest	0.29 acre (0.11 hectare)	0.29 acre (0.11 hectare)	0.29 acre (0.11 hectare)
Pasture	1.61 acres (0.65 hectare)	1.61 acres (0.65 hectare)	0.83 acre (0.34 hectare)
Maintained Communities	0.43 acre (0.17 hectare)	0.43 acre (0.17 hectare)	0.34 acre (0.14 hectare)
Total Area of Impact	2.33 acres (0.93 hectare)	2.33 acres (0.93 hectare)	1.46 acres (0.59 hectare)

V.B.2.c.ii. Impacts to Aquatic Habitats and Wildlife

Aquatic organisms are acutely sensitive to changes in their environment, and environmental impacts from construction activities may result in long-term or irreversible effects. Impacts usually associated with in-stream construction include increased channelization and scouring of the streambed. In-stream construction alters the substrate and impacts adjacent streamside vegetation. Such disturbances within the substrate lead to increased siltation, which can clog the gills and/or feeding mechanisms of benthic organisms, fish, and amphibian species. Siltation may also cover benthic macroinvertebrates with excessive amounts of sediment that inhibit their ability to obtain oxygen. These organisms are slow to recover and usually do not, once the stream has been severely impacted.

The removal of streamside vegetation and placement of fill material during construction enhances erosion and possible sedimentation. Quick revegetation of these areas helps to reduce the impacts by supporting the underlying soils. Erosion and sedimentation may carry soils, toxic compounds, trash, and other materials into the aquatic communities at the construction site. As a result, bars may form at and downstream of the site. Increased light penetration from the removal of streamside vegetation may increase water temperatures. Warmer water contains less oxygen, thus reducing aquatic life that depends on high oxygen concentrations.

V.B.3 Jurisdictional Issues

This section provides descriptions, inventories, and impact analyses pertinent to “Waters of the United States” and rare and protected species.

V.B.3.a. “Waters of the United States”

Surface waters and wetlands fall under the broad category of “Waters of the United States,” as defined in Section 33 of the Code of Federal Regulations (CFR) Part 328.3. Wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated conditions. Any action that proposes to place fill into these areas falls under the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (33 U.S.C. 1344).

V.B.3.a.i. Surface Waters

The NCDWQ defines a perennial stream as a clearly defined channel that contains water for the majority of the year. These channels usually have some or all of the following characteristics: distinctive streambed and bank, aquatic life, and groundwater flow or discharge (NCDWQ, 1998). Two perennial streams, Brush Creek and an unnamed tributary, were identified in the project area. Detailed stream characteristics, including specific water quality designations, were previously discussed on pages 13 and 14 of this document. Both streams are classified as jurisdictional waters.

V.B.3.a.ii. Jurisdictional Wetlands

Criteria to determine the presence of jurisdictional wetlands, as described in the USACE *Wetland Delineation Manual*, include evidence of hydric soils, hydrophytic vegetation, and hydrology. One jurisdictional wetland was discovered approximately 100 feet (32 meters) upstream of Bridge No. 53 within the narrow riparian corridor and on the north side of Brush Creek. It is a seepage covering approximately 400 square feet (37.2 square meters). Vegetation consists of tag alder, seed box (*Ludwigia alternifolia*), fescue, and soft rush (*Juncus* sp.). A thin layer of moss (*Sphagnum* sp.) was present throughout the area. Soils exhibited a matrix color of 10 YR 4/2 (dark grayish-brown) with many distinct 10 YR 5/6 (yellowish-brown) mottles. Hydrology was saturated to the surface throughout the year, reflective of most seepages in the area. According to the NCDWQ Rating System (4th Version) (1995), this wetland received an overall score of 27 out of a possible 100 points. The low score was based on the relatively small surface area covered by the wetland.

The project proposes to replace the existing bridge over Brush Creek with a new bridge. The existing bridge has one pier in Brush Creek. The proposed project will remove the timber pile by cutting it off level with the surface of the streambed. The concrete sill will be removed in its entirety. In the event that there is not a practical alternative to non-shattering methods of removal, alternative methods that may include the use of explosives will be discussed with and approved by the Army Corps of Engineers and other federal and state resource agencies having jurisdiction over the resource, in accordance with NCDOT’s *Best Management Practices for Bridge Demolition and Removal* (BMP-BDR). The proposed alternatives do not include placement of new piers in the water. While removal of the concrete sill may have a temporary impact to the stream, no permanent stream impacts are anticipated from project construction.

V.B.3.a.iii. Impacts to “Waters of the United States”

Both Alternatives A and B will equally impact approximately 400 square feet (37.2 square meters) of the jurisdictional wetland upstream of the existing bridge. Alternative C avoids this small wetland and does not impact any other wetlands. Alternatives A and B are both expected to impact an estimated 150 linear feet (45.7 meters) of the stream channel while Alternative C is expected to impact approximately 130 linear feet (39.6 meters) of the stream channel.

The bridge demolition activities associated with this replacement will strictly follow the BMP-BDR. Alleghany County is listed by the North Carolina Wildlife Resources Commission (NCWRC) as a county with Mountain Trout Waters (MTWs). The NCWRC requires a moratorium on in-stream construction from November 1 to April 15 for designated trout waters. As such, the proposed project falls under Case 2 of the BMP-BDR. As per the BMP-BDR, all methods of demolition shall be considered and implemented where practical, other than dropping the bridge in the water. Bridge No. 53 over Brush Creek is composed of steel and timber. Therefore, the bridge will be removed without dropping any components into the water during project construction. While removal of the concrete sill may create a temporary impact to the stream, no permanent stream impacts are expected to occur due to either build alternative. Bridge pilings for Alternatives A and B are proposed to be placed outside the bankfull width and slope protection is proposed to be located outside of the stream channel.

V.B.3.a.iv. Permit Requirements

While the U.S. Environmental Protection Agency (USEPA) is the principal administrative agency of the Clean Water Act; the U.S. Army Corps of Engineers (USACE) has the responsibility for implementation, permitting, and enforcement of the provisions of the Act. The USACE regulatory program is defined in 33 CFR 320-330. Permits will be required for highway encroachment into jurisdictional wetland communities and surface waters. The Section 404 Nationwide Permit 23 for approved Categorical Exclusions is expected to be applicable for all impacts to “Waters of the United States” resulting from the proposed project.

In addition, a Section 401 General Water Quality Certification (WQC #2745) is also required for any activity which may result in a discharge into “Waters of the United States” or for which an issuance of a federal permit or license is issued. If foundation test borings are necessary, a General 401 Certification Number 3027/Nationwide Permit No. 6 will be required. Certifications are administered through the Department of Environment and Natural Resources (NCDENR), Division of Water Quality.

Final determination of permit applicability lies with the USACE. The NCDOT will coordinate with the USACE after the completion of final design to obtain the necessary permits.

The NCWRC requires a moratorium on in-stream construction in Alleghany County from November 1 to April 15 for designated trout waters. No discharge activities will be authorized by Section 404 Nationwide Permits within MTW counties without a letter of approval from the NCWRC and written concurrence from the Wilmington District Engineer.

V.B.3.a.v. Wetland and Stream Mitigation

The USACE has adopted, through the Council on Environmental Quality (CEQ), a mitigation policy which embraces the concepts 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: avoidance of impacts (to

wetlands), 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 in sequential order.

The maximum length of stream channel that will be impacted during construction by Alternatives A and B is approximately 150 linear feet (45.7 meters) and 130 linear feet (39.6 meters) by Alternative C. For impacts to perennial streams greater than 150 linear feet (45.72 linear meters), NCDWQ requires compensatory mitigation. Compensatory mitigation is not expected to be required by the USACE. A final determination regarding compensatory mitigation requirements rests with the USACE.

V.B.3.a.v.(a) 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 United States EPA and the USACE, "appropriate and practicable" measures to offset unavoidable impacts must be determined. 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. It is the project’s purpose and need to replace the structurally deficient and functionally obsolete bridge over Brush Creek. Encroachment into surface waters may be inevitable, as riprap will likely be needed for bank stabilization along the river channel.

V.B.3.a.v.(b) Minimization

Minimization includes the 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 the reduction of median widths, right-of-way widths, fill slopes, and/or road shoulder widths. Minimization can be effectively employed along the proposed project. Examples of minimization include:

1. Strict enforcement of Best Management Practices (BMPs) to control sedimentation during project construction.
2. Reduction of clearing and grubbing activities.
3. Reduction or elimination of discharges into Brush Creek.
4. Reduction of fill slopes at stream/wetland crossings.
5. Sensitive placement of drainage structures.
6. Utilization of a spanning structure over the creek.
7. Re-establishment of vegetation on exposed areas, with judicious pesticide and herbicide management.
8. Minimization of "in-stream" activity.
9. Use of responsible litter control practices.

V.B.3.a.v.(c) Compensatory Mitigation

Compensatory mitigation is not normally considered until anticipated impacts to “Waters of the United States” have been avoided and minimized to maximum extent possible. It is recognized that "no net loss of wetlands" functions and values may not be achieved in every permit action. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been achieved. Compensatory actions often include restoration, creation and enhancement of “Waters of the United States,” specifically wetlands. Such actions should be undertaken in areas adjacent to or contiguous to the discharge site, if practicable.

Section 404 Nationwide Permits usually do not require compensatory mitigation according to the 1989 MOA between the EPA and the USACE. For impacts to perennial streams greater than 150 linear feet (45.72 linear meters), NCDWQ requires compensatory mitigation. However, as previously discussed, final decisions concerning permits and compensatory mitigation rest with the USACE.

V.B.3.b. Protected Species

Some populations of fauna and flora have been, or are, in the process of decline due to either natural forces or their inability to coexist with humans. Federal law (under the provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended) requires that any action likely to adversely affect a species classified as federally protected be subject to review by the USFWS. Other species may receive additional protection under separate laws.

Based on a letter dated January 27, 2000 by the USFWS and a subsequent March 2001 review of the USFWS listing, there are no federally endangered or threatened species potentially occurring in Alleghany County; however, the USFWS has identified one threatened species due to similarity of appearance (T(S/A)) and 13 federal species of concern (FSC). Federal species of concern are not legally protected under the Act and are not subject to any of its provisions, including Section 7, unless they are formally proposed or listed as federally endangered or threatened. The NCNHP lists of July 2001 included these species and identified an additional 11 species receiving protection under state laws. Table 3 lists the species, their status, and the availability of suitable habitat within the project area.

V.B.3.b.i. Federally-Protected Species

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered, and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the ESA of 1973, as amended. One species, the bog turtle (*Clemmys muhlenbergii*), is federally designated as Threatened Due to Similarity of Appearance in Alleghany County. As such, this species is not protected under Section 7 of the ESA of 1973. The description of this species is provided for informational purposes as their status may be upgraded in the future.

Bog Turtle (*Clemmys muhlenbergii*)

Federal Status: THREATENED (Due to Similarity of Appearance)

State Status: THREATENED

Bog turtles are a small, 3 to 4.5-inch (7.6 to 11.4 centimeter) reptiles with a weakly keeled upper shell that ranges from light brown to ebony. The species is readily distinguished from other turtles by a large, conspicuous, bright orange to yellow blotch on each side of its head. Bog turtles are semi-aquatic and are infrequently active outside of their muddy habitats, except during specific temperature ranges. They can be found during the spring mating season from June to July and at other times from April to October when the humidity is high, such as after a rain event, and temperatures are in the 70°s F (20°s C). Bog turtle habitat consists of bogs, swamps, marshy meadows, and other wet environments, specifically those that have soft muddy bottoms.

In the November 4, 1987 *Federal Register* (pages 55822-55825), the northern population of the bog turtle (from New York south to Maryland) was listed as federally threatened, and the southern population (from Virginia south to Georgia) was listed as federally threatened due to similarity of appearance(T(S/A)). The T(S/A) designation bans the collection and interstate or international

Table 3: Federal Species of Concern and State Protected Species – Alleghany County

Scientific Name	Common Name	Federal Status	State Status	Available Habitat
Vertebrates				
<i>Ambystoma talpoideum</i>	Mole salamander	--	SC	No
<i>Clemmys muhlenbergii</i>	Bog turtle	T (S/A)	T	No
<i>Crotalus horridus horridus</i>	Timber rattlesnake – Mountain Population	--	SR	Yes
<i>Cryptobranchus alleganiensis</i>	Hellbender	FSC	SC	No
<i>Empidonax alnorum</i>	Alder flycatcher	--	SR	No
<i>Etheostoma kanawhae</i>	Kanawha darter	--	SR	Yes
<i>Eurycea longicauda longicauda</i>	Longtail salamander	--	SC	Yes
<i>Exoglossum laurae**</i>	Tonguetied minnow	--	SR	Yes
<i>Myotis leibii</i>	Eastern small-footed myotis	FSC	SC	Yes
<i>Passerculus sandwichensis</i>	Savannah sparrow	--	SR	Yes
<i>Percina caprodes**</i>	Logperch	--	T	No
<i>Percina oxyrhynchus**</i>	Sharpnose darter	--	SC	Yes
<i>Phenacobius teretulus</i>	Kanawha minnow	FSC	SC	Yes
<i>Plethodon wehrlei</i>	Wehrle's salamander	--	T	No
<i>Ursus americanus**</i>	Black bear	--	SR	Yes
<i>Sylvilagus transitionalis</i>	New England cottontail	FSC	SR	No
<i>Vermivora pinus</i>	Blue-winged warbler	--	SR	No
<i>Vermivora chrysoptera</i>	Golden-winged warbler	--	SR	Yes
<i>Vireo gilvus</i>	Warbling vireo	--	SR	Yes
Invertebrates				
<i>Ascetocythere cosmata</i>	Grayson crayfish ostracod	FSC	SR	Yes
<i>Autochthon cellus</i>	Golden-banded skipper	--	SR	Yes
<i>Bolotoperla rossi</i>	A stonefly	--	SR	Yes
<i>Catocala dulciola</i>	Sweet underwing	--	SR	No
<i>Ceraclea mentiea</i>	A caddisfly	--	SR	Yes
<i>Cyclonaias tuberculata</i>	Purple wartyback	--	SR	Yes
<i>Elliptio dilatata</i>	Spike	--	SC	Yes
<i>Erora laeta**</i>	Early hairstreak	--	SR	No
<i>Erynnis martialis</i>	Mottled duskywing	--	SR	Yes
<i>Euphydryas phaeton</i>	Baltimore	--	SR	Yes
<i>Fixsenia favonius ontario</i>	Northern hairstreak	--	SR	No
<i>Heterocloeon petersi</i>	A mayfly	--	SR	No
<i>Leptoxis dilatata</i>	Seep mudalia	--	T	No
<i>Litobrancha recurvata</i>	Brown drake mayfly	--	SR	Yes
<i>Neophalx fuscus</i>	A caddisfly	--	SR	Yes
<i>Ophiogomphus howei</i>	Pygmy snaketail	FSC	SR	Yes
<i>Speyeria diana</i>	Diana fritillary	FSC	SR	Yes
<i>Speyeria idalia**</i>	Regal fritillary	FSC	SR	Yes
<i>Tritogonia verrucosa**</i>	Pistolgrip	--	E	No
<i>Ventridens coelaxis**</i>	Bidentate dome	--	SC	Yes
Vascular Plants				
<i>Adlumia fungosa</i>	Climbing fumitory	--	SR	No

Scientific Name	Common Name	Federal Status	State Status	Available Habitat
<i>Arethusa bulbosa</i>	Bog rose	--	E	No
<i>Arisaema triphyllum ssp. stewardsonii</i>	Bog Jack-in-the-pulpit	--	SR	No
<i>Calamagrostis canadensis</i>	Canada reedgrass	--	SR	No
<i>Caltha palustris</i>	Marsh marigold	--	SR	No
<i>Campanula aparinoides</i>	Marsh bellflower	--	SR	No
<i>Carex buxbaumii</i>	Brown bog sedge	--	C	No
<i>Carex lepronervia</i>	A wood sedge	--	C	No
<i>Carex sp. #5</i>	Fen sedge	--	C	No
<i>Carex woodii</i>	Wood's sedge	--	SR	Yes
<i>Caulophyllum giganteum</i>	Northern blue cohosh	--	SR	No
<i>Chelone cuthbertii</i>	Cuthbert's turtlehead	--	SR	No
<i>Cladium mariscoides</i>	Twig-rush	--	SR	No
<i>Coptis trifolia spp. groenlandica</i>	Goldthread	--	SR	Yes
<i>Dalibarda repens</i>	Robin runaway	--	E	No
<i>Delphinium exaltatum*</i>	Tall larkspur	FSC	E-SC	No
<i>Glyceria laxa</i>	Lax mannagrass	--	SR	No
<i>Helianthemum propinquum</i>	Creeping sunrose	--	C	No
<i>Hydrastis canadensis</i>	Goldenseal	--	E-SC	Yes
<i>Lilium canadense ssp. editorum</i>	Red Canada lily	--	C	No
<i>Lilium grayi</i>	Gray's lily	FSC	T-SC	No
<i>Liparis loeselii</i>	Fen orchid	--	C	No
<i>Meehania cordata</i>	Meehania	--	SR	No
<i>Minuartia groenlandica</i>	Greenland sandwort	--	C	No
<i>Monotropsis odorata**</i>	Sweet pinesap	FSC	C	Yes
<i>Parnassia grandifolia</i>	Large-leaved grass-of-Parnassus	--	C/PT	No
<i>Platanthera grandiflora</i>	Large purple-fringed orchid	--	SR	No
<i>Prenanthes roanensis</i>	Roan rattlesnakeroot	--	SR	No
<i>Rhynchospora alba</i>	Northern white beaksedge	--	C	No
<i>Robinia hispida var. fertilis</i>	Fruitful locust	--	C	No
<i>Sanguisorba canadensis</i>	Canada burnet	--	SR	No
<i>Saxifraga caroliniana</i>	Carolina saxifrage	FSC	C	No
<i>Senecio pauperculus</i>	Balsam ragwort	--	SR	No
<i>Silphium connatum</i>	Virginia cup-plant	--	SR	Yes
<i>Silphium perfoliatum</i>	Northern cup-plant	--	SR	Yes
<i>Spartina pectinata*</i>	Freshwater cordgrass	--	SR	No
<i>Spiranthes lucida</i>	Shining ladies-tresses	--	C	No
<i>Stenanthium robustum</i>	Bog featherbells	--	SR	Yes
<i>Thelypteris simulata</i>	Bog fern	--	T	No
<i>Vaccinium macrocarpon</i>	Cranberry	--	C	No
<i>Veronica americana</i>	American speedwell	--	SR	No
<i>Woodsia appalachiana</i>	Appalachian cliff fern	--	SR	No
<i>Woodsia ilvensis</i>	Rusty cliff fern	--	SR	No

Scientific Name	Common Name	Federal Status	State Status	Available Habitat
Nonvascular Plants				
<i>Cephaloziella spinicaulis</i>	Liverwort	--	C	No
<i>Coscinodon cribrosus</i>	Copper grimmia	--	C	No
<i>Orthotrichum keeverae</i>	Keever's bristle-moss	FSC	E	No

Status Nomenclature:

E – Endangered – These species are in danger of extinction throughout all or a significant portion of its range.

T – Threatened – These species are likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

T(S/A) – Threatened due to similarity of appearance - These species are not biologically endangered or threatened and are not subject to consultation under Section 7 of the ESA of 1973.

FSC - Federal Species of Concern – These species may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).

SC – Special Concern SR – Significantly Rare C - Candidate

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

** Obscure Record - The date and/or location of the observation is unclear.

commercial trade of bog turtles from the southern population. The T(S/A) designation has no effect on land-management activities by private landowners in North Carolina. In addition to its official status as T(S/A), the USFWS considers the southern population of the bog turtle an FSC due to habitat loss. Appropriate habitat for the bog turtle does not exist in the project area.

V.B.3.c. Impacts to the Floodplain

Alleghany County participates in the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA). While Flood Hazard Boundary Maps have been prepared by FEMA, no detailed studies have been conducted in the project area. The bridge crossing occurs in an area where approximate methods have been used to establish the floodplain and where base flood elevations have not been determined. As illustrated in Figure 6, the crossing is found on Alleghany County Flood Hazard Boundary Map Panel 370004 0003 A, effective date July 1, 1977. During site investigations, hydraulic engineers were told that one residence located near the project site has had flooding problems in the basement. The length of the proposed bridge is greater than that of the existing to ensure that the proposed project will not make the flooding potential worse for this residence and will likely reduce its chance of flooding.

The existing structure has a history of overtopping and does not appear to meet NCDOT hydraulic design guidelines regarding freeboard above the design flood. Construction of the proposed roadway will be at a higher elevation than the existing SR 1422 alignment. Raising the bridge elevation will increase the area provided under the structure for flow and improve the freeboard space above the design flood. The proposed structure meets NCDOT hydraulic design guidelines for the majority (approximately 75 percent) of the proposed bridge length. Because the bridge is located on a steep slope, as shown in Figure 3b, the remaining section of the bridge is expected to have an estimated freeboard above the design flood that, while just below the standard two feet (0.6 meter), is an improvement over the existing conditions. The proposed vertical alignment will require additional embankment fill in the floodplain. The floodplain impact will be minimized by increasing the length of the bridge opening to cause no increase in flood elevations. The proposed project will decrease flooding around the new bridge.

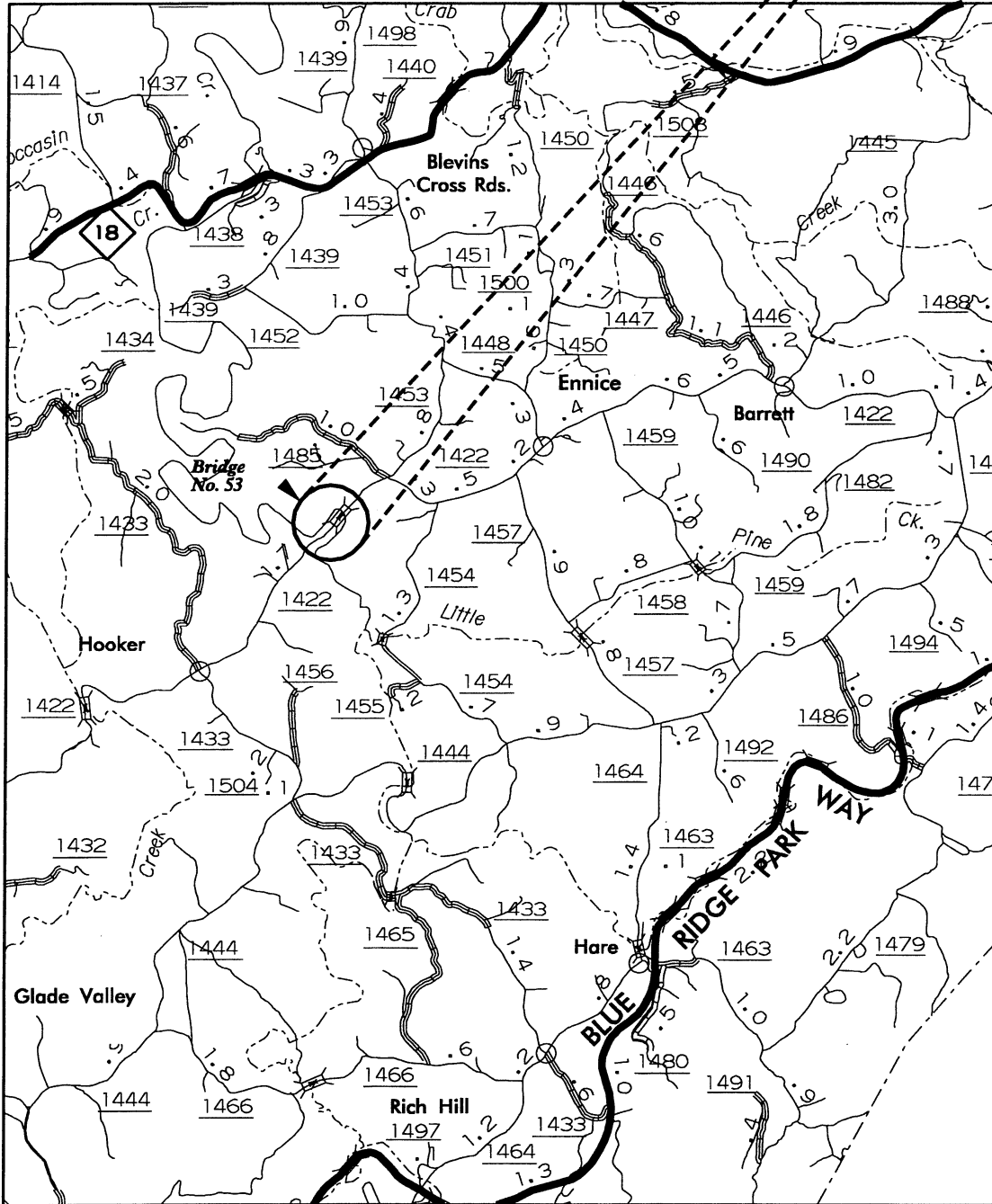
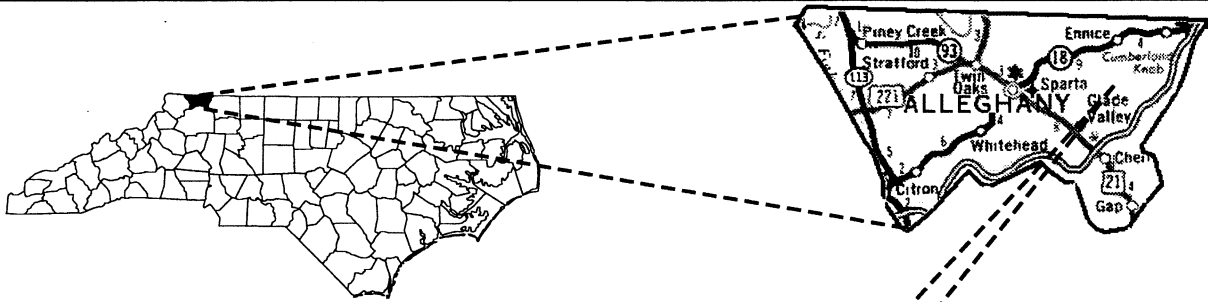
V.B.4. Traffic Noise and Air Quality

Noise levels could temporarily increase during construction. The proposed project will not substantially increase or decrease traffic volumes. Therefore, it will not have substantial impact on noise levels. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 772).

The project is located in Alleghany County, which is currently designated as an “attainment” area and is in compliance with the National Ambient Air Quality Standards. The proposed project is an air quality “neutral” project. As such, it is not required to be included in the regional emissions analysis and a project level CO analysis is not required. Since the project is located in an attainment area, 40 CFR Part 51 is not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. This evaluation satisfies the 1990 CAAA and NEPA assessment requirements for air quality.

VI. Conclusions

Based on the studies performed for the proposed project, it is concluded that the project will not result in substantial adverse social, economic, or environmental impacts. The project’s “Categorical Exclusion” classification, as defined in 40 CFR 1508.4 and 23 CFR 771.117, is appropriate. The project is expected to have an overall positive impact. Replacement of the inadequate bridge will result in safer traffic operations.



Vicinity Map

0 1 mile



NORTH CAROLINA DEPARTMENT
 OF TRANSPORTATION
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS BRANCH

Alleghany County
 Replace Bridge No. 53
 over Brush Creek
 T.I.P. Project B-3403

Figure 1

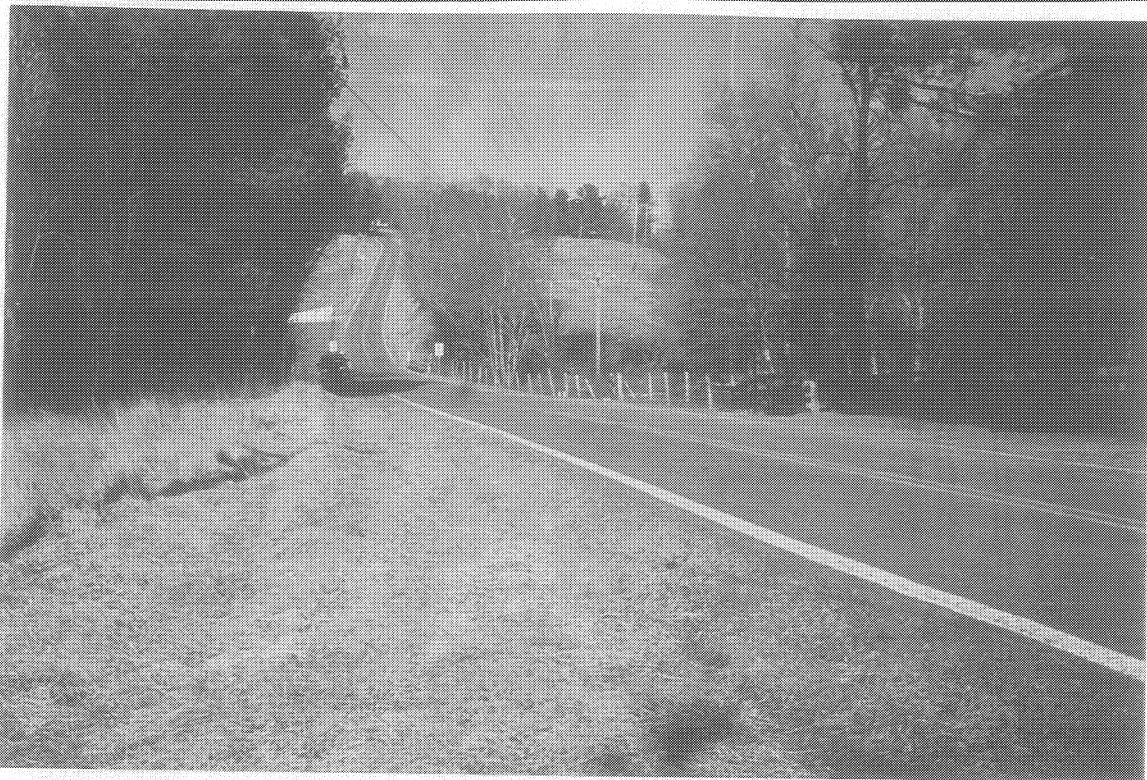


PHOTO #1: Looking to the northeast, along SR 1422



PHOTO #2: Looking to the southwest, along SR 1442

Photographs of Existing Roadway Conditions



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

Alleghany County
Replace Bridge No. 53
over Brush Creek
T.I.P. Project B-3403

Figure 2a



PHOTO #3: Southeast face of Bridge No. 53



PHOTO #4: Northwest face of Bridge No. 53

Photographs of Existing Bridge Conditions



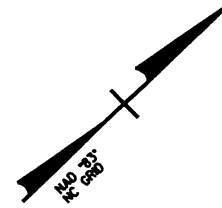
NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

Alleghany County
Replace Bridge No. 53
over Brush Creek
T.I.P. Project B-3403

Figure 2b

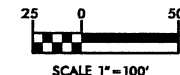
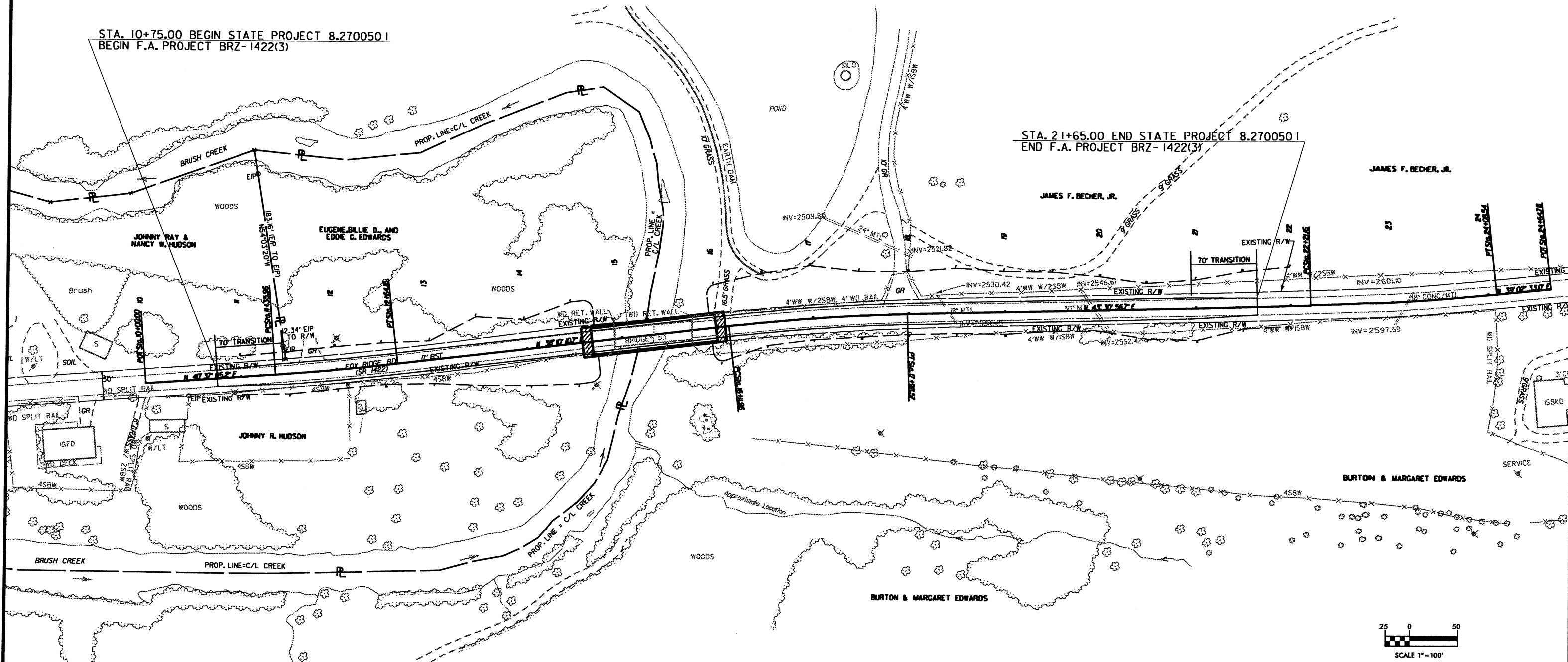


Proposed Functional Design Plan



STA. 10+75.00 BEGIN STATE PROJECT 8.2700501
BEGIN F.A. PROJECT BRZ-1422(3)

STA. 21+65.00 END STATE PROJECT 8.2700501
END F.A. PROJECT BRZ-1422(3)

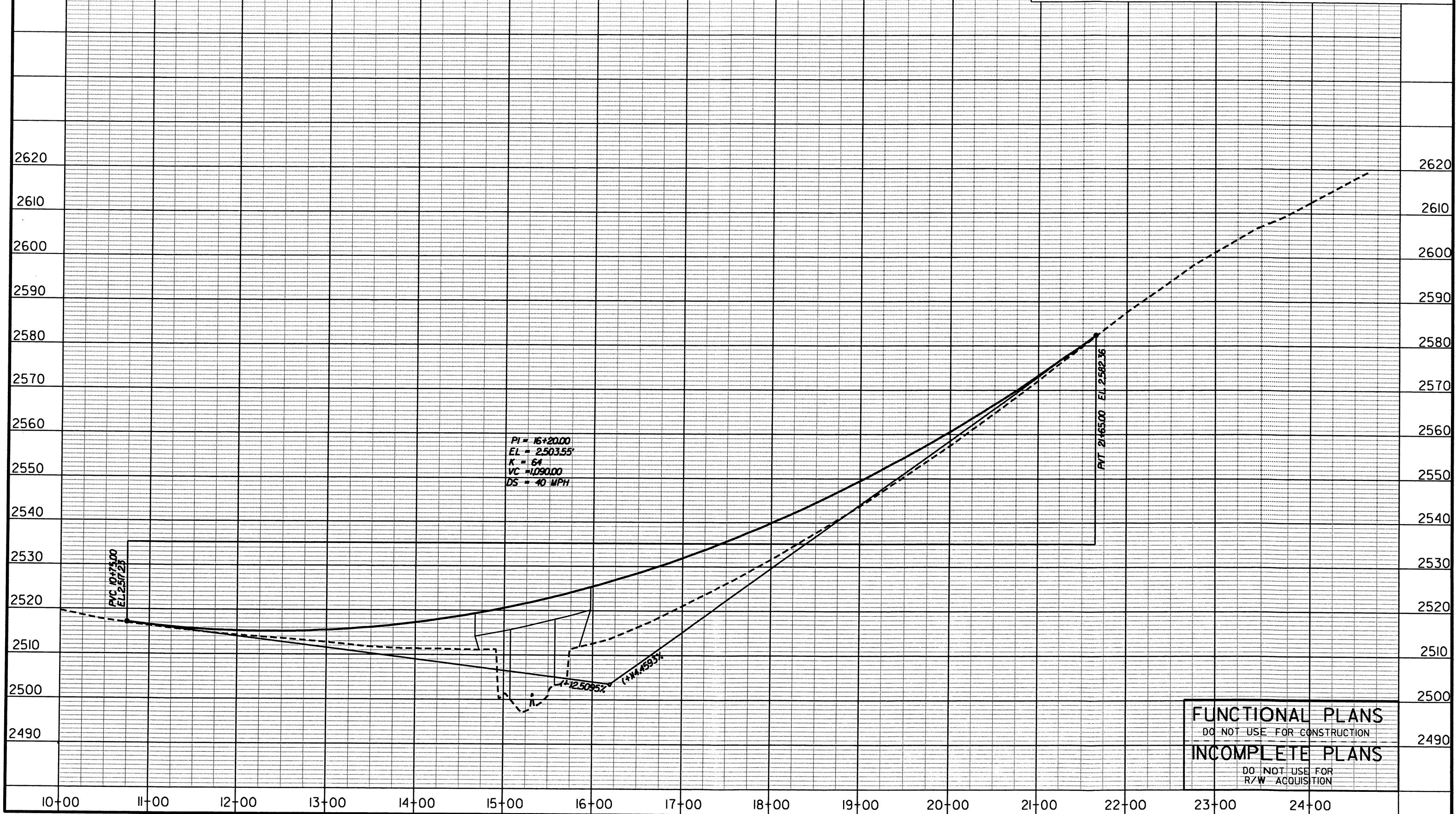


FUNCTIONAL PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR
R/W ACQUISITION

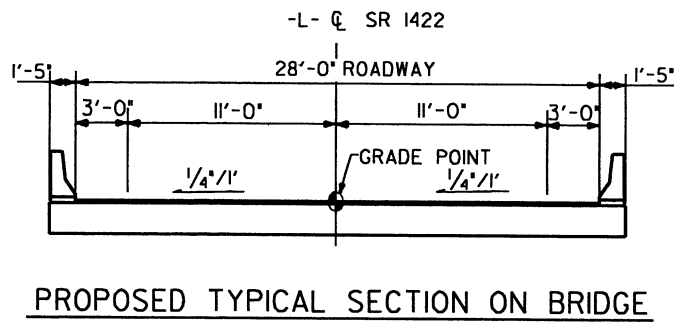
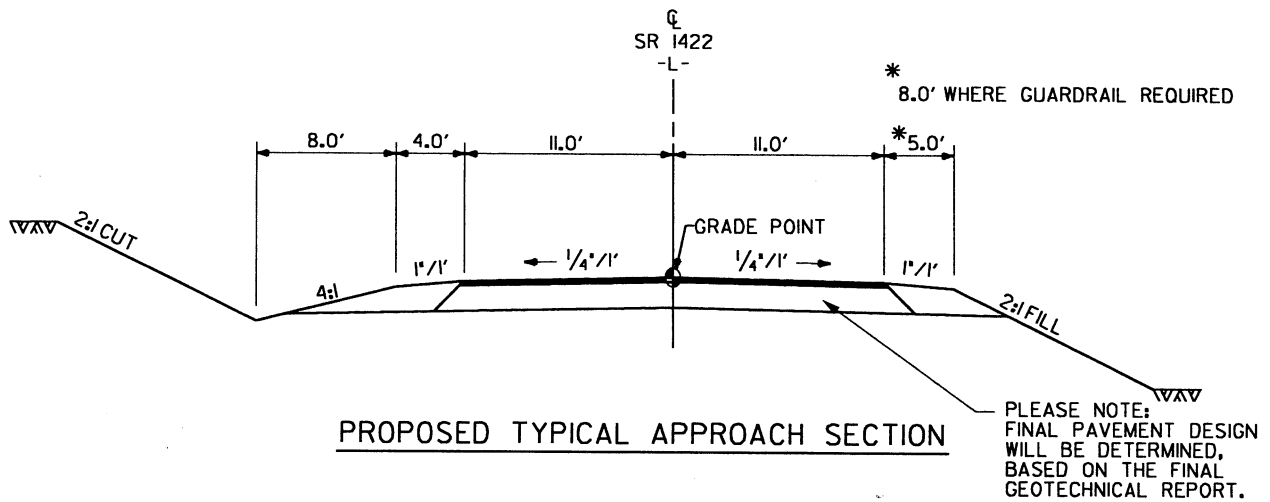
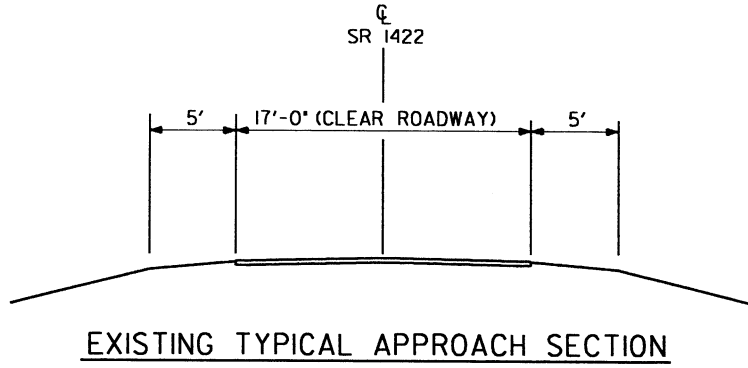
DESIGN DATA	
ADT 2002	650
ADT 2022	850
DUAL	3%
TTST	1%
DESIGN SPEED	40 mph
POSTED SPEED	35 mph
CLASSIFICATION	RURAL MINOR COLLECTOR
MIN. RADIUS (Se=0.08)	1206'
MAX. GRADE	6%
MIN. DES. K FACTORS: K _{sup} = 64	K _{crest} = 44



Proposed Functional Design Profile



FUNCTIONAL PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR
R/W ACQUISITION



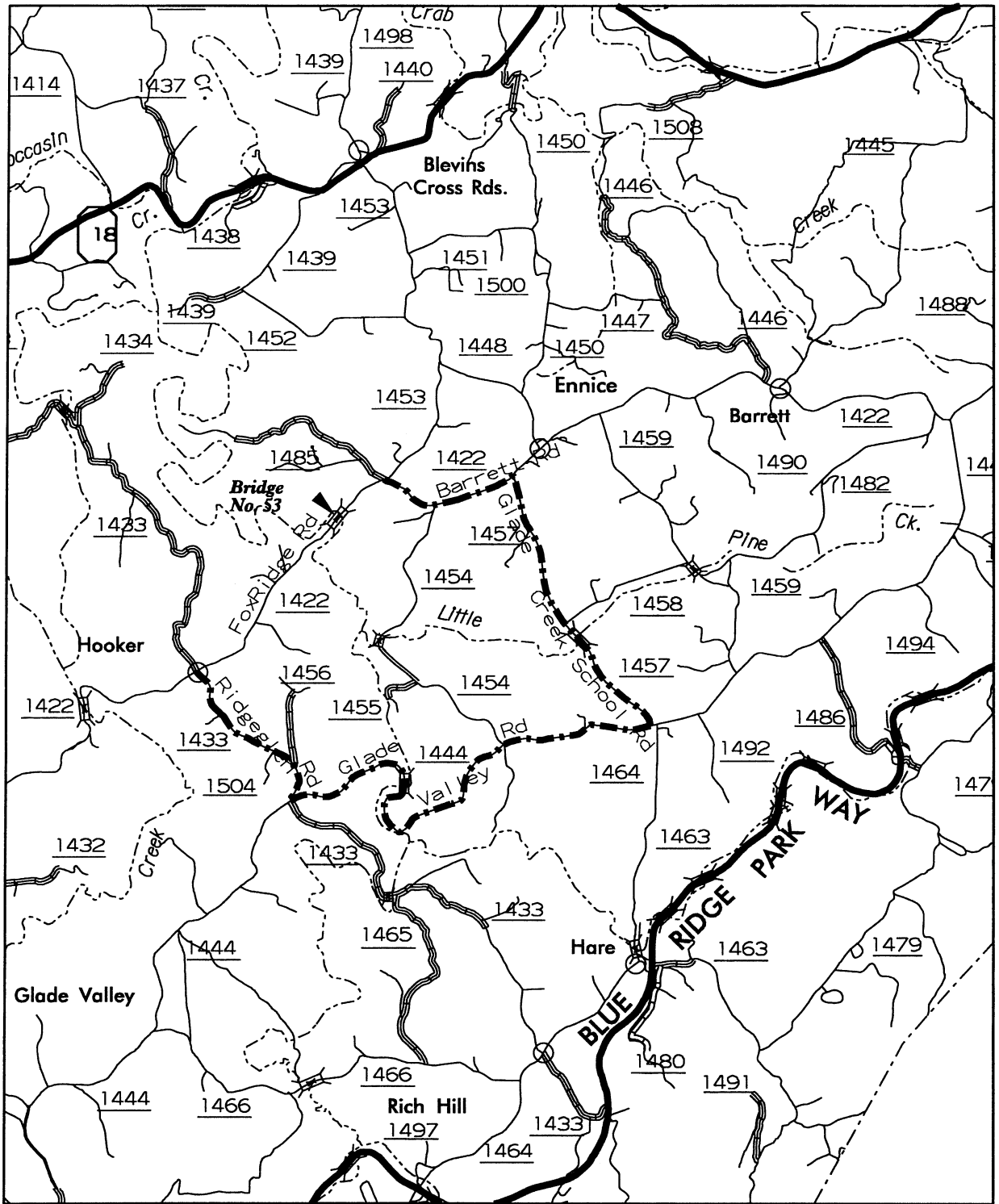
Typical Sections



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

Alleghany County
Replace Bridge No. 53
over Brush Creek
T.I.P. Project B-3403

Figure 4



Proposed Off-Site Detour Route

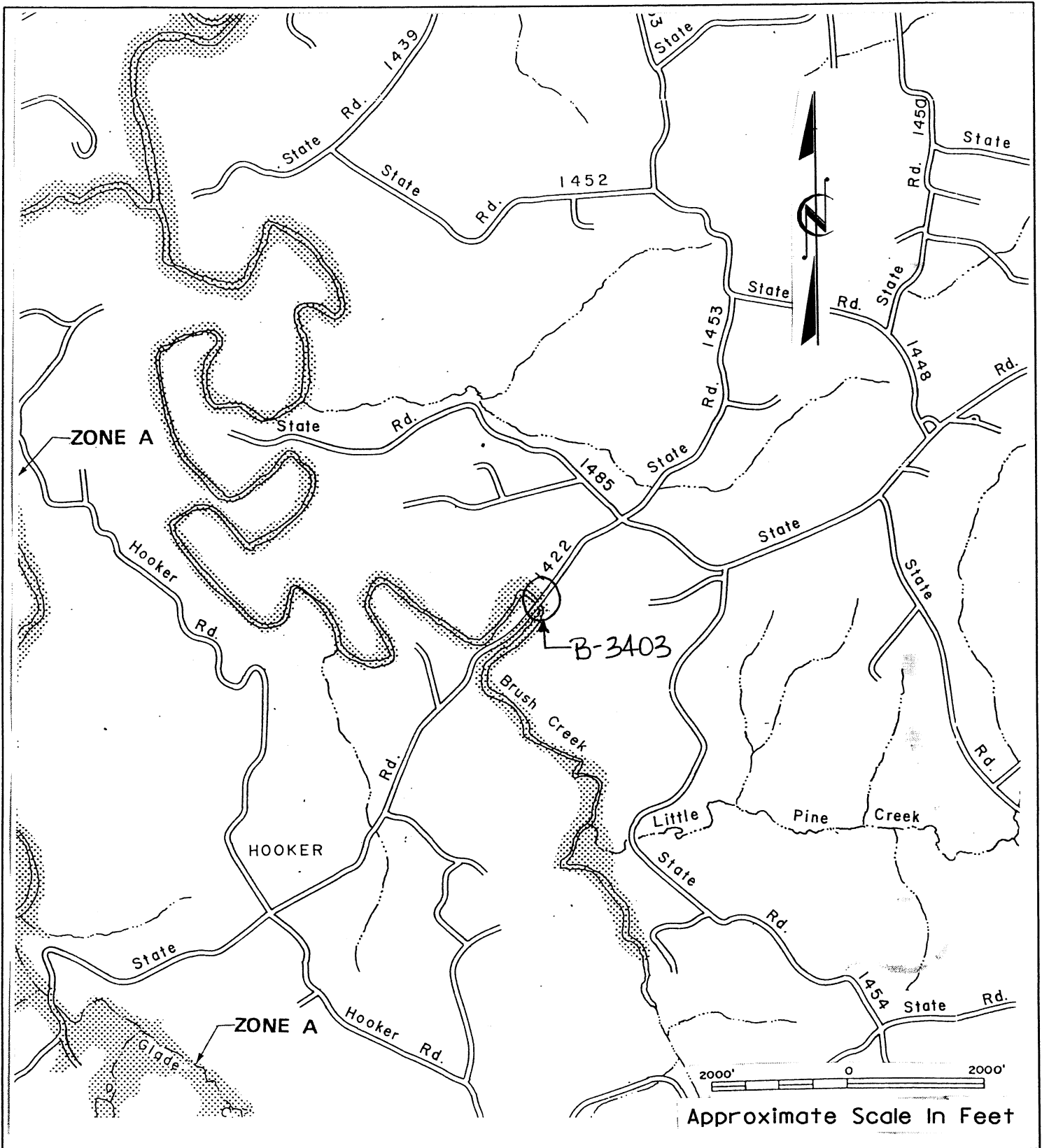


NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION

PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

Alleghany County
Replace Bridge No. 53
over Brush Creek
T.I.P. Project B-3403

Figure 5



The map above was obtained from the Federal Emergency Management Agency's Alleghany County Flood Hazard Boundary Map Panel 370004 0003 A, Effective Date July 1, 1977.

100-Year Floodplain



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

Alleghany County
Replace Bridge No. 53
over Brush Creek
T.I.P. Project B-3403

Figure 6

APPENDIX A

AGENCY COORDINATION RESPONSE LETTERS

FEDERAL

United States Department of the Interior, Fish and Wildlife Service,
January 27, 2000 A-1 through A-4

Federal Energy Regulatory Commission, Atlanta Regional Office,
February 10, 2000 A-5

U.S. Army Corps of Engineers, Wilmington District, June 29, 2000 A-6 through A-7

STATE

North Carolina Department of Environment and Natural Resources,
Division of Water Quality, January 19, 2000 A-8 through A-9

State Historic Preservation Office (SHPO), March 3, 2000 A-10

SHPO, Federal Highway Administration (FHWA), North Carolina Department of
Transportation (NCDOT) Concurrence Form for Properties Not Eligible for the
National Register of Historic Places, February 3, 2000 A-11

State Historic Preservation Office (SHPO), January 4, 2001 A-12

LOCAL

Alleghany County Board of Commissioners, January 19, 2000 A-13

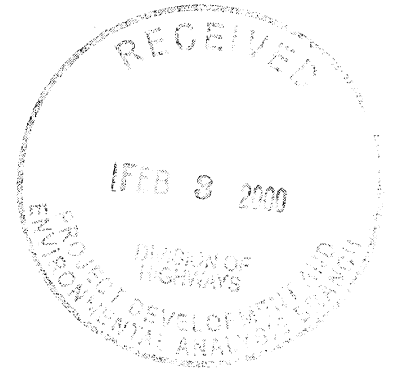


United States Department of the Interior

FISH AND WILDLIFE SERVICE

Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

January 27, 2000



Mr. William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
P.O. Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Gilmore:

Subject: Replacement of Bridge No. 53 on SR 1422 over Brush Creek, Alleghany County, North Carolina (T.I.P. Project No. B-3403)

As requested, we have reviewed the subject project and are providing the following comments in accordance with the provisions of Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e).

Our records indicate that, with the exception of the bog turtle (*Clemmys muhlenbergii*), there are no endangered or threatened species recorded from Alleghany County. The southern population of the bog turtle, extending from portions of southern Virginia to northern Georgia, is federally listed as threatened due to similarity of appearance. This designation prohibits collecting turtles from this population and bans interstate and international commercial trade. However, this population of the species is not currently considered to be biologically endangered or threatened and therefore is not subject to the provisions of Section 7 of the Act. We do, however, consider the bog turtle in the southern portion of its range as a species of Federal concern due to habitat loss and would appreciate your assistance in protecting this species and its habitat if surveys indicate that it does occur within the area potentially affected by the proposed project. In view of this, we believe that requirements of Section 7 of the Act have been satisfied for this project. 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) this action is 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.


Although we do not currently have any endangered or threatened species recorded from Alleghany County, we have enclosed a list of species of Federal concern that may occur within

the impact area of the project. Species of Federal concern are not legally protected under the Act and are not subject to any of its provisions, including Section 7, unless they are formally proposed or listed as endangered or threatened. We are including these species in our response to give you advance notification and to request your assistance in protecting them if surveys indicate that any of these species do occur within the area potentially affected by the proposed project.

Any environmental document prepared for this project should provide a complete description, analysis, and comparison of the available alternatives and their potential effects on the aquatic and terrestrial resources of the project area. Preference should be given to alignments, stream-crossing structures, and construction techniques that avoid or minimize encroachment and impacts to these resources. We recommend that the existing structure be replaced with a bridge, not a culvert. The new bridge design should include provisions for the roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from the run-off of storm water and pollutants. The bridge design should not alter the natural stream and stream-bank morphology or impede fish passage. Any piers or bents should be placed outside the bank-full width of the streams. The bridges and approaches should be designed to avoid any fill that will result in the damming or constriction of the channel or flood plain. If spanning the flood plain is not feasible, culverts should be installed in the flood plain portion of the approaches in order to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected areas. Adequate erosion- and sedimentation-control measures should be in place prior to any ground-disturbing activities. Wet concrete should never be allowed to come into contact with the stream. Heavy equipment should not be operated in the stream channel, and any cutting and removal of woody vegetation along the stream banks should be avoided to the maximum extent possible.

We appreciate having the opportunity to provide these comments. If you have any questions or concerns, please contact Mr. John Fridell of our staff at 828/258-3939, Ext. 225. In any future correspondence concerning this project, please reference our Log Number 4-2-00-055.

Sincerely,



Brian P. Cole
State Supervisor

Enclosure

cc:

Mr. Ron Linville, Western Piedmont Region Coordinator, North Carolina Wildlife Resources Commission, 3855 Idlewild Road, Kernersville, NC 27284-9180

Mr. Bob Johnson, U.S. Army Corps of Engineers, Asheville Regulatory Field Office, 151 Patton Avenue, Room 143, Asheville, NC 28801-5006

**ENDANGERED, THREATENED, AND CANDIDATE SPECIES
AND FEDERAL SPECIES OF CONCERN,
ALLEGHANY COUNTY, NORTH CAROLINA**

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

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

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

COMMON NAME	SCIENTIFIC NAME	STATUS
ALLEGHANY COUNTY		
Vertebrates		
Bog turtle	<i>Clemmys muhlenbergii</i>	T(S/A) ¹
Hellbender	<i>Cryptobranchus alleganiensis</i>	FSC
Eastern small-footed myotis	<i>Myotis (=subulatus) leibii</i>	FSC
Kanawha minnow	<i>Phenacobius teretulus</i>	FSC
Invertebrates		
Grayson crayfish ostracod	<i>Ascetocythere cosmeta</i>	FSC
Pygmy snaketail	<i>Ophiogomphus howei</i>	FSC
Diana fritillary butterfly	<i>Speyeria diana</i>	FSC
Regal fritillary butterfly	<i>Speyeria idalia</i>	FSC*
Vascular Plants		
Tall larkspur	<i>Delphinium exaltatum</i>	FSC*
Gray's lily	<i>Lilium grayi</i>	FSC
Sweet pinesap	<i>Monotropsis odorata</i>	FSC*
Carolina saxifrage	<i>Saxifraga caroliniana</i>	FSC
Nonvascular Plants		
Keever's bristle-moss	<i>Orthotrichum keeverae</i>	FSC

KEY:

Status	Definition
Threatened	A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."

- FSC A Federal species of concern--a species that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).
- T(S/A) Threatened due to similarity of appearance (e.g., American alligator)--a species that is threatened due to similarity of appearance with other rare species and is listed for its protection. These species are not biologically endangered or threatened and are not subject to Section 7 consultation.

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

*Historic record - the species was last observed in the county more than 50 years ago.

**Obscure record - the date and/or location of observation is uncertain.

***Incidental/migrant record - the species was observed outside of its normal range or habitat.

****Historic record - obscure and incidental record.

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

-0160761

**FEDERAL ENERGY REGULATORY COMMISSION
ATLANTA REGIONAL OFFICE
Parkridge 85 North Building
3125 Presidential Parkway - Suite 300
Atlanta, Georgia 30340
(770) 452-3800
FEB 10 2000**

Mr. William D. Gilmore, P.E.
Manager, Project Development
and Environmental Analysis Branch
State of North Carolina
Department of Transportation
P.O. Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Gilmore:

B-5303

RECEIVED

FEB 14 2000

This acknowledges your letter dated January 6, 2000, soliciting comments on the proposed improvements to Bridge No. 53 on SR 1422 in Alleghany County, North Carolina. It appears that the improvement will not impact hydroelectric developments under the jurisdiction of the Federal Energy Regulatory Commission. Therefore, we have no comment.

Sincerely,

Jerrold W. Gotzmer

Jerrold W. Gotzmer, P.E.
Director



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS

P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

June 29, 2000

IN REPLY REFER TO

Regulatory Division

Action ID. 200020424; SR 1422, Replace Bridge No. 53 over Brush Creek, Alleghany County, North Carolina, TIP No. B-3403.

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



Dear Mr. Gilmore:

This is in response to your letter requesting input on the replacement of Bridge No. 53 over Brush Creek on SR 1422, Alleghany County, North Carolina (TIP No. B-3403).

Prior Department of the Army permit authorization, pursuant to Section 404 of the Clean Water Act of 1977, as amended, will be required for the discharge of excavated or fill material into waters and/or wetlands in conjunction with this project, including temporary impacts for construction access or bridge demolition, and the disposal of construction debris.

Review of the project indicates that the proposed work may involve the discharge of excavated or fill material into waters and wetlands. When final plans are completed, including the extent and location of any work within waters of the United States and wetlands, our Regulatory Division would appreciate the opportunity to review these plans for a project-specific determination of Department of the Army permit requirements. These plans should include temporary impacts from any necessary construction access or bridge demolition. Bridge demolition work should be planned in strict accordance with the latest NCDOT Policy: Bridge Demolition and Removal in Waters of the United States (BDR Policy), including the Best Management Practices for Bridge Demolition and Removal. If there are only minor impacts to waters, including wetlands, the work might be authorized under one or more nationwide or regional general permits provided avoidance and minimization are adequately addressed.

The Corps of Engineers must assess the impacts of such activities on the aquatic environment prior to issuing Department of the Army permits. Authorization of aquatic fill activities requires that the project be water dependent and/or that no practicable alternatives are available. Our initial review emphasis for North Carolina Department of Transportation (NCDOT) projects will focus on the impacts to waters and/or wetlands. However, if degradation

to other aspects of the natural environment (e.g., habitat of endangered species) is considered to be of greater concern, an alternative resulting in greater aquatic losses may be chosen as preferred.

In all cases, and in accordance with the Memorandum of Agreement between the U.S. Environmental Protection Agency and the Corps, the sequencing process of avoidance, minimization, and compensatory mitigation of unavoidable wetland impacts will be satisfied prior to the final permit decision. A Department of the Army permit will not be issued until a final plan for compensatory mitigation is approved. Mitigation for stream impacts may also be required.

Regarding the alternatives to be studied, the Corps recommends that NCDOT also study an alternative to replace the structure on existing location, and detour traffic on existing roads. This alternative would likely reduce temporary and permanent impacts to the stream and its stable bank.

Questions or comments pertaining to permits may be directed to Mr. Eric Alsmeyer, at telephone (919) 876-8441, extension 23.

Sincerely,



E. David Franklin
Chief, NCDOT Team

Copies Furnished:

Mr. Roy Shelton
Federal Highway Administration
310 New Bern Ave., Rm 410
Raleigh, North Carolina 27601-1442

Ms. Christina Miller
Arcadis Geraghty & Miller
Post Office Box 31388
Raleigh, North Carolina 27622

Notes

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



James B. Hunt, Jr., Governor
Bill Holman, Secretary
Kerr T. Stevens, Director

January 19, 2000

MEMORANDUM

To: William D. Gilmore, P.E., Manager, NCDOT, Project Development & Environmental Analysis

From: Cynthia F. Van Der Wiele, NC Division of Water Quality *cvdw*

Subject: Scoping comments on the proposed replacement of Bridge No. 53 over Brush Creek in Alleghany County, State Project No. 8.2700501, T.I.P. Project B-3403.

This memo is in reference to your correspondence dated January 6, 2000, in which you requested scoping comments for the above project. Preliminary analysis of the project reveals that the proposed bridge will span Brush Creek in the New River Basin. The DWQ index number for the stream is 10-9-10 and the stream is classified as C Trout waters. The Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed project:

- A. The document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping.
- B. There should be a discussion on mitigation plans for unavoidable impacts. If mitigation is required, it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. 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.
- C. Review of the project reveals that no Outstanding Resource Waters, High Quality Waters, or Water Supply Waters will be impacted during the project implementation. However, impacts to waters classified as Class C Trout waters will be impacted. The DWQ requests that DOT strictly adhere to North Carolina regulations entitled, "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project. This would apply for any area that drains to streams having WS (Water Supply), ORW (Outstanding Resource Water), HQW (High Quality Water), SA (Shellfish Water) or Tr (Trout Water) classifications.
- D. When practical, the DWQ requests that bridges be replaced on the existing location with road closure. If a detour proves necessary, remediation measures in accordance with the NCDWQ requirements for General 401 Certification 2726/Nationwide Permit No. 33 (Temporary Construction, Access and Dewatering) must be followed.
- E. The DWQ requests that hazardous spill catch basins be installed at any bridge crossing a stream classified as HQW or WS (Water Supply). The number of catch basins installed should be determined by the design of the bridge, so that runoff would enter said basin(s) rather than flowing directly into the stream.
- F. If applicable, DOT should not install the bridge bents in the creek, to the maximum extent practicable.

A-8

- G. Wetland and stream impacts should be avoided (including sediment and erosion control structures/measures) to the maximum extent practical. If this is not possible, alternatives that minimize wetland impacts should be chosen. Mitigation for unavoidable impacts will be required by DWQ for impacts to wetlands in excess of one acre and/or to streams in excess of 150 linear feet.
- H. Borrow/waste areas should not be located in wetlands. It is likely that compensatory mitigation will be required if wetlands are impacted by waste or borrow.
- I. DWQ prefers replacement of bridges with bridges. However, if the new structure is to be a culvert, it should be countersunk to allow unimpeded fish and other aquatic organisms passage through the crossing.
- J. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3027/Nationwide Permit No. 6 for Survey Activities.
- K. In accordance with the NCDWQ Wetlands Rules { 15A NCAC 2H.0506(b)(6) }, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation becomes required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the NCDWQ Wetlands Rules { 15A NCAC 2H.0506 (h)(3) }, the Wetland Restoration Program may be available for use as stream mitigation.
- L. Sediment and erosion control measures should not be placed in wetlands.
- M. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater should not be permitted to discharge directly into the creek. Instead, stormwater should be designed to drain to a properly designed stormwater detention facility/apparatus.
- N. While the use of National Wetland Inventory (NWI) maps and soil surveys is a useful office tool, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

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

Pc: Eric Alsmeyer, Corps of Engineers
Mark Cantrell, USFWS
David Cox, NCWRC
Personal Files
Central Files

Dickens



North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

James B. Hunt Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

March 3, 2000

MEMORANDUM

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

FROM: David Brook *per David Brook*
Deputy State Historic Preservation Officer

SUBJECT: Bridge No. 53 on SR 1422 over Brush Creek, B-3403, Allegheny County,
ER 00-8694

Thank you for your letter of January 6, 2000, concerning the above project.

We have conducted a search of our files and are aware of no structures of historical or architectural importance located within the planning area.

There are no known recorded archaeological sites within the project boundaries. However, the project area has never been systematically surveyed to determine the location or significance of archaeological resources. We recommend that an archaeological survey be conducted if new construction is carried out on a new alignment.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

cc: T. Padgett

A-10

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount St., Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-4763 • 733-8653
ARCHAEOLOGY	421 N. Blount St., Raleigh NC	4619 Mail Service Center, Raleigh NC 27699-4619	(919) 733-7342 • 715-2671
RESTORATION	515 N. Blount St., Raleigh NC	4613 Mail Service Center, Raleigh NC 27699-4613	(919) 733-6547 • 715-4801
SURVEY & PLANNING	515 N. Blount St., Raleigh NC	4618 Mail Service Center, Raleigh NC 27699-4618	(919) 733-6545 • 715-4801

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

Project Description

replace Bridge #53 on SR1422 over Brush Creek

Feb. 3, 2000, representatives of the

- North Carolina Department of Transportation (NCDOT)
- Federal Highway Administration (FHWA)
- North Carolina State Historic Preservation Office (SHPO)
- Other _____

viewed the subject project at

- A scoping meeting
- Historic architectural resources photograph review session/consultation
- Other _____

parties present agreed

there are no properties over fifty years old within the project's area of potential effect.

there are no properties less than fifty years old which are considered to meet Criterion Consideration G within the project's area of potential effect.

there are properties over fifty years old (list attached) within the project's area of potential effect, but based on the historical information available and the photographs of each property, properties identified as Properties 1-4 are considered not eligible for the National Register and no further evaluation of them is necessary.

there are no National Register-listed properties within the project's area of potential effect.

signed:

Mary Pope _____ 2-3-2000
representative, NCDOT Date

Michael E. Dawson _____ 2/3/2000
FHWA, for the Division Administrator, or other Federal Agency Date

April Allison _____ 2/3/2000
representative, SHPO Date

Michael E. Dawson _____ 2/3/2000
State Historic Preservation Officer Date

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

Dickens



North Carolina Department of Cultural Resources

James B. Hunt, Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
William S. Price, Jr., Director

January 4, 2001

MEMORANDUM

To: William D. Gilmore
Project Development and Environmental Analysis Branch

From: David Brook *RR for David Brook*
Deputy State Historic Preservation Officer

Re: Archaeological Survey Report, Replacement of Bridge 53, Allegheny County,
TIP No. B-3403, Federal Aid No. BRZ-1442(3), ER 00-8694

Thank you for your letter of November 15, 2000, transmitting the archaeological survey report by Brad M. Duplantis concerning the above project.

During the course of the survey one archaeological site, 31AL93**, was located within the project area. This author has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since this project will not involve significant archaeological resources.

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

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

DB:kgc

cc: Brad Duplantis, Louis Berger Group, Inc.
FHwA
Tom Padgett, NCDOT

Dickens

Alleghany County Board of Commissioners

County Commissioners
Ken Richardson – Chairman
Eldon Edwards – Vice Chairman
Charity Gambill
Walter Jones
Joe Roberts

90 South Main Street
Post Office Box 366
Sparta, North Carolina 28675
(336) 372-4179
Fax (336) 372-5969

County Manager
Don Adams
County Attorney
Bynum Marshall

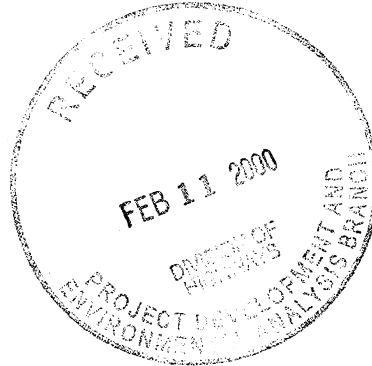
RECEIVED NCDOT
DIVISION ENGINEER'S OFFICE
N. WILKESBORO, NC

JAN 20 2000

CA [] [] [] [] M

January 19, 2000

State of North Carolina
Department of Transportation
Post Office Box 250
North Wilkesboro, North Carolina 28659



RE: Bridge Replacement Number 53

Dear Mr. McCann,

This is in response to a letter received from William Gilmore concerning Project Number B-3403, Bridge Replacement Number 53. The Alleghany County Board of Commissioners has discussed this situation with B-3403. We are in favor of constructing the proposed structure upstream of the existing structure on parallel alignment, maintaining traffic on existing alignment. If I can be of further assistance, please call me at (336) 372-4179.

Respectfully,

Don Adams
County Manager

JDA/kle

APPENDIX B

USDA-NRCS FARMLAND CONVERSION IMPACT RATING

ARCADIS GERAGHTY & MILLER



ARCADIS Geraghty & Miller of
North Carolina, Inc.
2301 Rexwoods Drive, Suite 102
Raleigh
North Carolina 27607-3366
Tel 919 782 5511
Fax 919 782 5905

TELEFAX

From: Jasper Cave
NRCST Technician
Natural Resources Conservation
Service

Copies/Fax No.:

Fax No.:

336-332-7402

Date:

5/26/00

Name:

Martha Brewster

Total pages:

2

Extension:

189

Our ref.:

NCC300353403

Subject:

Farmland Conversion Impact Rating Form

If you do not receive all pages, please call to let us know as soon as possible.

As per our phone conversation of 5/26/00 I am
resending a copy of the Impact Rating Form.
I appreciate your assistance in completing and
returning this form for my project. Please
call if you should have questions.

Thank-you

Martha Brewster

Return to Sender

File

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL, AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the above address via the U.S. postal service.

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		April 26, 2000	
Name of Project Alleghany County, NC. SR 1422 (Fox Ridge Road), Bridge No. 53 over Brush Creek, State Project No. 8.2700501, Federal Aid Project No. BRZ-1422(3), TIP No. B-3403.		Federal Agency Involved FHWA	
Proposed Land Use Road Right-of-Way		County and State Alleghany County, North Carolina	
PART II (To be completed by NRCS)		Date Request Received by NRCS	
Does the site contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - do not complete additional parts of this form).		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Major Crop(s)		Acres Irrigated	Average Farm Size
Name of Land Evaluation System Used		Farmable Land in Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %
Name of Local Site Assessment System		Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	2.02 ac			
B. Total Acres To Be Converted Indirectly				
C. Total Acres in SRA	2.88 ac			

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime and Unique Farmland				
B. Total Acres Statewide and Local Important Farmland				
C. Percentage of Farmland in County or Local Govt. Unit to be Converted				
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Criterion				
Relative Value of Farmland to be Converted (Scale of 0 to 100 Points)				

PART VI (To be completed by Federal Agency)	Maximum Points			
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))				
1. Area in Nonurban Use	15			
2. Perimeter in Nonurban Use	10			
3. Percent of Site Being Farmed	20			
4. Protection Provided by State and Local Government	20			
5. Distance from Urban Built-up Area	0			
6. Distance to Urban Support Services	0			
7. Size of Present Farm Unit Compared to Average	10			
8. Creation of Non-Farmable Farmland	25			
9. Availability of Farm Support Services	5			
10. On-Farm Investments	20			
11. Effects of Conversion on Farm Support Services	25			
12. Compatibility with Existing Agricultural Use	10			
TOTAL SITE ASSESSMENT POINTS	160			
PART VII (To be completed by Federal Agency)				
Relative Value of Farmland (From Part V)	100			
Total Site Assessment (From Part VI above or a local site assessment)	160			
TOTAL POINTS (Total of above 2 lines)	260			

Site Selected:	Date of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>
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Reason For Selection: