STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 10, 2004

US Army Corps of Engineers
Regulatory Branch
Post Office Box 1890
Wilmington, North Carolina 28402

ATTENTION: Mr. John Thomas
NCDOT Coordinator

Dear Mr. Spencer:

Subject: **Nationwide 33 application,** for the replacement of Bridge Nos. 35 and 36 over Meat Camp Creek on SR 1340, Watauga County. Federal Aid Project No. BRZ-1340(4), State Project No. 8.2752101, NCDOT Division 11, TIP Project No. B-3926 WBS Element 33360.1.1.

Please find enclosed one copy of the project planning report, ½ size design plans, Pre-construction notification and permit drawings for the above referenced project. NCDOT plans to replace both existing 26 foot long bridges with 45 foot long bridges on the existing alignment. During construction of Bridge 35, traffic will be maintained on a temporary onsite detour using temporary pipe culverts located approximately 40 feet downstream of the existing bridge. During construction of Bridge No. 36, traffic will be maintained on a temporary detour structure using temporary pipe culverts located approximately 40 feet downstream of the existing bridge. All impacts are temporary and consist of 0.05 acres of fill in surface waters. There are no wetlands in the project area. Meat Camp Creek is located in HUC 05050001 of the New River Basin and is classified by the Division of Water Quality as C Tr+.

Demolition: Bridge Nos. 35 and 36 both have an asphalt wearing surface on timber floor supported by nine lines of 12 inch steel I-beams. The end bents consist of timber caps with timber posts and sills. The bridge railings and substructure will be removed without dropping components into Waters of the United States. All guidelines for bridge demolition and removal will be followed in addition to Best Management Practices for the Protection of Surface Waters and BMP's for Bridge Demolition and Removal.

Temporary Detour Structure

The length of an offsite detour is approximately 26 miles and was determined to not be feasible. Due to residential development, and the orientation of Meat Camp Creek there

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

TELEPHONE: 919-715-1500
FAX: 919-715-1501

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
2728 CAPITOL BOULEVARD
PARKER LINCOLN BUILDING, SUITE 168
RALEIGH NC 27699

is a limited amount of space available to construct detour structures. If a detour bridge were constructed it would contain an unsafe skew, therefore a bridge was determined to not be feasible. There will be 0.05 acres of temporary impacts to Meat Camp Creek from the construction of the temporary detour structures. The temporary detour will consist of two 72" box culverts for Bridge 35 and three 48" box culverts for Bridge 36.

Restoration Plan: No permanent fill will result in the stream from the subject activity. The materials used as temporary fill in the construction of the detour will be removed following project construction. The temporary fill areas will be graded back to the original contours. Elevations and contours in the vicinity of the proposed structures are available from the field survey notes.

Schedule for Construction: It is assumed that the Contractor will begin construction of the proposed causeways shortly after the date of availability for the project. The Let date is February 15, 2005 with a date of availability of March 29, 2005.

Removal and Disposal: The detour structure will be removed shortly after it is no longer needed. The temporary detour structure will be removed by the contractor using excavating equipment. All materials placed in the stream by the contractor will be removed and disposed of in an upland area.

Avoidance, Minimization, and Mitigation

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize wetland impacts, and to provide full compensatory mitigation of all remaining wetland impacts. Avoidance measures were taken during the planning and NEPA phases; minimization measures were incorporated as part of the project design and include:

- In order to minimize impacts to Meat Camp Creek, no bents will be placed in the water.
- In stream work and land disturbance within 25 feet of Meat Camp Creek is prohibited during the brown trout spawning season of October 15 to April 15.
- The North Carolina Department of Transportation (NCDOT) will strictly adhere to Design Standards in Sensitive Watersheds throughout design and construction of this project.

No mitigation is proposed because project impacts are temporary.

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 January 2003 the Fish and Wildlife Service (FWS) lists six federally protected species for Watauga County (Table 1).

Table 1- Federally Protected Species of Watauga County

Common Name	Scientific Name	Federal Status	Habitat Present	Biological Conclusion
Bog Turtle	*Clemmys muhlenbergii*	T(S/A)	N	NA
Carolina Northern Flying Squirrel	*Glaucomys sabrinus coloratus*	E	N	No Effect
Spruce-fir moss spider	*Microhexura montivaga*	E	N	No Effect
Spreading avens	*Geum radiatum*	E	N	No Effect
Roan Mountain bluet	*Houstonia montana*	E	N	No Effect
Heller's blazing star	*Liatris helleri*	T	N	No Effect

A biological conclusion of "No Effect" was given in the Categorical Exclusion for all species with the exception of the bog turtle. No biological conclusion is required for the bog turtle because it is protected due to similar appearance. All biological conclusions remain valid.

Regulatory Approvals

Section 404 Permit: It is anticipated that the construction of the temporary structure 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.

Section 401 Permit: We anticipate 401 General Certifications number 3366 will apply to this project. In accordance with 15A NCAC 2H .0501(a) 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 NCDOT 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,

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

cc: w/ attachment
Mr. John Hennessy, NC DWQ (2 copies)
Ms. Marla Chambers, NCWRC
Ms. Marella Buncick, USFWS
Mr. Greg Perfetti, P.E., Structure Design
Dr. David Chang, P.E., Hydraulics
Mr. Michael Pettyjohn, PE, Div. Engineer
Mr. Heath Slaughter, DEO

w/o attachment
Mr. David Franklin, USACE, Wilmington
Ms. Kristina Solberg, P.E., PDEA
Mr. Jay Bennett, P.E., Roadway Design
Ms. Beth Harmon, EEP
Mr. Omar Sultan, Programming and TIP
Mr. Mark Staley, Roadside Env. Unit
Mr. Art McMillan, PE, Highway Design

Office Use Only: Form Version May 2002

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

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

I. Processing

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

2. Nationwide, Regional or General Permit Number(s) Requested: 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-3926: Replacement of Bridge 35 and 36 on SR 1340 over the Meat Camp Creek

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3926

3. Property Identification Number (Tax PIN):

4. Location
   County: Watauga Nearest Town: Boone
   Subdivision name (include phase/lot number):
   Directions to site (include road numbers, landmarks, etc.):

Site coordinates, if available (UTM or Lat/Long): UTM 17 438658E 4018143N

(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): Meat Camp 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 with a few scattered residences.

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: Temporary detour structures will be constructed in Meat Camp Creek

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 detour	0.05 ac	Meat Camp Creek	13 feet	Perennial

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

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

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

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.

Minimization of jurisdictional impacts was accomplished by completely spanning the river

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	0
2		1.5	0
Total			0

* 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 ☒

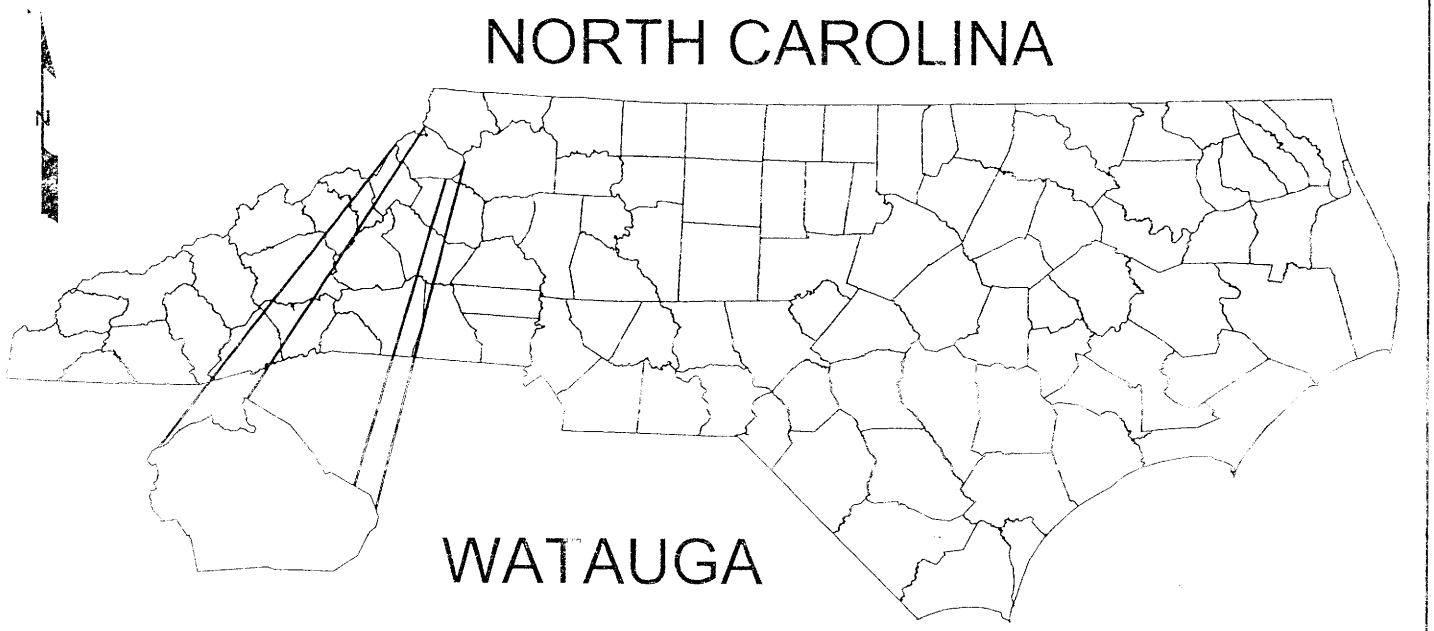
XIV. Other Circumstances (Optional):

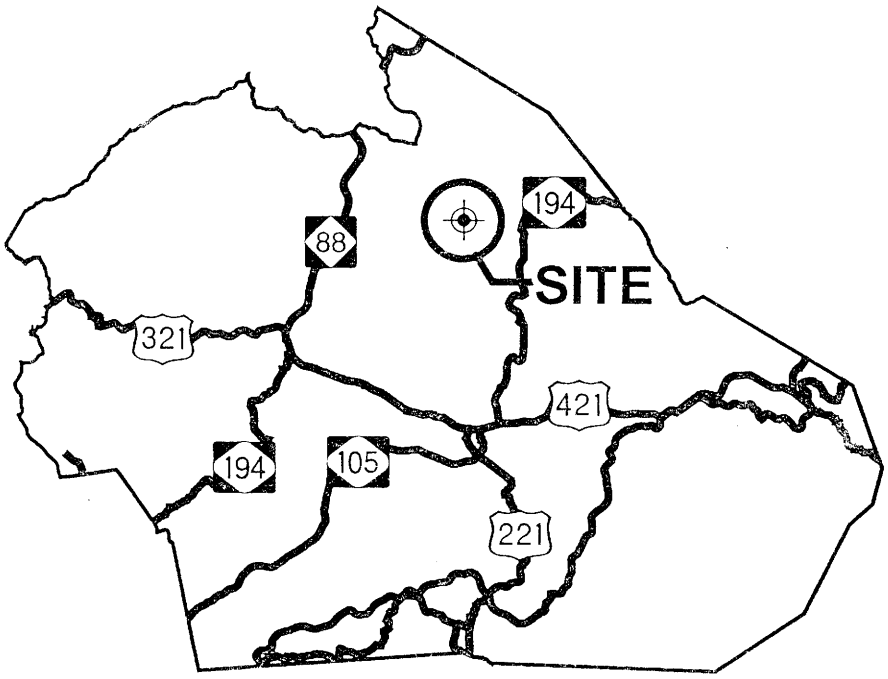
It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g.,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

12/13/04

Applicant/Agent's Signature **Date**

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



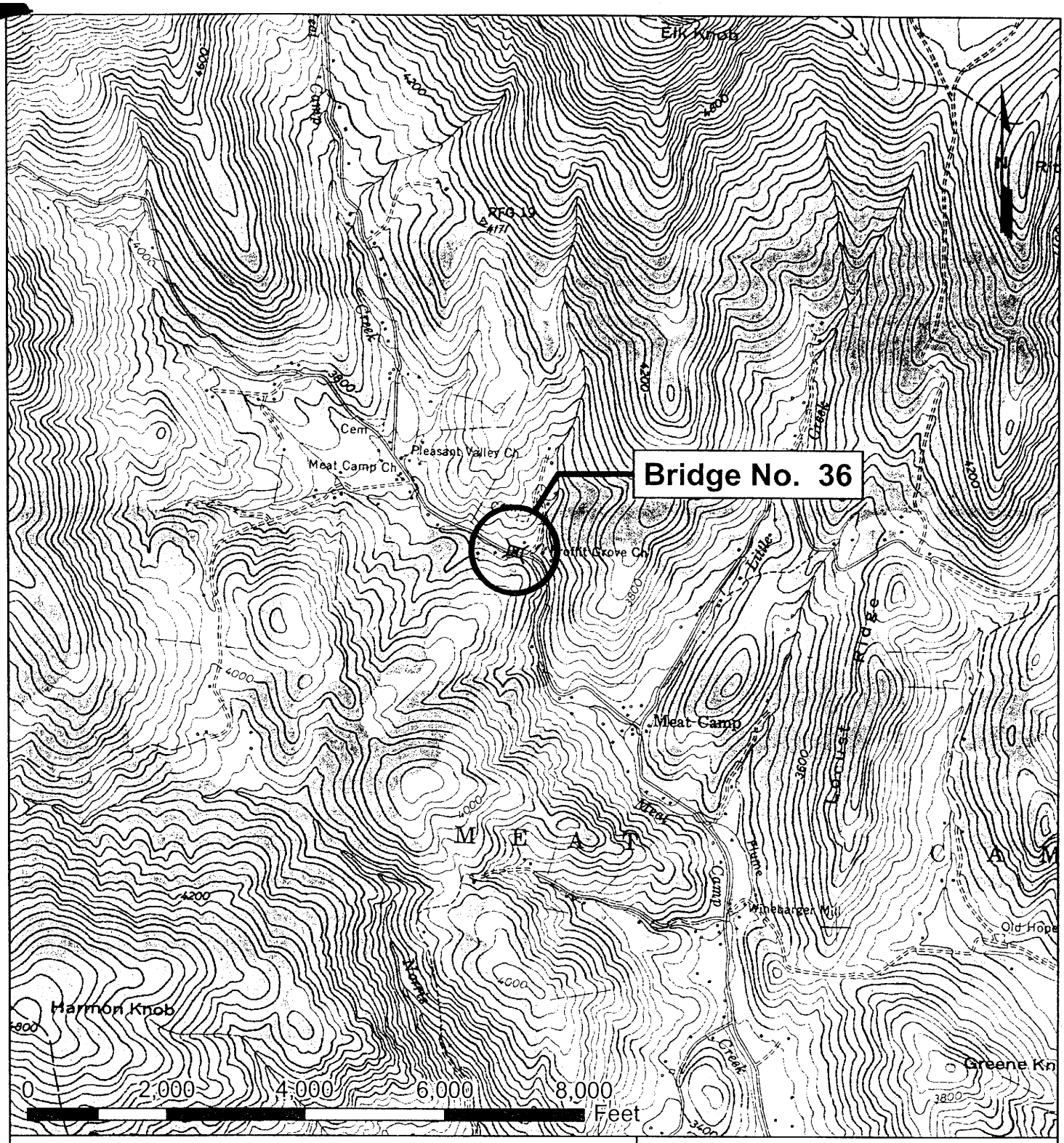


VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS
WATAUGA COUNTY
PROJECT: 8.2752101 (B-3926)
REPLACE BRIDGE NO. 36 ON SR 1340
OVER MEAT CAMP CREEK

SHEET 1 OF 13 6/24/03



1 inch equals 2,000 feet

LOCATION

NCDOT

DIVISION OF HIGHWAYS
WATAUGA COUNTY
PROJECT: 8.2752101 (B-3926)
REPLACE BRIDGE NO. 36 ON SR 1340
OVER MEAT CAMP CREEK

SHEET 2 OF 12 6/24/03

Source: USGS 7.5 Minute Quadrangle, Zionville, NC

SITE MAP

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

PROJECT 8.2752101 (B-3926)

BRIDGE NO. 36 ON SR 1340
OVER MEAT CAMP CREEK

SHEET 3 OF 12

06/24/03

R:\HYDRAULICS\B3926\HYD_SITE_PMT36.DGN

8/17/99

English

PROJECT REFERENCE NO.	SHEET NO.
B-3926	4
R/W SHEET NO.	

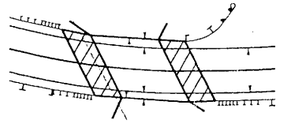
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

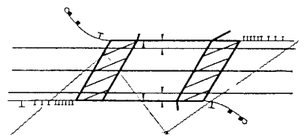
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SCALES
50 25 0 50 100

DETAIL FOR BRIDGE # 35
CORED SLAB BRIDGE & APPROACHES



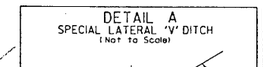
DETAIL FOR BRIDGE #36
CORED SLAB BRIDGE & APPROACHES



EXPRESSWAY GUTTER
-L1- STA. 21+05 TO 22+93 RT
-L2- STA. 30+10 TO 32+52 LT

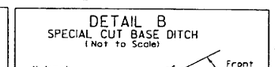
SHOULDER BERM GUTTER
-L1- STA. 22+93 TO 23+34 RT
-L1- STA. 22+62 TO 23+01 LT
-L1- STA. 24+07 TO 24+23 RT
-L2- STA. 32+52 TO 32+59 LT
-L2- STA. 32+19 TO 32+33 RT
-L2- STA. 33+11 TO 33+26 RT
-L2- STA. 33+38 TO 33+54 LT

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



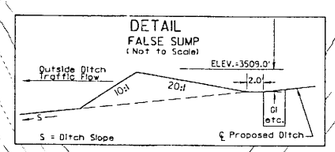
-L1- STA. 23+70 TO 24+60 LT

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



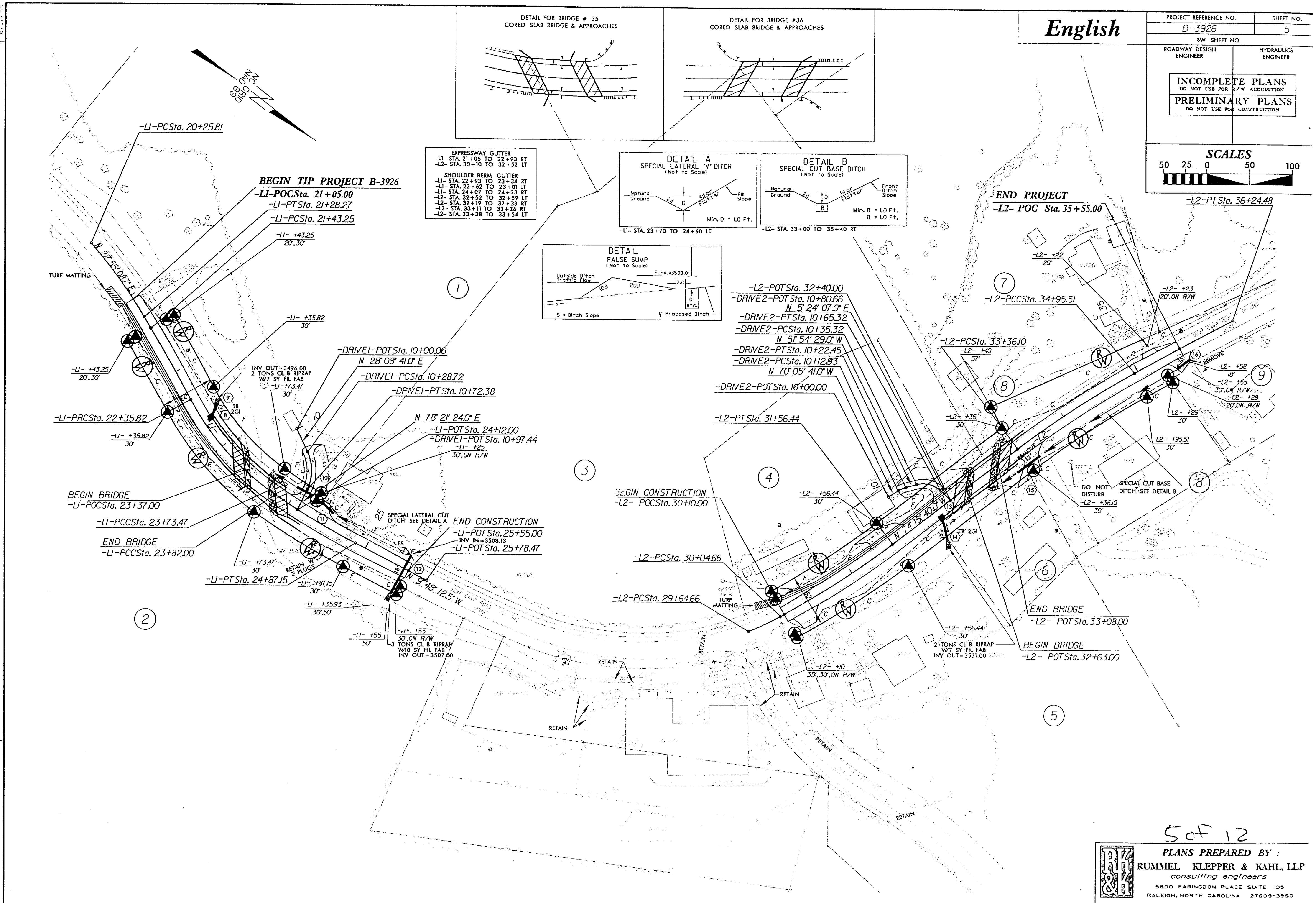
-L2- STA. 33+00 TO 35+40 RT

DETAIL
FALSE SUMP
(Not to Scale)



4 of 12

PLANS PREPARED BY :
RUMMEL KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE SUITE 105
RALEIGH, NORTH CAROLINA 27609-3960
FOR


DETAIL FOR BRIDGE # 35
CORED SLAB BRIDGE & APPROACHES
DETAIL FOR BRIDGE #36
CORED SLAB BRIDGE & APPROACHES
NC GRID NAD 83
EXPRESSWAY GUTTER
-L1- STA. 21+05 TO 22+93 RT
-L2- STA. 30+10 TO 32+52 LT
SHOULDER BERM GUTTER
-L1- STA. 22+93 TO 23+34 RT
-L1- STA. 22+62 TO 23+01 LT
-L1- STA. 24+07 TO 24+23 RT
-L2- STA. 32+52 TO 32+59 LT
-L2- STA. 32+19 TO 32+33 RT
-L2- STA. 33+11 TO 33+26 RT
-L2- STA. 33+38 TO 33+54 LT
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
4:1 or Flatter
Min. D = 1.0 Ft.
-L1- STA. 23+70 TO 24+60 LT
DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)
Front Ditch Slope
Min. D = 1.0 Ft.
B = 1.0 Ft.
-L2- STA. 33+00 TO 35+40 RT
DETAIL
FALSE SUMP
(Not to Scale)
Outside Ditch
Traffic Flow
ELEV.=3509.0'
S = Ditch Slope
℄ Proposed Ditch
-L1-PCSta. 20+25.81
BEGIN TIP PROJECT B-3926
-L1-POCSta. 21+05.00
-L1-PTSta. 21+28.27
-L1-PCSta. 21+43.25
-L1- +43.25
20',30'
N 27°55'08.7" E
TURF MATTING
-L1- +35.82
30'
-L1- +43.25
20',30'
INV OUT=3496.00
2 TONS CL B RIPRAP
W/7 SY FIL FAB
-L1-+73.47
30'
-L1-PRCSta. 22+35.82
-L1- +35.82
30'
BEGIN BRIDGE
-L1-POCSta. 23+37.00
-L1-PCCSta. 23+73.47
END BRIDGE
-L1-PCCSta. 23+82.00
-L1- +73.47
30'
RETAIN W/ 2 PLUGS
-L1-PTSta. 24+87.15
-L1- +87.15
30'
-L1- +35.93
30',50'
-L1- +55
50'
-L1- +55
30',ON R/W
3 TONS CL B RIPRAP
W10 SY FIL FAB
INV OUT=3507.00
-DRIVE1-POTSta. 10+00.00
N 28°08'41.0" E
-DRIVE1-PCSta. 10+28.72
-DRIVE1-PTSta. 10+72.38
N 78°21'24.0" E
-L1-POTSta. 24+12.00
-DRIVE1-POTSta. 10+97.44
-L1- +25
30',ON R/W
SPECIAL LATERAL CUT DITCH SEE DETAIL A
END CONSTRUCTION
-L1-POTSta. 25+55.00
INV IN=3508.13
-L1-POTSta. 25+78.47
N 9°48'12.5" W
RETAIN
-L2-POTSta. 32+40.00
-DRIVE2-POTSta. 10+80.66
N 5°24'07.0" E
-DRIVE2-PTSta. 10+65.32
-DRIVE2-PCSta. 10+35.32
N 51°54'29.0" W
-DRIVE2-PTSta. 10+22.45
-DRIVE2-PCSta. 10+12.93
N 70°05'41.0" W
-DRIVE2-POTSta. 10+00.00
-L2-PTSta. 31+56.44
BEGIN CONSTRUCTION
-L2- POCSta. 30+10.00
-L2-PCSta. 30+04.66
-L2-PCSta. 29+64.66
TURF MATTING
-L2- +56.44
30'
N 74°15'40.0" W
TB 2GI
-L2- +10
35',30',ON R/W
-L2- +56.44
30'
2 TONS CL B RIPRAP
W/7 SY FIL FAB
INV OUT=3531.00
END BRIDGE
-L2- POTSta. 33+08.00
BEGIN BRIDGE
-L2- POTSta. 32+63.00
END PROJECT
-L2- POC Sta. 35+55.00
-L2-PTSta. 36+24.48
-L2- +22
29'
-L2- +23
20',ON R/W
-L2-PCCSta. 34+95.51
-L2-PCSta. 33+36.10
-L2- +40
57'
-L2- +36
30'
REMOVE
-L2- +58
18'
-L2- +55
30',ON R/W
-L2- +29
20',ON R/W
-L2- +29
30'
-L2- +95.51
30'
REMOVE -L2-
DO NOT DISTURB
SPECIAL CUT BASE DITCH SEE DETAIL B
-L2- +36.10
30'
RETAIN
5 of 12

English

PROJECT REFERENCE NO.	SHEET NO.
B-3926	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

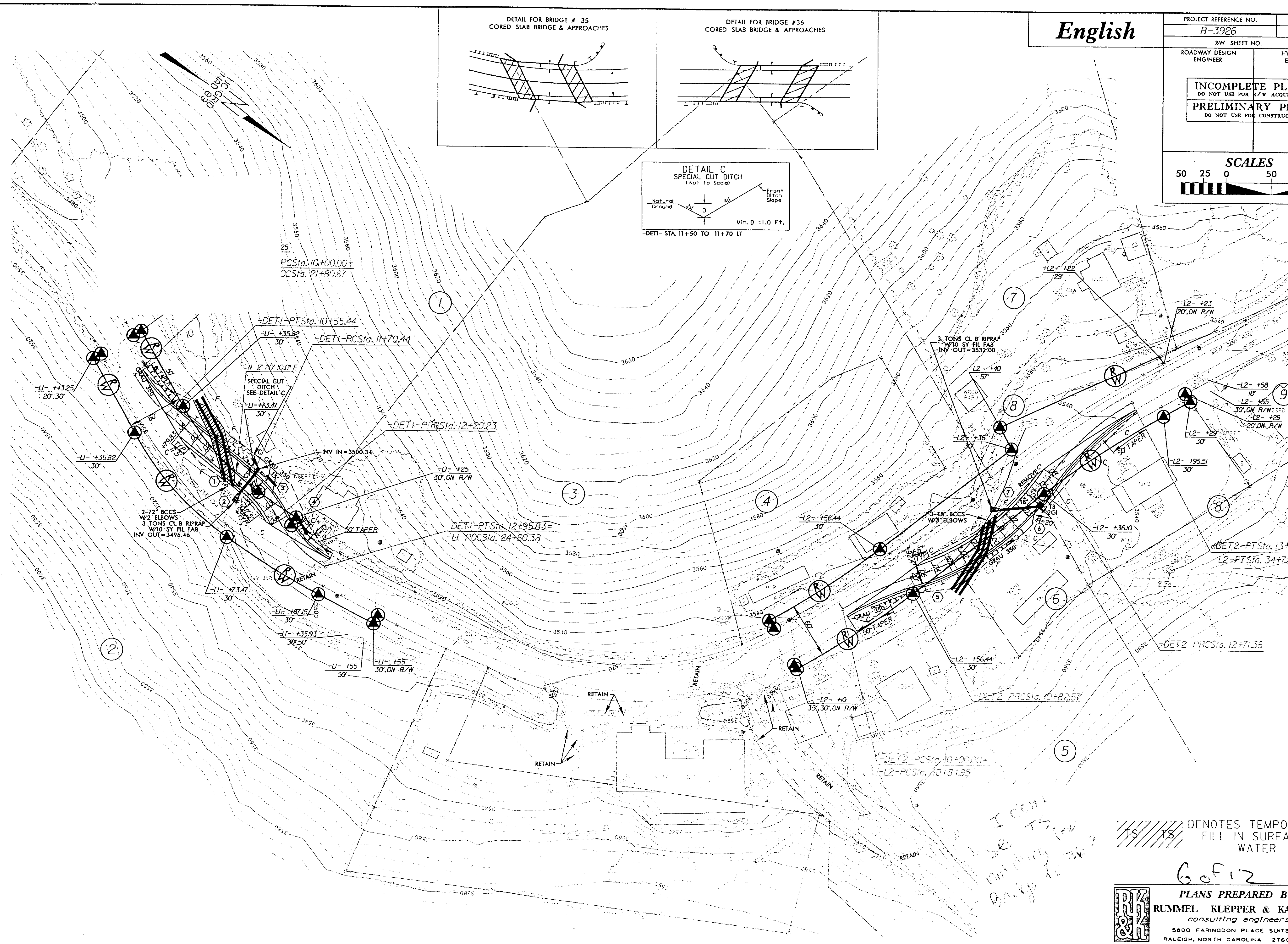
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SCALES
50 25 0 50 100

PLANS PREPARED BY :
RUMMEL KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE SUITE 105
RALEIGH, NORTH CAROLINA 27609-3960
FOR

8/17/99



English

PROJECT REFERENCE NO.	SHEET NO.
B-3926	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SCALES

50 25 0 50 100

TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

6 of 12

PLANS PREPARED BY :

RUMMEL KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE SUITE 105
RALEIGH, NORTH CAROLINA 27609-3960

FOR

8/17/99

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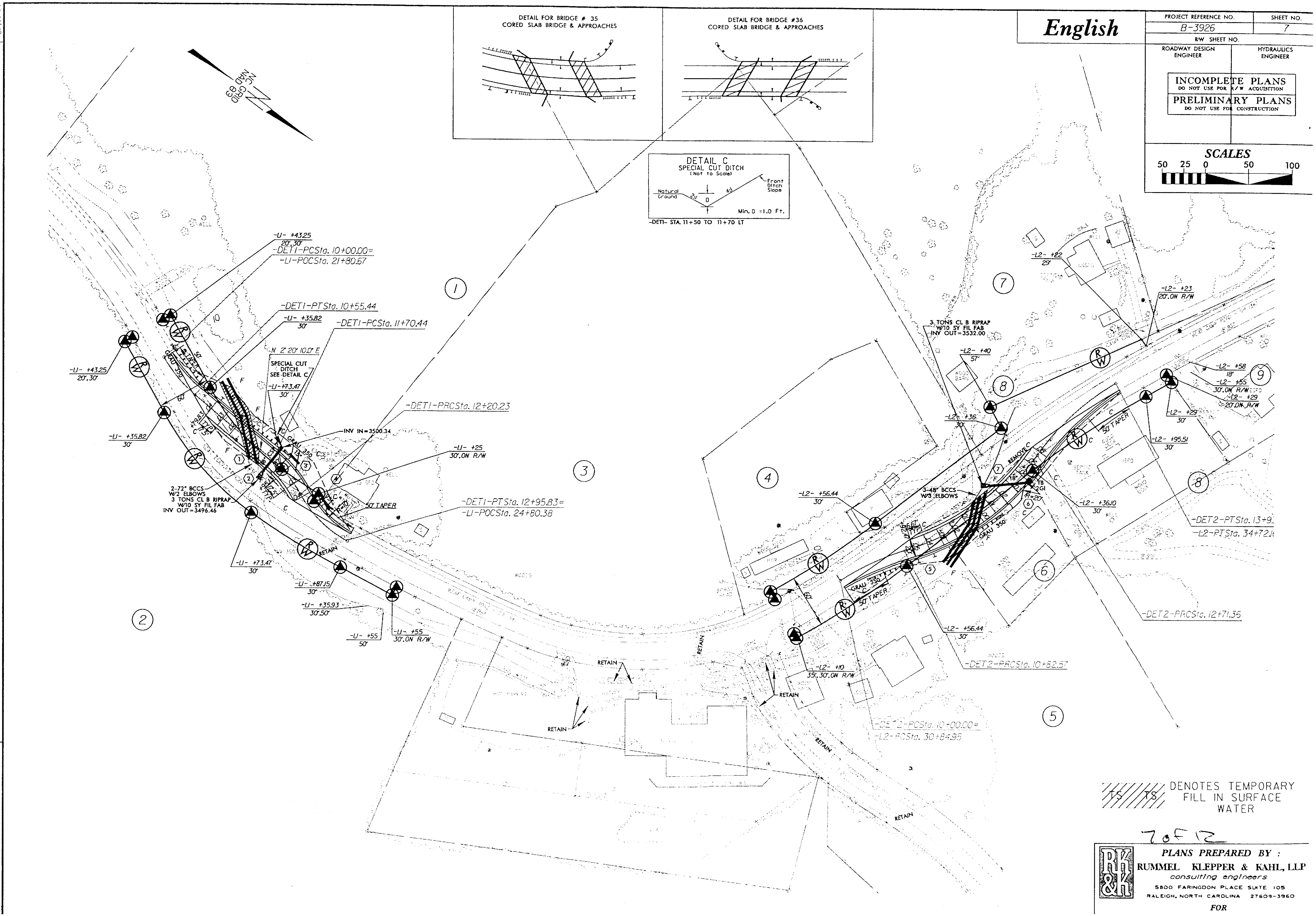

English
PROJECT REFERENCE NO. B-3926
SHEET NO. 7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
SCALES
50 25 0 50 100
DETAIL FOR BRIDGE # 35
CORED SLAB BRIDGE & APPROACHES
DETAIL FOR BRIDGE #36
CORED SLAB BRIDGE & APPROACHES
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D =1.0 Ft.
-DET1- STA. 11+50 TO 11+70 LT
NC GRID NAD 83
-U- +43.25
20',30'
-DET1-PCSta. 10+00.00=
-L1-POCSta. 21+80.67
-DET1-PTSta. 10+55.44
-U- +35.82
30'
-DET1-PCSta. 11+70.44
N 2° 20' 10.0" E
SPECIAL CUT DITCH SEE DETAIL C
-U- +73.47
-DET1-PRCSta. 12+20.23
INV IN=3500.34
-U- +25
30',ON R/W
-DET1-PTSta. 12+95.83=
-L1-POCSta. 24+80.38
2-72" BCCS
W/2 ELBOWS
3 TONS CL B RIPRAP
W/10 SY FIL FAB
INV OUT=3496.46
50' TAPER
-U- +87.15
-U- +35.93
30',50'
-U- +55
50'
30',ON R/W
RETAIN
3 TONS CL B RIPRAP
W/10 SY FIL FAB
INV OUT=3532.00
-L2- +40
57'
-L2- +22
25'
-L2- +23
20',ON R/W
-L2- +36
-L2- +58
18'
-L2- +55
30',ON R/W
-L2- +29
20',ON R/W
-L2- +95.51
-L2- +36.10
3-48" BCCS
W/3 ELBOWS
REMOVE
-L2- +56.44
-DET2-PTSta. 13+9…
-L2-PTSta. 34+72…
-DET2-PRCSta. 12+71.36
-DET2-PRCSta. 10+82.57
-L2- +10
35',30',ON R/W
-DET2-PCSta. 10+00.00=
-L2-PCSta. 30+84.95
GRAU 350
DENOTES TEMPORARY FILL IN SURFACE WATER
7 of 12
PLANS PREPARED BY :
RUMMEL KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE SUITE 105
RALEIGH, NORTH CAROLINA 27609-3960
FOR
8/17/99

5/28/99

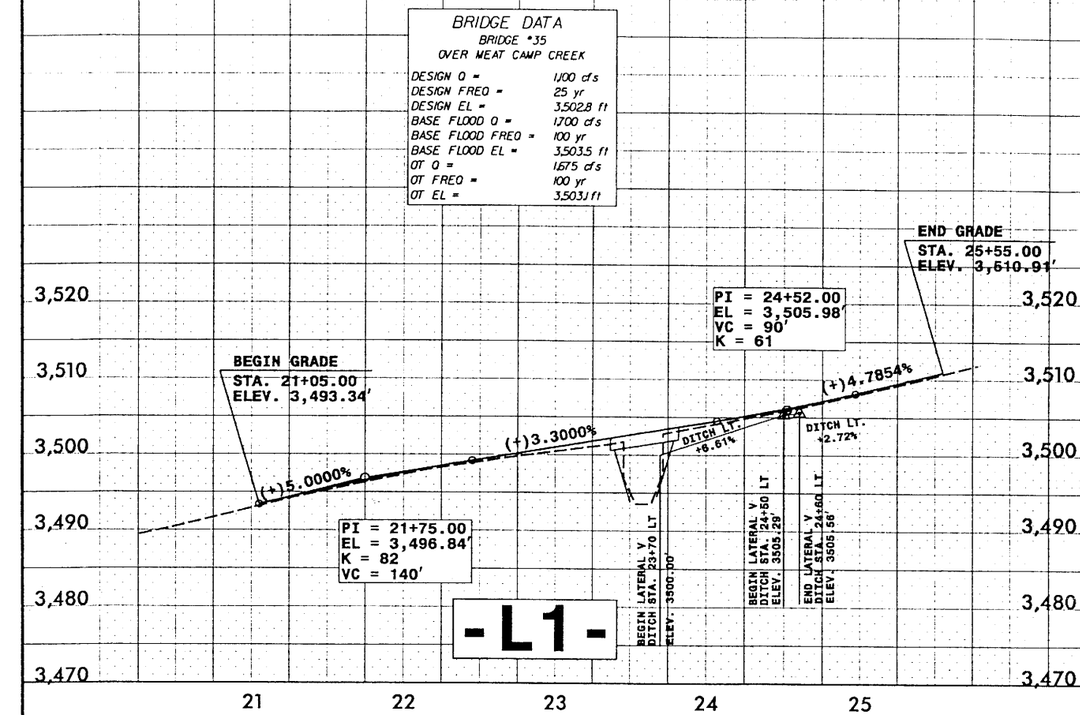
PROJECT REFERENCE NO.	SHEET NO.
B-3926	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

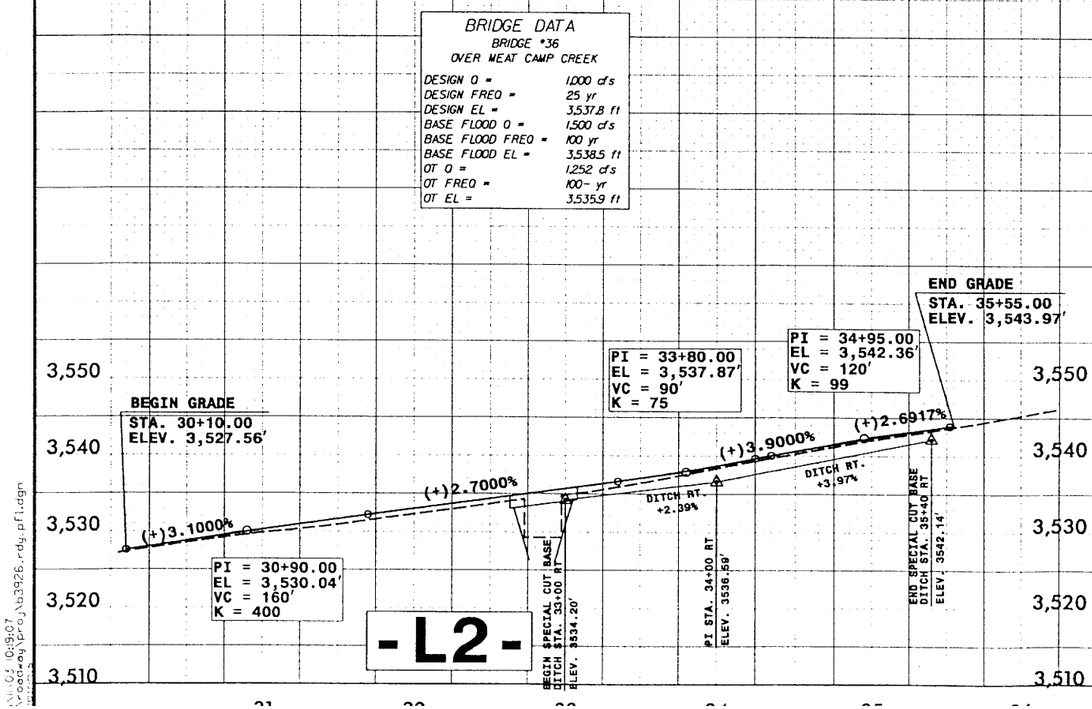
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

BENCH MARKS

BM # 1	ELEVATION = 3541.98' -BL- STATION 34+36 52' LEFT R/R SPIKE SET IN 22" LOCUS
BM # 2	ELEVATION = 3477.46' -BL- STATION 12+16 39' LEFT R/R SPIKE SET IN 25" OAK
BM # 3	ELEVATION = 3569.49' -BL- STATION 41+77 48' RIGHT R/R SPIKE SET IN 9.5" LOCUS



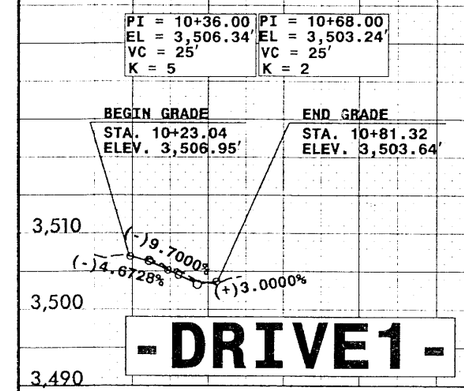


8 of 12

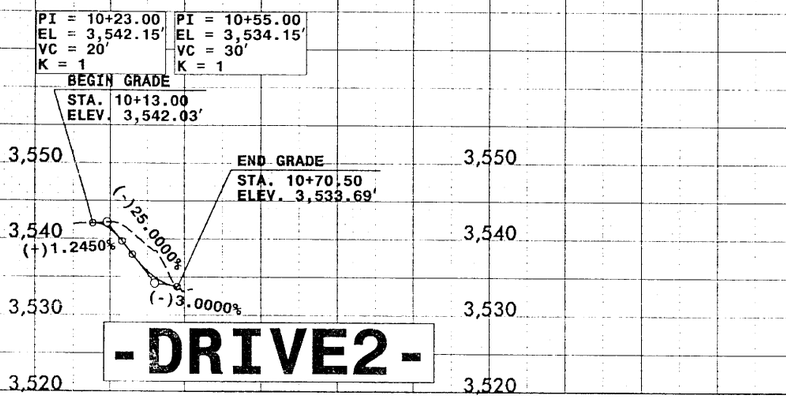
PROJECT REFERENCE NO.	SHEET NO.
B-3926	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

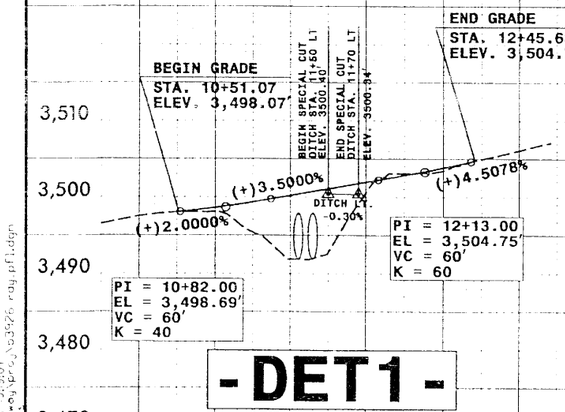
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



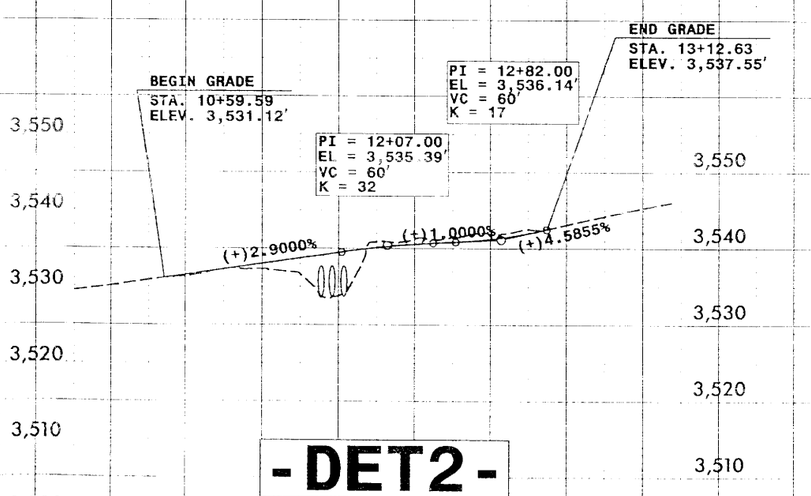
-DRIVE1-



-DRIVE2-

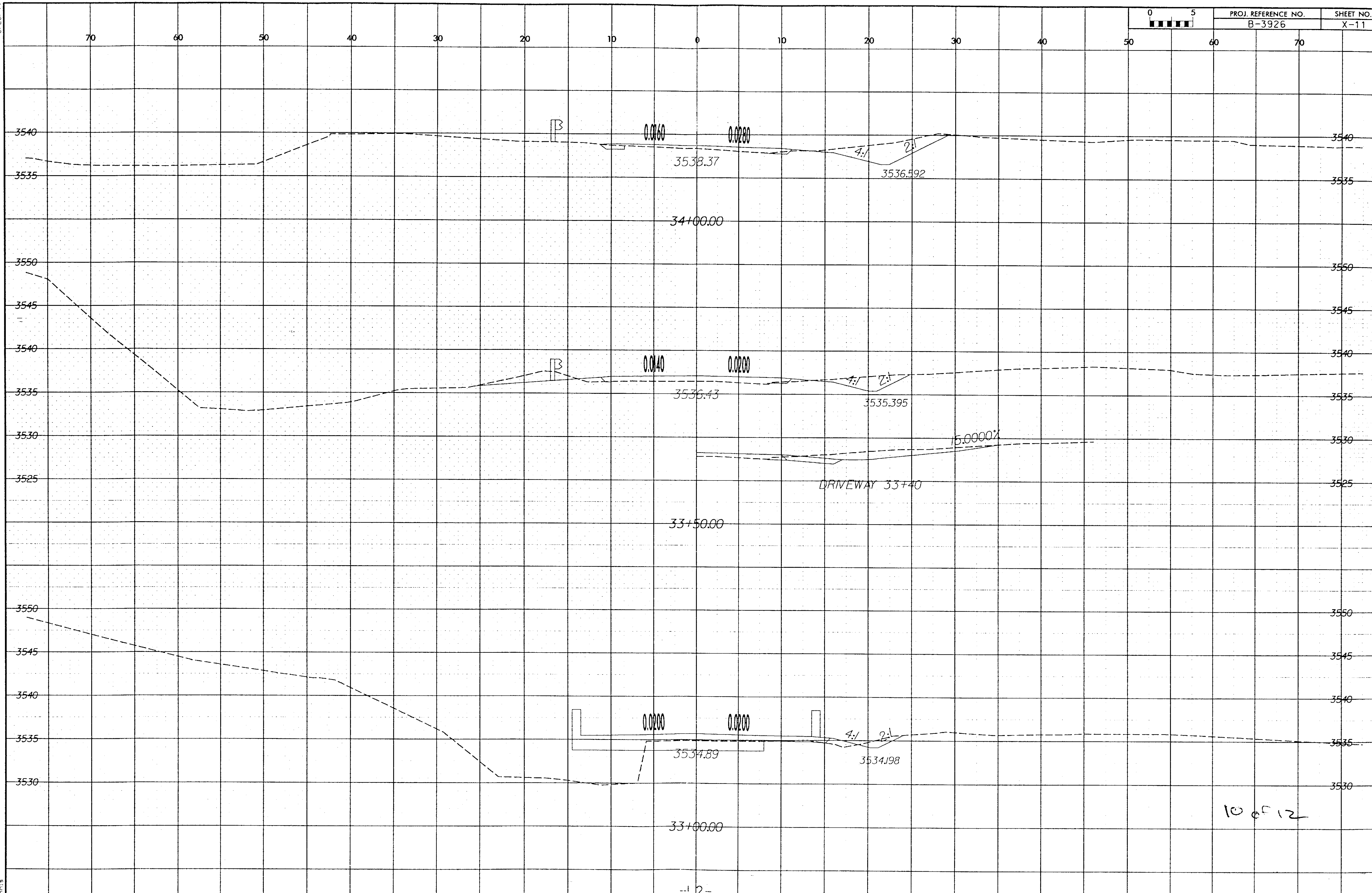


-DET1-



-DET2-

PROJ. REFERENCE NO.	SHEET NO.
B-3926	X-11

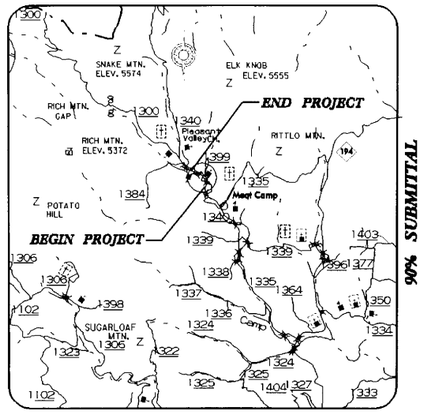


10 of 12

PROJECT: B-3926

CONTRACT: C201168

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



VICINITY MAP

90% SUBMITTAL

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WATAUGA COUNTY

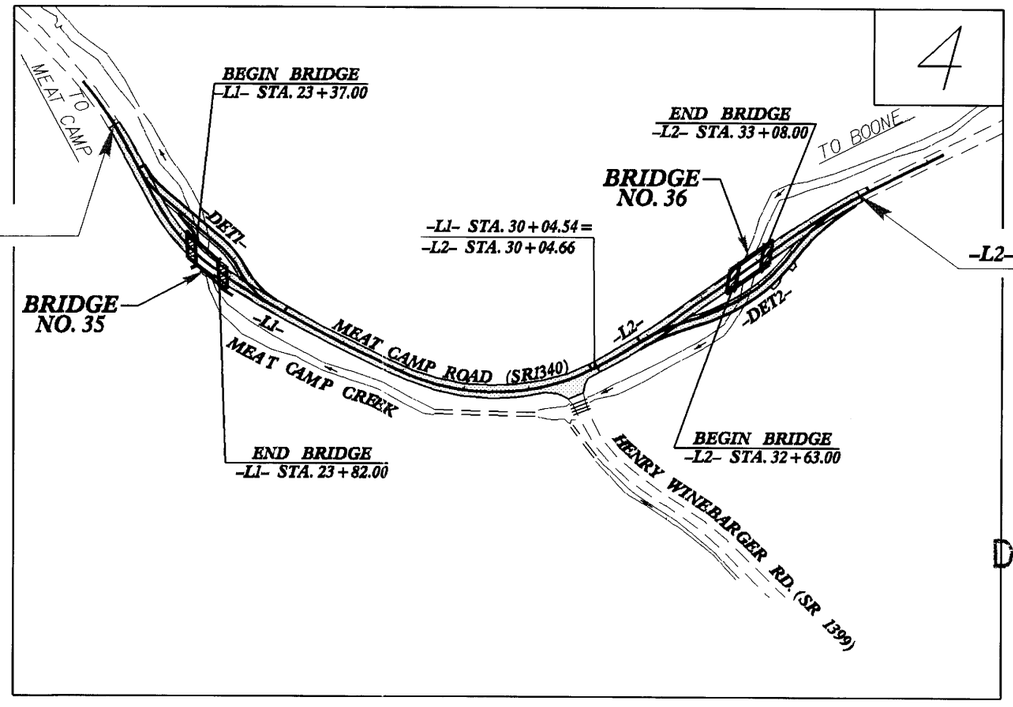
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3926	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33360.1.1	BRZ-1340 (4)	PE
33360.2.1	BRZ-1340 (7)	RW

LOCATION: *Replace Bridges No. 35 & No. 36 & approaches on SR 1340, Meat Camp Road, over Meat Camp Creek*

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES & PAVING

NAD 83



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 0 50 100 PLANS

50 0 50 100 PROFILE (HORIZONTAL)

10 0 10 20 PROFILE (VERTICAL)

DESIGN DATA

ADT 2005 = 980
ADT 2025 = 1,400
DHV = 15 %
D = 60 %
* T = 3 %
** V = 30 MPH
* (1 % TTST & 2% DUAL)
** (DESIGN EXCEPTION REQUIRED)

PROJECT LENGTH

Length Roadway TIP Project B-3926..... 0.244 mi.

Length Structure TIP Project B-3926..... 0.017 mi.

Ttotal Length of TIP Project B-3926 ..... 0.261 mi.

PLANS PREPARED BY :
RUMMEL, KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE, SUITE 105
RALEIGH, NORTH CAROLINA 27609
(919)-878-9560
FOR
DIVISION OF HIGHWAYS

2002 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: July 31, 2003
LETTING DATE: Feb. 15, 2005

B. Keith Skinner, P.E.
PROJECT ENGINEER

Michael T. Merritt, P.E.
PROJECT DESIGN ENGINEER

NCDOT CONTACT: Teresa M. Bruton, P.E.
Project Engineer-Design Services

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

PROJECT REFERENCE NO.	SHEET NO.
B-3926	1B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

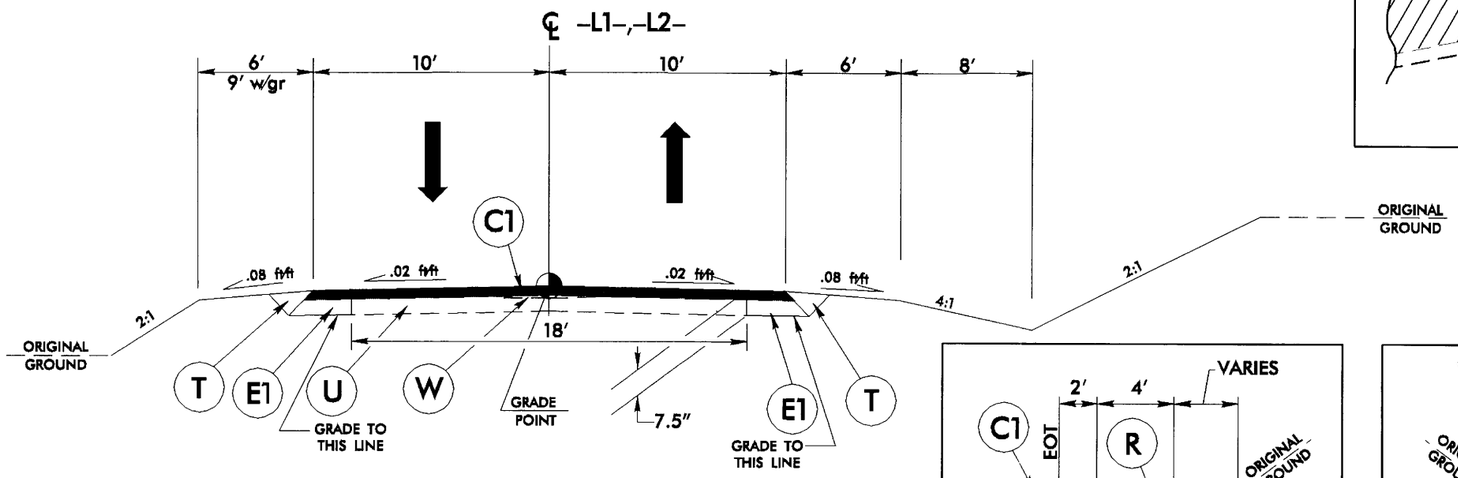
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-3926	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PAVEMENT SCHEDULE

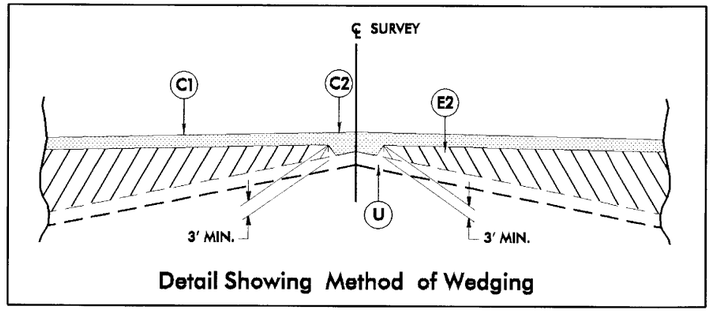
ITEM	DESCRIPTION	ITEM	DESCRIPTION
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R	EXPRESSWAY GUTTER
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.	T	EARTH MATERIAL
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT GREATER THAN 5.5" IN DEPTH OR LESS THAN 3" IN DEPTH.	W	WEDGING
J1	PROP. 8" AGGREGATE BASE COURSE		

NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1



ROADWAY TYPICAL SECTION No. 1

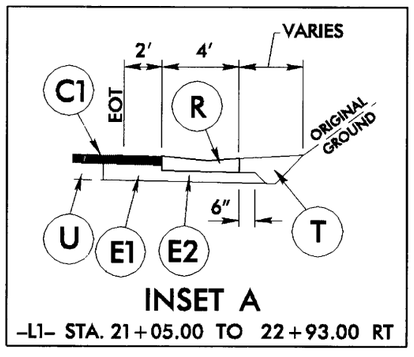
NOTE: 2.5in OVERLAY FROM –L1– STA. 25+55.00 TO STA. 30+04.54,
–L2– STA. 30+04.66 TO STA. 30+10.00, AND –L2– 34+00.00 STA. 34+85.00



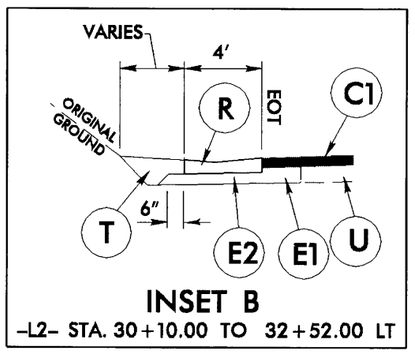
Detail Showing Method of Wedging

TRANSITION FROM EXISTING TO TYPICAL SECTION No. 1

–L1– STA. 21+05.00 TO 21+55.00
–L2– STA. 30+10.00 TO 30+60.00



INSET A
–L1– STA. 21+05.00 TO 22+93.00 RT



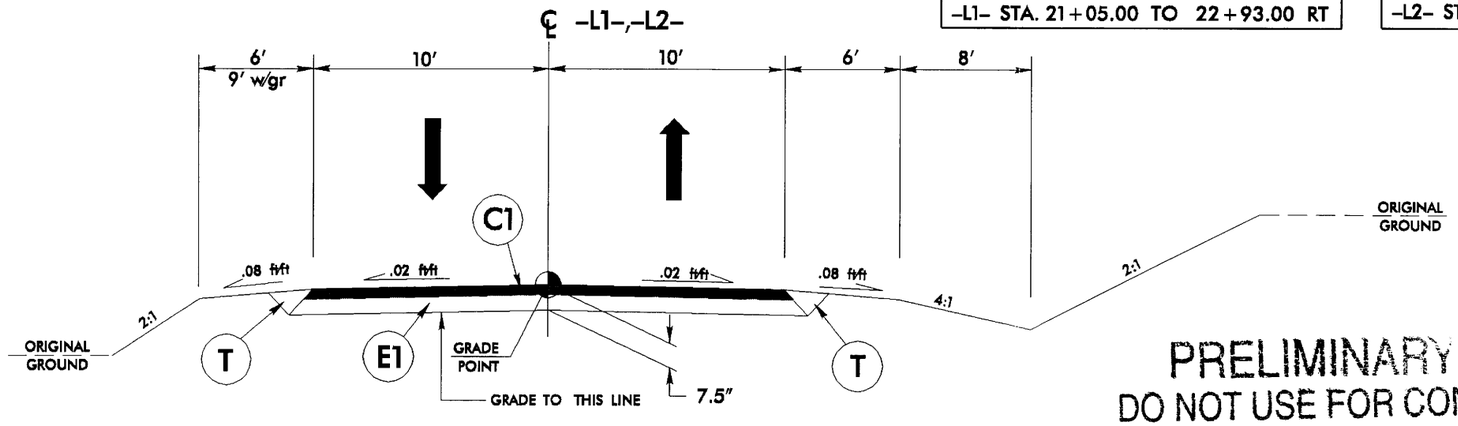
INSET B
–L2– STA. 30+10.00 TO 32+52.00 LT

USE TYPICAL SECTION No. 1

–L1– STA. 21+55.00 TO 22+50.00
–L1– STA. 24+50.00 TO 25+05.00
–L2– STA. 30+60.00 TO 32+00.00

TRANSITION FROM TYPICAL SECTION No. 1 TO EXISTING

–L1– STA. 25+05.00 TO 25+55.00



ROADWAY TYPICAL SECTION No. 2

USE TYPICAL SECTION No. 2

–L1– STA. 22+50.00 TO 23+37.00 (Begin Bridge)
–L1– STA. 23+82.00 (End Bridge) TO 24+50.00
–L2– STA. 32+00.00 TO 32+63.00 (Begin Bridge)
–L2– STA. 33+08.00 (End Bridge) TO 33+50.00

TRANSITION FROM TYPICAL SECTION No. 2 TO EXISTING

–L2– STA. 33+50.00 TO 34+00.00

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PLANS PREPARED BY :
RUMMEL · KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE SUITE 105
RALEIGH, NORTH CAROLINA · 27609-3960
(919)-878-9560
FOR
DIVISION OF HIGHWAYS

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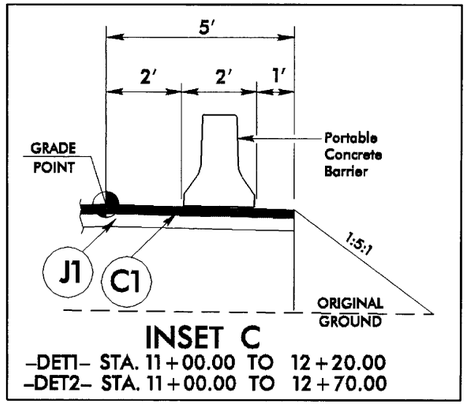
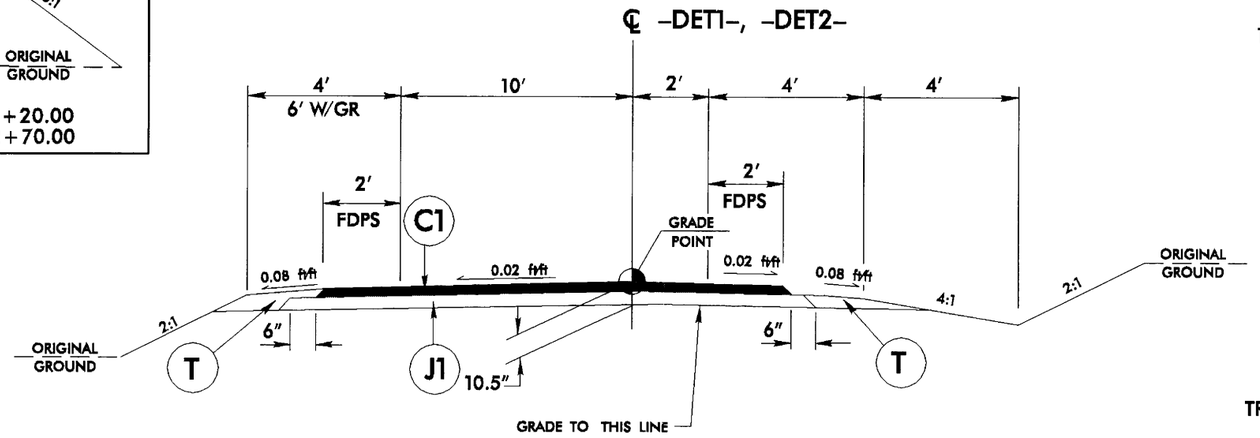
kyngland

PROJECT REFERENCE NO.	SHEET NO.
B-3926	2A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER



INSET C
–DET1– STA. 11+00.00 TO 12+20.00
–DET2– STA. 11+00.00 TO 12+70.00

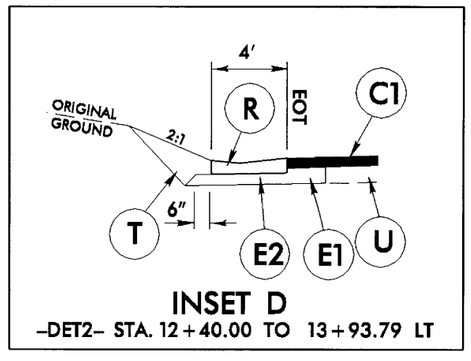


TYPICAL SECTION No. 3

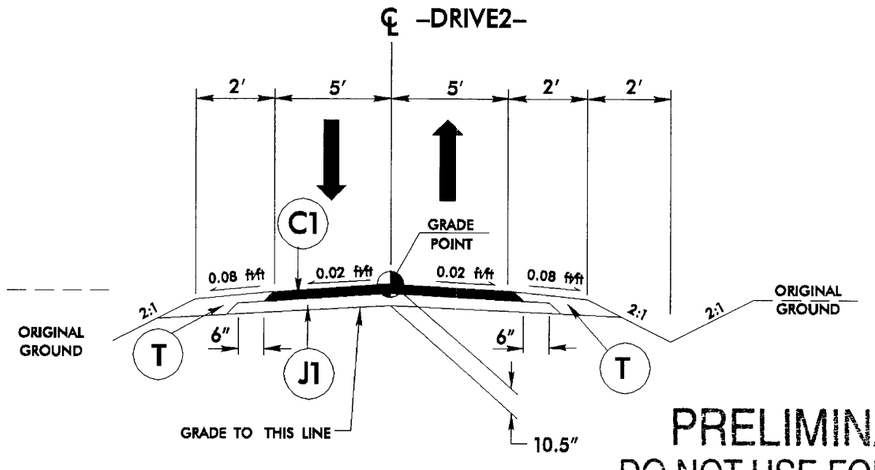
TRANSITION FROM EXISTING TO TYPICAL SECTION No.3
FROM –DET1– STA. 10+00.00 TO –DET1 STA. 10+51.07
FROM –DET2– STA. 10+00.00 TO –DET2– STA. 10+59.59

USE TYPICAL SECTION No. 3
–DET1– STA. 10+51.07 TO 12+45.68
–DET2– STA. 10+60.00 TO 13+13.00

TRANSITION FROM TYPICAL SECTION No.3 TO EXISTING
FROM –DET1– STA. 12+45.68 TO –DET1 STA. 12+95.83
FROM –DET2– STA. 13+12.63 TO –DET2– STA. 13+93.79



INSET D
–DET2– STA. 12+40.00 TO 13+93.79 LT



TYPICAL SECTION No. 4

USE TYPICAL SECTION No. 4
–DRIVE2– STA. 10+13.00 TO 10+71.00

C1	2½" S9.5A
E1	5" B25.0B
E2	VAR. B25.0B
J1	8" ABC
R	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PLANS PREPARED BY :
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(919)-878-9560
FOR
DIVISION OF HIGHWAYS

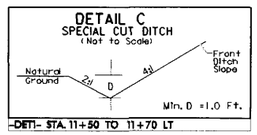
8/17/99

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
B-3926	2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXPRESSWAY GUTTER
-DET2- STA. 12+40 TO 13+93.79 RT

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



-DET1- STA. 11+50 TO 11+70 LT

RICHARD R. LARSEN & WIFE M. JAYNE LARSEN
DB 185 PG 826
1

KENNETH T. WINEBARGER
DB 291PG 165
2

EDWARD & JOYCE PARSONS
DB 92 PG 605
3

REGINA PARSONS REECE
DB 359 PG 329
4

MARY RUBY WILCOX
DB 85 PG 462
5

WOODS

PROFFITT'S GROVE CHURCH
DB 89 PG 539

PROFFITT'S GROVE BAPTIST CHURCH
DB 109 PG 846

PROFFITT'S GROVE BAPTIST CHURCH
DB 202 PG 690

PROFFITT'S GROVE BAPTIST CHURCH
DB 195 PG 799

IS BRK CHURCH

SHRUBS

VIRGIL MILLER
DB 68 PG 442
7

JAMES & BLANCHE BRYAN
DB 204 PG 769

PATRICIA ANN WRIGHT-GREEN
DB 600 PG 869

PATRICIA ANN WRIGHT-GREEN
DB 600 PG 869
CLAIM ELIM#4720
9

DARREN & LISA HODGES
DB 480 PG 901
8

DARREN & LISA HODGES
DB 480 PG 900

DO NOT CHARLENE & PATRICIA BINGHAM JR.
DB 222 PG 19

-DET1-

PI Sta 10+28.04	PI Sta 11+95.66	PI Sta 12+59.18
Δ = 21° 04' 07.5" (LT)	Δ = 22° 24' 05.9" (RT)	Δ = 34° 01' 26.7" (LT)
D = 38° 00' 00.0"	D = 45° 00' 00.0"	D = 45° 00' 00.0"
L = 55.44'	L = 49.78'	L = 75.61'
T = 28.04'	T = 25.21'	T = 38.96'
R = 150.78'	R = 127.32'	R = 127.32'

-DET2-

PI Sta 10+41.57	PI Sta 11+80.54	PI Sta 13+33.53
Δ = 16° 30' 50.4" (RT)	Δ = 37° 45' 31.5" (LT)	Δ = 24° 29' 09.8" (RT)
D = 20° 00' 00.0"	D = 20° 00' 00.0"	D = 20° 00' 00.0"
L = 82.57'	L = 188.79'	L = 122.43'
T = 41.57'	T = 97.97'	T = 62.16'
R = 286.48'	R = 286.48'	R = 286.48'

NOTE: SEE SHEET 6 FOR DETOUR PROFILES.

NOTE: ALL DRIVWAYRADII ARE 5' UNLESS OTHERWISE SPECIFIED.

NOTE: MAINTAIN DRIVEWAY ACCESS ACCORDING TO STANDARD SPECIFICATION 1101-08 (SEE TCP-3).

PLANS PREPARED BY :
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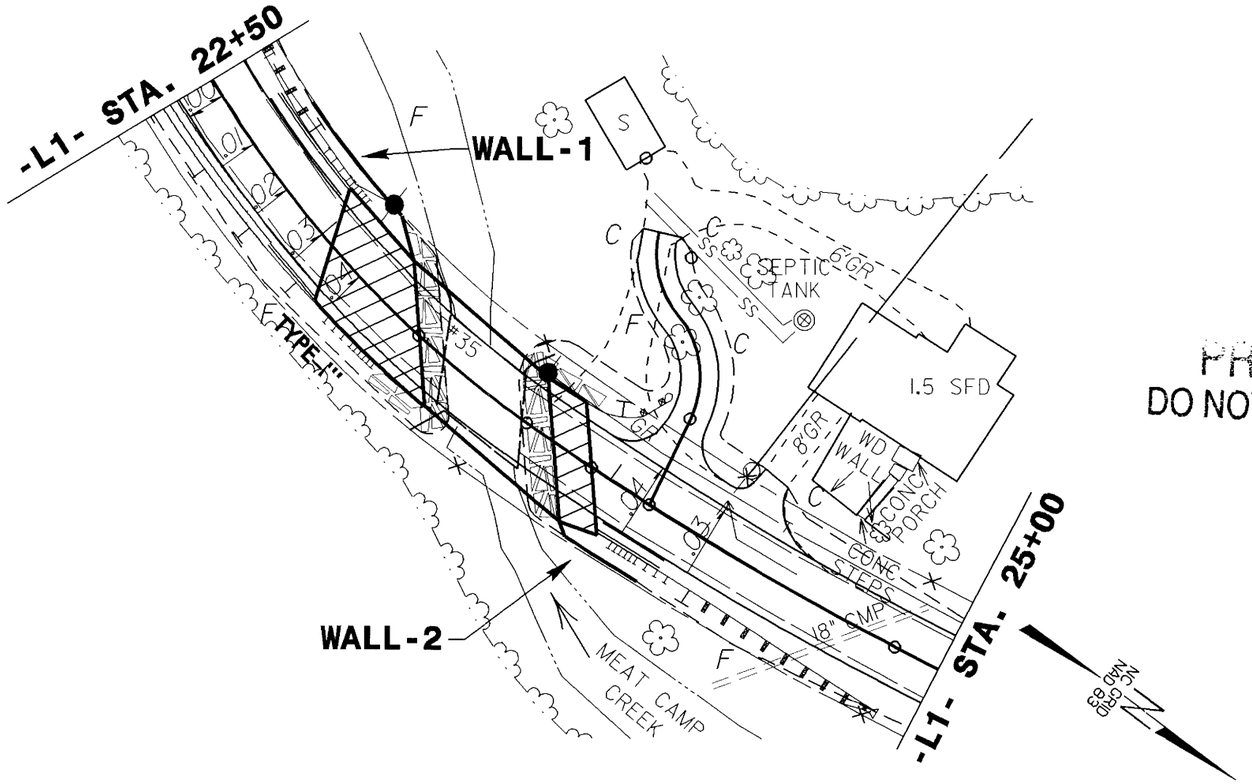
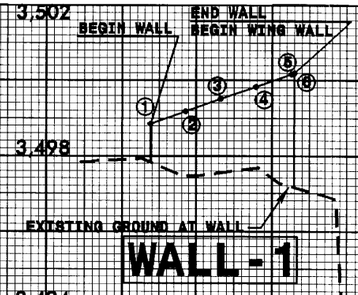
(919)-878-9560
FOR
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-3926	2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

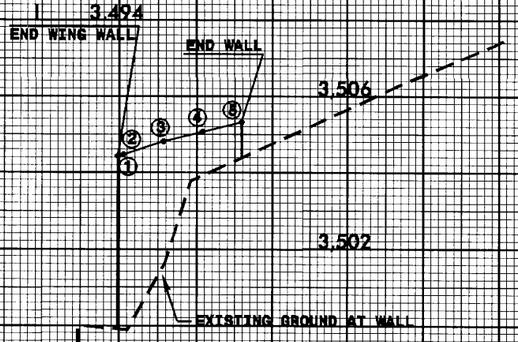


PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



WALL-1

PT#	-L1- STA.	-L1- OFF.	ELEVATION
1	22+70.00	-19.00	3,498.65'
2	22+80.00	-19.00	3,499.18'
3	22+90.00	-19.00	3,499.51'
4	23+00.00	-19.00	3,499.64'
5	23+10.00	-19.00	3,500.17'
6	23+10.82	-19.00	3,500.20'



WALL-2

PT#	-L1- STA.	-L1- OFF	ELEVATION
1	23+98.52	19.00'	3,504.44'
2	24+00.00	19.00'	3,504.48'
3	24+10.00	19.00'	3,504.62'
4	24+20.00	19.00'	3,505.07'
5	24+30.00	19.00'	3,505.33'

GRAPHIC SCALES
PLAN (HORIZONTAL) 10 0 10 20
PROFILE (VERTICAL) 1 0 1 2

PLANS PREPARED BY :
RUMMEL KLEPPER & KAHL, LLP
consulting engineers
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RALEIGH, NORTH CAROLINA 27609-3960
(919)-878-9560
FOR
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
B-3926	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DATE: -PARCEL 1,47; REVISED PARCEL NAME, PARCEL 1; ADDED NOTE 'DO NOT DISTURB SEPTIC DRAIN LINES'. (INITIAL CONTACTS) 5/17/99

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN APPROACH SLAB -U- Sta.23+03.99
BEGIN BRIDGE -U- Sta.23+37.00
END BRIDGE -U- Sta.23+82.00
END APPROACH SLAB -U- Sta.23+94.13

-U- PC Sta. 20+25.81

BEGIN TIP PROJECT B-3926
-L1- POC Sta. 21+05.00

-U- PT Sta. 21+28.27
-U- PC Sta. 21+43.25

-BL-5 20+58.16 PINC=
-L1- 20+70.87 16.36' LT

N 4° 38' 18.1" W 225.50' PT

N 26° 33' 13.8" E

TURP MATTING

50' TAPER

WOOD BRIDGE 45° TYP.

GRAU 350

-U- PRC Sta. 22+35.82

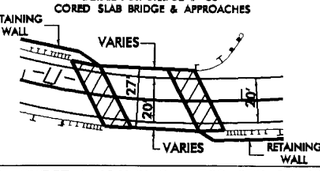
-BL-6 23+18.27 PINC=
-L1- 23+26.03 14.01' RT

BEGIN APPROACH SLAB
-U- POC STA.23+03.99

-U- POC STA.23+37.00
-U- PCC Sta. 23+73.47
-U- PCC Sta. 23+82.00
END APPROACH SLAB
-U- PCC Sta. 23+94.13
-U- POT Sta. 24+12.00
-DRIVE1- POT Sta. 10+77.22
-U- PT Sta. 24+87.15

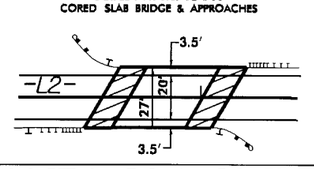
RETAINING WALL #1
WINEGARDEN
DB 291PG 165

DETAIL FOR BRIDGE # 35
CORED SLAB BRIDGE & APPROACHES



SEE SHEET S-1 THRU S- FOR STRUCTURE AND RETAINING WALL PLAN

DETAIL FOR BRIDGE #36
CORED SLAB BRIDGE & APPROACHES

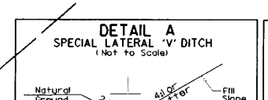


SEE SHEET S- THRU S- FOR STRUCTURE PLAN

EXPRESSWAY GUTTER
-L1- STA. 21+08 TO 22+93 RT
-L2- STA. 30+10 TO 32+52 LT

SHOULDER BERM GUTTER
-L1- STA. 22+93 TO 23+11 RT
-L1- STA. 22+62 TO 22+97 LT
-L1- STA. 24+07 TO 24+23 RT
-L2- STA. 32+52 TO 32+59 LT
-L2- STA. 32+19 TO 32+33 RT
-L2- STA. 33+11 TO 33+26 RT
-L2- STA. 33+38 TO 33+54 LT

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

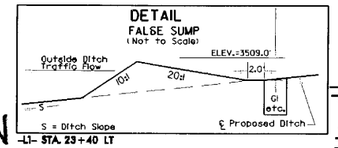


-L1- STA. 23+70 TO 24+60 LT

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)

-L2- STA. 33+00 TO 34+00 RT

DETAIL
FALSE SUMP
(Not to Scale)



-L1- STA. 23+40 LT

RICHARD R. LARSEN & WIFE M. JAYNE LARSEN
DB 185 PG 826

S65°53'19"E 46.80'

DO NOT DISTURB SEPTIC DRAIN LINES

-DRIVE1- PCS Sta. 10+00.00
-DRIVE1- PRC Sta. 10+23.25
-DRIVE1- PT Sta. 10+51.74
N 78° 21' 24.0" E

2 TONS CL B RIPRAP W/7 SY FIL FAB

NC GRID NAD 83

EDWARD & JOYCE PARSONS
DB 92 PG 605

-BL-9 32+50.44 PINC
-L2- 32+40.72 14.01' RT

-L2- POT Sta. 32+40.00
-DRIVE2- POT Sta. 10+80.66
N 5° 24' 07.0" E
-DRIVE2- PT Sta. 10+65.32
-DRIVE2- PC Sta. 10+35.32
N 51° 54' 29.0" W
-DRIVE2- PT Sta. 10+22.45
-DRIVE2- PC Sta. 10+12.83
N 70° 05' 41.0" W
-DRIVE2- POT Sta. 10+00.00

-L2- PT Sta. 31+56.44

REGINA PARSONS REECE
DB 359 PG 329

BEGIN GRADE
-L2- POC Sta. 30+10.00

END GRADE
-U- POT Sta. 25+55.00
-U- POT Sta. 25+78.47
-U- PCC Sta. 27+14.30

-U- PCC Sta. 27+53.99
-U- PT Sta. 30+04.54=
-L2- PC Sta. 30+04.66

-BL-8 29+25.43 PINC
-BY- 5+00.00 POT
-L1- 29+22.02 23.60' RT

N 27° 49' 22.6" W

3 TONS CL B RIPRAP W/10 SY FIL FAB

PROFFITT'S GROVE CHURCH
DB 89 PG 539

PROFFITT'S GROVE BAPTIST CHURCH
DB 109 PG 846

-U- PCC Sta. 28+41.60

-BL-7 26+42.11 PINC
-L1- 26+46.08 15.45' RT

PROFFITT'S GROVE BAPTIST CHURCH
DB 195 PG 799

PROFFITT'S GROVE BAPTIST CHURCH
DB 202 PG 690

GABION BASKET RETAINING WALL

S29°28'18"E 483.73'

-BY-12 8+98.73 POT

MARY RUBY WILCOX
DB 85 PG 462

VIRGIL MILLER
DB 68 PG 442

-L2- PT Sta. 36+24.48

JAMES & BLANCHE BRYAN
DB 204 PG 769

-L2- PCC Sta. 34+95.51

END PROJECT B-3926
-L2- POC Sta. 34+85.00

PATRICIA ANN WRIGHT-GREEN
DB 600 PG 869

-BL-10 35+97.30 PINC=
-L2- 35+86.67 15.38' LT

END GRADE
-L2- POC Sta. 34+00.00
-L2- PC Sta. 33+36.10

DARREN & LISA HODGES
DB 480 PG 900

N 74° 47' 46.6" W

REMOVE FENCE

SPECIAL CUT BASE DITCH SEE DETAIL B
ADJUST DRAIN LINE

DO NOT DISTURB SEPTIC DRAIN LINES

CHARLES & PATRICIA BINGHAM JR.
DB 222 PG 19

BEGIN APPROACH SLAB -L2- Sta. 32+46.00
BEGIN BRIDGE -L2- Sta. 32+63.00
END BRIDGE -L2- Sta. 33+08.00
END APPROACH SLAB -L2- Sta. 33+25.00

MARY RUBY WILCOX
DB 85 PG 462

2 TONS CL B RIPRAP W/7 SY FIL FAB

N20°35'45"E 224.68'

-U-

PI Sta 20+77.20	PI Sta 21+89.54
Δ = 11° 11' 17.6" (RT)	Δ = 1° 23' 19.0" (RT)
D = 10° 55' 11.7"	D = 1° 30' 00.0"
L = 102.46'	L = 92.57'
T = 51.39'	T = 46.29'
R = 524.69'	R = 3,819.72'
e = SEE PLANS	e = SEE PLANS
Ro = SEE PLANS	Ro = SEE PLANS

-U-

PI Sta 23+05.87	PI Sta 24+30.40
Δ = 26° 09' 11.9" (LT)	Δ = 7° 57' 28.4" (LT)
D = 19° 00' 00.0"	D = 7° 00' 00.0"
L = 137.65'	L = 113.68'
T = 70.04'	T = 56.93'
R = 301.56'	R = 818.51'
e = .04	e = .04
Ro = SEE PLANS	Ro = SEE PLANS

-DRIVE1-

PI Sta 10+12.54	PI Sta 10+39.26
Δ = 53° 14' 10.0" (LT)	Δ = 65° 15' 09.0" (RT)
D = 229° 00' 00.0"	D = 229° 00' 00.0"
L = 23.25'	L = 28.49'
T = 12.54'	T = 16.02'
R = 25.02'	R = 25.02'

-U-

PI Sta 26+46.43	PI Sta 27+34.18
Δ = 5° 26' 32.6" (LT)	Δ = 8° 55' 07.5" (LT)
D = 4° 00' 24.1"	D = 22° 28' 08.2"
L = 135.83'	L = 39.69'
T = 67.97'	T = 19.89'
R = 1,430.00'	R = 255.00'

-U-

PI Sta 27+97.97	PI Sta 29+24.91
Δ = 12° 32' 55.6" (LT)	Δ = 29° 20' 25.2" (LT)
D = 14° 19' 26.2"	D = 18° 08' 22.2"
L = 87.61'	L = 162.94'
T = 43.98'	T = 83.31'
R = 400.00'	R = 316.93'

-DRIVE2-

PI Sta 10+17.73	PI Sta 10+51.71
Δ = 18° 11' 12.0" (RT)	Δ = 57° 18' 36.0" (RT)
D = 191° 00' 00.0"	D = 191° 00' 00.0"
L = 9.52'	L = 30.01'
T = 4.80'	T = 16.39'
R = 30.00'	R = 30.00'

-L2-

PI Sta 30+80.68	PI Sta 34+15.95	PI Sta 35+60.00
Δ = 8° 05' 23.6" (LT)	Δ = 8° 22' 09.2" (RT)	Δ = 1° 52' 14.5" (RT)
D = 5° 19' 47.4"	D = 5° 15' 00.0"	D = 1° 27' 01.9"
L = 151.78'	L = 159.41'	L = 128.97'
T = 76.02'	T = 79.85'	T = 64.49'
R = 1,075.00'	R = 1,091.35'	R = 3,949.98'
e = .03	e = SEE PLANS	
Ro = 50'	Ro = SEE PLANS	

DATUM DESCRIPTION (-L1-)

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B3926-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 938351.522 11(ft) EASTING: 1211230.510 01(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988164 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B3926-1" TO -L1- STATION 20+25.81 IS N 35° 48' 22.0" W 2,104.90 ft ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

DATUM DESCRIPTION (-L2-)

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B3926-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 938351.522 11(ft) EASTING: 1211230.510 01(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988164 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B3926-1" TO -L2- STATION 36+04.66 IS N 27° 56' 39.0" W 2,927.15 ft ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

NOTE: SEE SHEET 5 FOR -U- & -L2- PROFILES
SEE SHEET 6 FOR -DRIVE1- & -DRIVE2- PROFILES.

NOTE: 2.5in OVERLAY FROM -U- STA. 25+55.00 TO -U- STA. 30+04.54, -L2- STA. 30+04.66 TO -L2- STA. 30+10.00, AND -L2- STA. 34+00.00 TO -L2- STA. 34+85.00
ALL DRIVEWAY RADII ARE 5' UNLESS OTHERWISE SPECIFIED

PLANS PREPARED BY :
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consulting engineers
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FOR
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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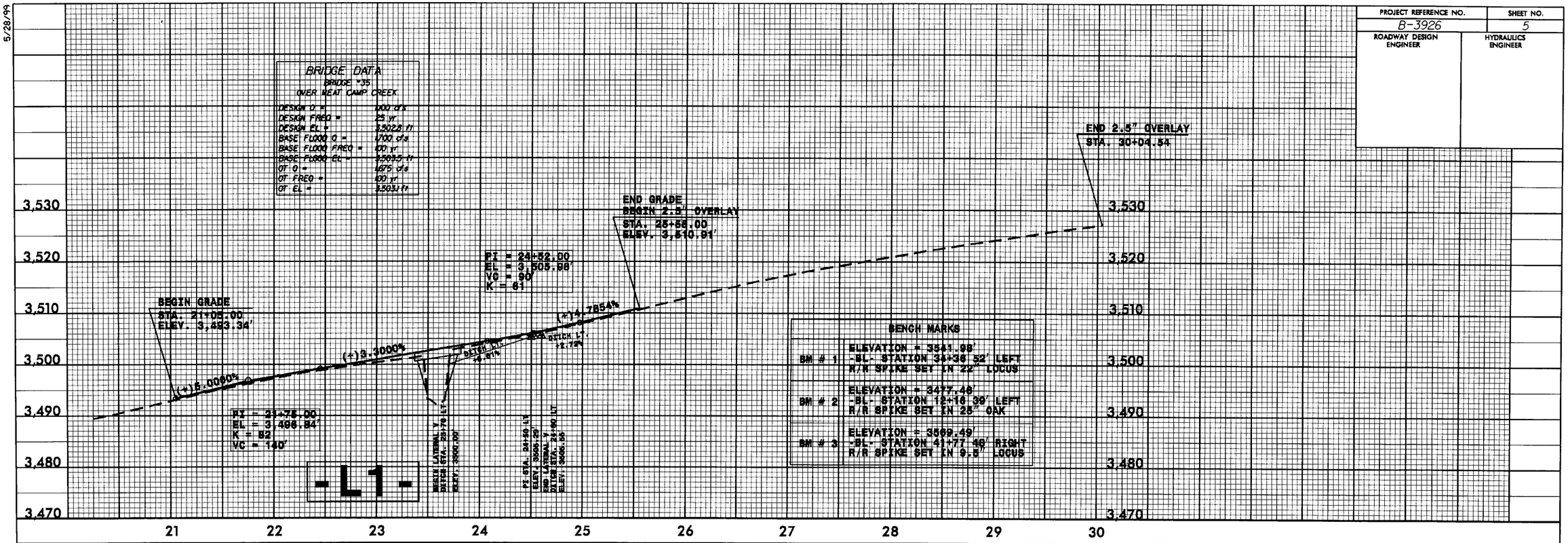
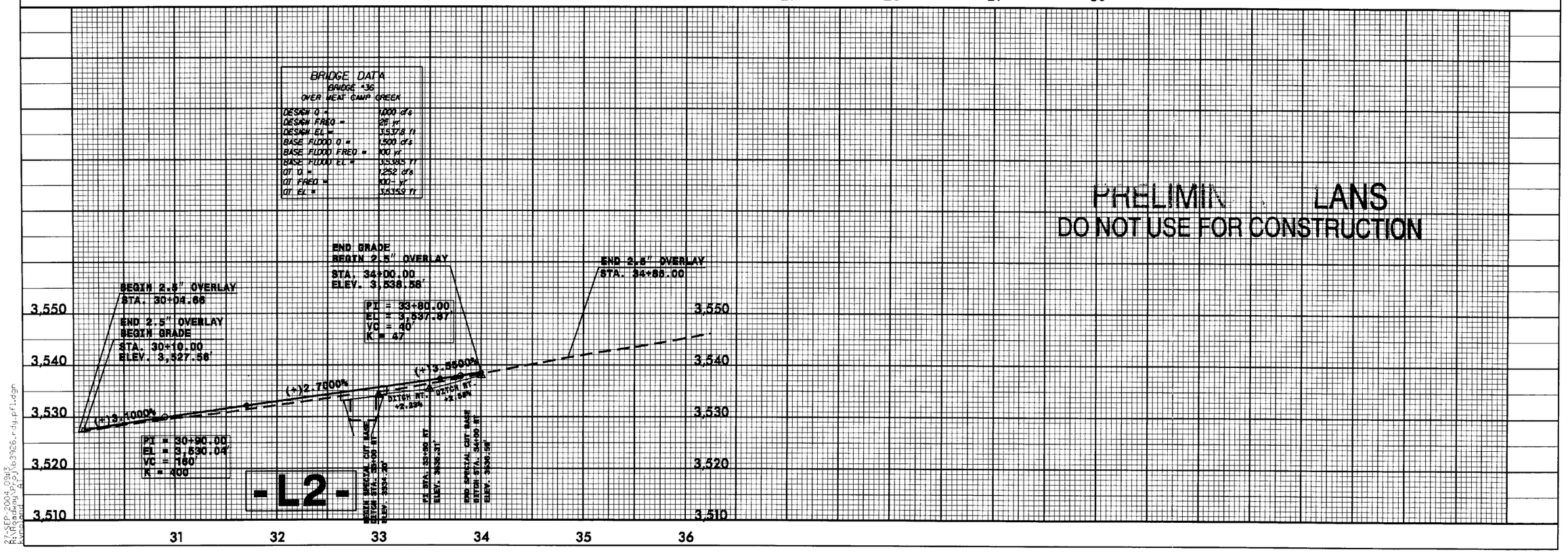
kwoodard

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-3926	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





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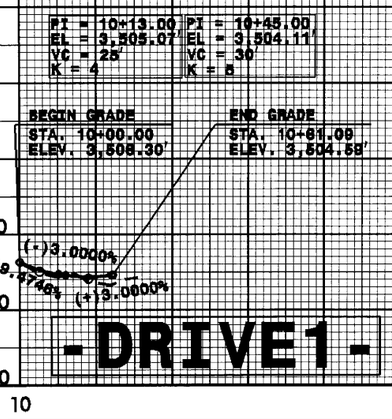
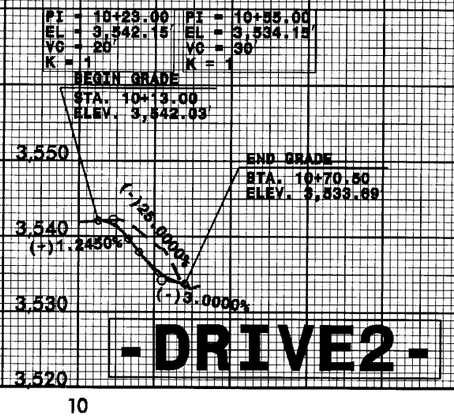
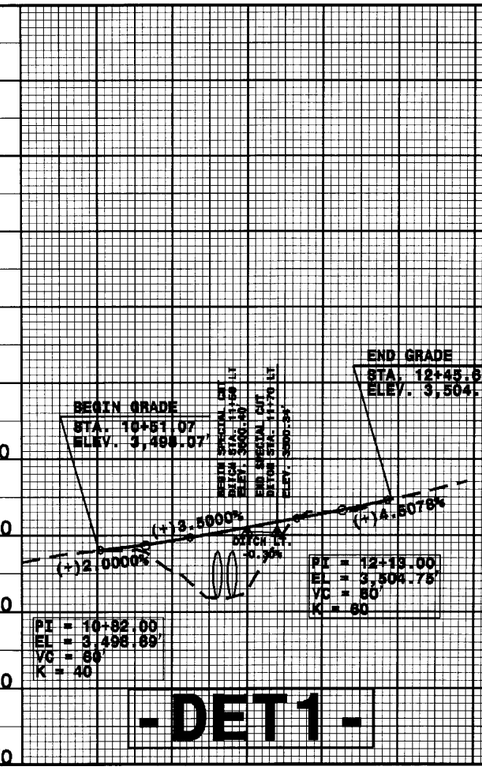
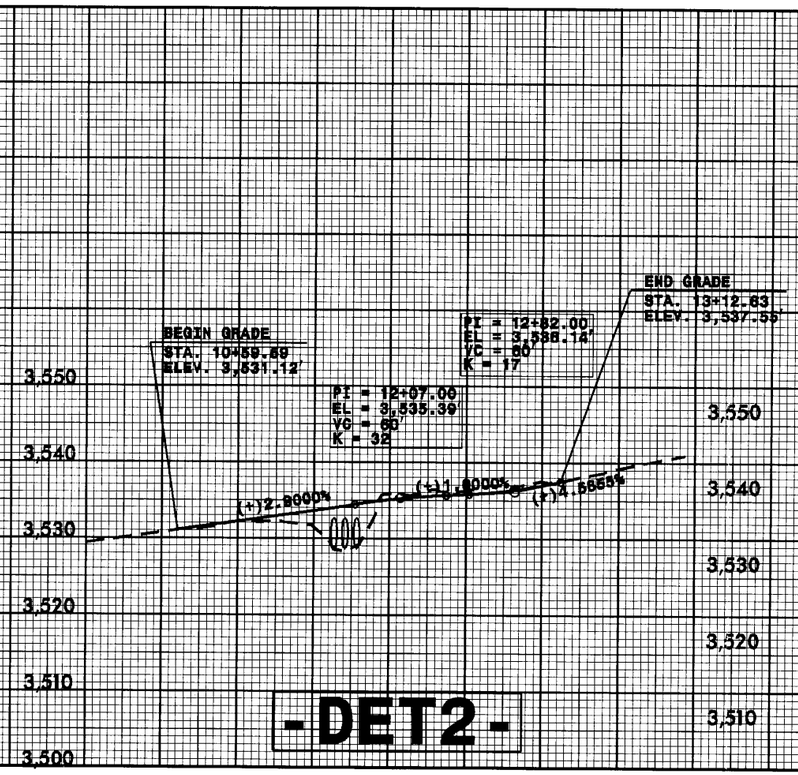
PROJECT REFERENCE NO.	SHEET NO.
B-3926	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION









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PROPERTY NO.	PROPERTY OWNER NAME	DEED BOOK AND PAGE
1	RICHARD R. LARSEN & M. JAYNE LARSEN	DB 185 PG 826
5	MARY RUBY WILCOX	DB 85 PG 462

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

PROJECT 8.2752101 (B-3926)

BRIDGE NO. 35 ON SR1340
OVER MEAT CAMP CREEK

SHEET 11 OF 12 06/24/03

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WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS				SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	-DET1- 11+30	DET. CULVERT FILL							0.03		
1	-DET2- 11+75	DET. CULVERT FILL							0.02		
TOTALS:			0	0	0	0	0	0	0.05	0	0

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WATAUGA COUNTY
PROJECT 8.2752101 B3926

SHEET 12 OF 12 6/24/2003

Form Revised 3/22/01

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Watauga County

Bridge Nos. 35 and 36 on SR 1340 (Meat Camp Road)

Over Meat Camp Creek

Federal Aid Project No. BRZ-1340 (4)

State Project No. 8.2752101

T.I.P. No. B-3926

CATEGORICAL EXCLUSION

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

APPROVED:

October 30, 2002
DATE

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

October 30, 2002
DATE

for Nicholas L. Graf, P.E.
Division Administrator
Federal Highway Administration

Watauga County

Bridge Nos. 35 and 36 on SR 1340 (Meat Camp Road)

Over Meat Camp Creek

Federal Aid Project No. BRZ-1340 (4)

State Project No. 8.2752101

T.I.P. No. B-3926

CATEGORICAL EXCLUSION

October 2002

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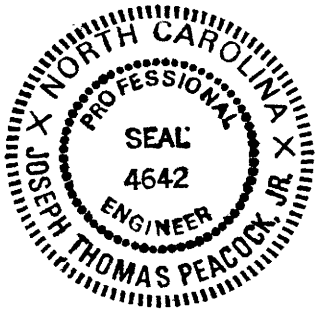
Associate



For the North Carolina Department of Transportation

Robert Andrew Joyner, P.E.

Project Manager

Consultant Engineering Unit

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State Project No. 8.2752101
T.I.P. No. B-3926

DESIGN SERVICES UNIT, DIVISION 11

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

- The North Carolina Department of Transportation (NCDOT) will strictly adhere to "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) (High Quality Water Standards) throughout design and construction of this project.

Watauga County

Bridge Nos. 35 and 36 on SR 1340 (Meat Camp Road)

Over Meat Camp Creek

Federal Aid Project No. BRZ-1340 (4)

State Project No. 8.2752101

T.I.P. No. B-3926

INTRODUCTION: The replacement of Bridge Nos. 35 and 36 are included in the 2002-2008 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) and in the Federal Aid Bridge Replacement Program. The location of these bridges is shown on Figure 1. The project study area is divided into two sections. The southern section is designated Section 1 and is located around Bridge No. 35. The northern section is designated Section 2 and is located around Bridge No. 36. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

Bridge Maintenance Unit records indicated in 1997 that Bridge No. 35 had a sufficiency rating of 48.3 out of a possible 100. Due to changes in the inventory rating of a ton difference and the change in average daily traffic of 200 cars per day, the sufficiency rating increased to 51.3 in November 2001. This bridge is still considered functionally obsolete and structurally deficient. The replacement of this inadequate structure will result in safer and more efficient traffic operations.

Bridge Maintenance Unit records indicated that Bridge No. 36 has a sufficiency rating of 49.4 out of a possible 100 for a new structure. It was last inspected in September 1999. This bridge is considered functionally obsolete and structurally deficient. The replacement of this inadequate structure will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

Bridge Nos. 35 and 36 are located in Watauga County on SR 1340 (Meat Camp Road). Bridge No. 35 is approximately 0.1 mile [0.16 kilometer (km)] south of the junction of SR 1399 (Henry Winebarger Road). Bridge No. 36 is approximately 0.1 mile (0.16 km) northwest of the junction of SR 1399. The bridges are located approximately 900 feet (274.3 m) apart. The local area surrounding the

proposed project is mountainous and land use is best described as residential with areas of maintained right-of-way.

SR 1340 is classified as a rural local route in the Statewide Functional Classification System.

In the vicinity of the bridges, SR 1340 is a 17-foot [5.2-meter (m)] paved, 2-lane roadway. The roadway grade is relatively flat through the project area. The roadway is situated approximately 9 feet (2.7 m) from crown to bed above the riverbed at Bridge No. 35. The roadway is situated approximately 6 feet (1.8 m) from crown to bed above the riverbed at Bridge No. 36.

The current (2001) traffic volume of 900 vehicles per day (VPD) is expected to increase to 1,400 VPD by the year 2025. The project volume includes 1-percent truck-tractor semi-trailer (TTST) and 2 percent dual-tired vehicles (DT). The speed limit is not posted.

There was one accident reported in the vicinity of the bridges during the 3-year period beginning January 01, 1998 through December 31, 2000. These figures resulted in a total accident rate of 297 accidents (ACC)/100 million vehicle miles (MVM).

Bridge No. 35 is a 26-foot (7.9-m) long single span with a clear roadway width of 19.2 feet (5.9 m). The bridge has an asphalt-wearing surface on a timber floor supported by nine lines of 12-inch [30.5-centimeters (cm)] steel I-beams. The end bents consist of timber caps with timber posts and sills. The posted weight limit on this bridge is 17 tons for single vehicles and 24 tons for tractor trailer/semi-trucks (TTSTs). Bridge No. 35 was built in 1961. Photos of the existing bridge are shown in Figures 4a and 4b.

Bridge No. 36 is a 26-foot (7.9-m) long single span with a clear roadway width of 19.2 feet (5.9 m). The bridge has an asphalt-wearing surface on a timber floor supported by nine lines of 12-inch (30.5-cm) steel I-beams. The end bents consist of timber caps with timber posts and sills. The posted weight limit on this bridge is 17 tons for single vehicles and 23 tons for tractor trailer/semi-trucks (TTSTs). Bridge No. 36 was built in 1961. Photos of the existing bridge are shown in Figure 4c.

There are no utilities attached directly to Bridge No. 35; however, power and telephone lines are located overhead parallel to SR 1340. There is also an underground telephone line at this site. No utilities

are attached directly to Bridge No. 36; however, there are underground and aerial telephone service lines at this site along with aerial electrical lines.

Two school buses cross Bridge Nos. 35 and 36 four times daily on their routes. In a letter dated February 13, 2001, the Watauga County Board of Education indicated that "closing this bridge during school operating months would mean that approximately 38 students would not have bus service because there is no practical way to route around this closure" (See letter in Appendix).

According to Watauga County Emergency Services, Alternative 1 is not acceptable due to the long off-site detour. They stated "the community could lose homes and lives if Alternative 1 is chosen".

III. ALTERNATIVES

A. Project Description

The replacement structure for both bridges will consist of a one-span bridge 35 feet (10.7 m) long and 27 feet (8.2 m) wide. The replacement structure will require vertical abutments on each end. This structure provides two 10-foot (3.0-m) lanes with 3.5-foot (1.1-m) shoulders on each side. The proposed approach roadway for both bridges will consist of a 20-foot (6.1-m) pavement width to provide two 10-foot (3.0-m) lanes with 6-foot (1.8-m) shoulders on each side (See Figure 3a).

The recommended bridge length is based on a preliminary hydraulic review. The final design of the bridge will be such that the backwater elevation will not increase the current 100-year floodplain limit. The proposed roadway and structure should be placed at approximately the same elevation and have the same bridge opening to avoid affecting the floodplain and causing an increase in the backwater upstream of the proposed construction. All alternatives follow these general guidelines and are therefore acceptable. The new structure should satisfy economic constraints, improve existing conditions, accommodate design flows, and minimize environmental impacts on any sensitive natural ecosystems that may be in the vicinity of the project study area.

B. Build Alternatives

The alternatives studied for replacing Bridge Nos. 35 and 36 are shown on Figure 2 and described as follows.

1. **Bridge No. 35**

Section 1 is the study area for Bridge No. 35. This section is centered around SR 1340, beginning approximately 350 feet (106.7 m) south of SR 1399 and extending south approximately 560 feet (170.7 m). Section 1 is approximately 350 feet (106.7 m) in width. Two alternatives for the replacement of Bridge No. 35 are being considered within Section 1.

Alternative 1 – replaces the bridge along existing alignment. The approach work will extend from approximately 125 feet (38.1 m) north of the bridge to approximately 140 feet (42.7 m) south of the bridge for a total distance of 300 feet (91.4 m). The proposed structure will be approximately 35 feet (10.7 m) long and 27 feet (8.2 m) wide. During construction, traffic will be maintained on an off-site detour. The length of the off-site detour is approximately 26 miles (41.8 km) and uses the following route: SR 1300 (unpaved Rich Mountain Road), NC 421, NC 421/NC 321/NC 194, NC 194, SR 1335 (Longhope Road), and SR 1340 (Meat Camp Road). The design speed is 30 mph [50 kilometers per hour (km/h)]. A design exception will not be necessary for this alternative. The alternative is not recommended because of the length of the off-site detour.

Alternative 2 (Preferred)– replaces the bridge along existing alignment. The approach work will extend from approximately 125 feet (38.1 m) north of the bridge to approximately 140 feet (42.7 m) south of the bridge for a total distance of 300 feet (91.4 m). The proposed structure will be approximately 35 feet (10.7 m) long and 27 feet (8.2 m) wide. During construction, traffic will be maintained on a temporary detour using temporary pipe culverts located approximately 40 feet (12.2 m) west (downstream) of the existing bridge. The detour approach work will extend from approximately 130 feet (39.6 m) north of the bridge to approximately 160 feet (48.8 m) south of the culvert for a total distance of 290 feet (88.4 m). The design speed is 30 mph (50 km/h). A design exception will not be necessary for this alternative.

2. **Bridge No. 36**

Section 2 is the study area for Bridge No. 36. This section is centered around SR 1349, from its intersection with SR 1399 extending north approximately 750 feet (228.6 m). Section 2 is approximately 350 feet (106.7 m) in width. Two alternatives for the replacement of Bridge No. 36 are being considered within Section 2.

Alternative 1 – replaces the bridge along existing alignment. The approach work will extend from approximately 150 feet (45.7 m) west of the bridge to approximately 85 feet (25.9 m) east of the bridge for a total distance of 270 feet (82.3 m). The proposed structure will be approximately 35 feet (10.7 m) long and 27 feet (8.2 m) wide. During construction, traffic will be maintained with an off-site detour. The length of the off-site detour is approximately 26 miles (41.8 km) and uses the following route: SR 1300 (unpaved Rich Mountain Road), NC 421, NC 421/NC 321/NC 194, NC 194, SR 1335 (Longhope Road), and SR 1340 (Meat Camp Road). The design speed is 30 mph (50 km/h). A design exception will not be necessary for this alternative. This alternative is not recommended due to the length of the off-site detour.

Alternative 2 (Preferred) – replaces the bridge along existing alignment. The approach work will extend from approximately 150 feet (45.7 m) west of the bridge to approximately 85 feet (25.9 m) east of the bridge for a total distance of 270 feet (82.3 m). The proposed structure will be approximately 35 feet (10.7 m) long and 27 feet (8.2 m) wide. During construction, traffic will be maintained on a temporary detour using temporary pipe culverts located approximately 40 feet (12.2 m) north (downstream) of the existing bridge. The detour approach work will extend from approximately 190 feet (57.9 m) west of the bridge to approximately 200 feet (61.0 m) east of the culvert for a total distance of 390 feet (118.9 m). The design speed is 30 mph (50 km/h). A design exception will not be necessary for this alternative.

C. Alternatives Eliminated from Further Study

The No Build or "Do Nothing" alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1340 (Meat Camp Road).

"Rehabilitation" of the existing structures, Bridge Nos. 35 and 36, are not feasible due to their age and deteriorated condition.

Two alternatives per bridge were considered that used culverts instead of a replacement structure. These alternatives were eliminated from further study due to possible impediments to fish passage (See letter from WRC dated August 6, 2001 in Appendix). Also, due to the minimal clearance between the road surface and the streambed, culverts are structurally not feasible.

D. Preferred Alternative

Bridge No. 35

Alternative 2, replacing the bridge on existing alignment, is the preferred alternative. Alternative 2 was selected because it maintains traffic flow on the existing road.

Bridge No. 36

Alternative 2, replacing the bridge on existing alignment, is the preferred alternative. Alternative 2 was selected because it maintains traffic flow on the existing road.

IV. ESTIMATED COSTS

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

Table 1.0 Estimated Costs per Alternative for Bridge Nos. 35 and 36

	Alternative 1	Alternative 2 (Preferred)
Structure for Bridge No. 35	$66,096	$66,096
Structure for Bridge No. 36	$66,096	$66,096
Roadway Approaches	$66,347.50	$66,347.50
Structure Removal for Bridge No. 35	$4,800	$4,800
Structure Removal for Bridge No. 36	$4,992	$4,992
Misc. and Mobilization	$44,668.50	$85,093.50
Temporary On-Site Detour	0	$116,575
Engineering & Contingencies	$47,000	$65,000
TOTAL CONSTRUCTION COST	$300,000	$475,000
Right of Way / Utilities	$74,200	$228,500
TOTAL PROJECT COST	$374,200	$703,500

The estimated cost for Bridge Nos. 35 and 36, shown in the 2002-2008 North Carolina Department of Transportation's Transportation Improvement Program (TIP) is $ 660,000, including $ 60,000 for right-of-way and $ 600,000 for construction.

V. NATURAL RESOURCES

The information contained in this section is based on the Natural Systems Report (March 2002) prepared by Environmental Services Inc.

A. Methodology

Section 1, the study area for Bridge No. 35, was walked and visually surveyed for significant features on September 4, 2001. Section 2, the study area for Bridge No. 36, was walked and visually surveyed for significant features on May 3, 2001. The project study area for Section 1 is 3.15 acres (1.27 ha) in areal extent and of Section 2 is 5.21 acres (2.11 ha) in areal extent, totaling 8.36 acres (3.38 ha). Impacts calculated for each alignment using a width of approximately 60 feet (18.3 m); actual impacts will occur within construction limits and will be less than those calculated for this report. Special concerns evaluated in the field include potential habitat for protected species, streams, wetlands, and water quality protection.

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

The most current FWS listing of federally protected species with ranges which extend into Watauga County was obtained prior to initiation of the field investigation (list dated March 7, 2002). In addition, NHP records documenting presence of federal or state listed species were consulted before commencing the field investigation and periodically reviewed (most recent review date October 10, 2001).

B. Physiography and Soils

The project study area is located in the Mountain geological province. Topography is characterized by nearly level along Meat Camp Creek to steep. Elevations in the project study area range

from approximately 3,480 feet (1,060.7 m) above mean sea level (MSL) along Meat Camp Creek in Section 1 to 3,600 feet (1,097.3 m) above MSL at the southern end of Section 2 (USGS Zionville, NC-Tennessee quadrangle).

The project study area crosses three non-hydric soil mapping units (USDA unpublished). The Dellwood very gravelly loamy fine sand (Fluventic Haplumbrept) is a nearly level to gently sloping (2 to 5 % slope), very deep, moderately well drained, occasionally flooded soil found on floodplains in the Southern Appalachian Mountains. The Cullasaga very cobbly loam (Typic Haplumbrept) is a moderately steep (8 to 30% slopes), very stony, very deep, well drained soil found on toe slopes, foot slopes, drainageways, and fans in coves in the Southern Appalachian Mountains. The Porters loam (Typic/Umbric Dystrochrept) is a steep (30 to 50% slopes) stony, deep, well-drained soil found on uplands in the Southern Appalachian Mountains.

C. Water Resources

1. Waters Impacted

The project study area is located within the sub-basin 050701 of the New River Basin (DEM 1993, DENR 2001a). This area is part of USGS hydrologic unit 05050001 (USGS 1974). Two stream channels are located within the project study area, Meat Camp Creek and one of its unnamed tributaries. Meat Camp Creek originates near Pottertown Gap and flows southeast to its confluence with South Fork New River. This stream has been assigned Stream Index Number (SIN) 10-1-10 from its source to its confluence with South Fork New River by DWQ. The unnamed tributary to Meat Camp Creek is located at the eastern end of Section 2 and originates approximately 1 mile (1.6 km) north of the project study area. The stream has not been assigned a SIN.

2. Water Resource Characteristics

Stream Characteristics

Meat Camp Creek is a perennial stream with moderate flow over substrate consisting of gravel, cobble, sand with some areas of boulders. Within the project study area, the channel is approximately 13 feet (4.0 m) wide with an average bankfull depth of approximately 10 inches (25.4 cm). A geomorphic characterization of the stream section within the project study area indicates Meat Camp Creek is a "B/F" channel (Rosgen 1996). The stream channel has moderate sinuosity with available floodplain in limited sections, with slight meanders and riffle/pool sequences on a low gradient with high width/depth ratios. The channel has downcut 3 to 5 feet (0.9 to 1.5 m) throughout the project study area. Bank failures were noted in several areas.

The unnamed tributary to Meat Camp Creek is a perennial stream with moderate flow over substrate consisting of gravel and cobble. Within the project study area, the channel is approximately 5 feet (1.5 m) in width, with an average bankfull depth of approximately 8 inches (20.3 cm). A geomorphic characterization of the stream section within the project study area indicates the channel is a "G" type stream channel (Rosgen 1996). The stream channel has no sinuosity, no available floodplain, no meanders, and slight riffle/pool sequences on a high gradient with low width/depth ratios. The channel has downcut 3 to 4 feet (0.9 to 1.2 m) within the project study area.

Best Usage Classifications and Water Quality

Classifications are assigned to waters of the State of North Carolina based on the existing or contemplated best usage of various streams or segments of streams in the basin. Meat Camp Creek has a best usage classification of **C Tr+** (DEM 1993, DENR 2001a) from its origin to its confluence with the South Fork New River. The designation **C** indicates fresh waters that support aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. Secondary recreation refers to human body contact with waters on an infrequent or incidental basis. The supplemental classification **Tr** is used for trout waters characterized as waters suitable for natural trout propagation and maintenance of stocked trout. The special designation **+** identifies waters that are subject to a special management strategy specified in 15A NCAC 2B .0225, the Outstanding Resource Waters (**ORW**) rule, to protect downstream waters designated as **ORW**. The unnamed tributary to Meat Camp Creek has no separate Best Usage Classification, so shares the classification of its receiving water, **C Tr+**.

No **WS-I** or **WS-II** Waters occur within 3.0 miles (4.8 km) upstream or downstream of the project study area. Neither Meat Camp Creek nor its tributary is designated as a North Carolina Natural and Scenic River, nor as a national Wild and Scenic River.

North Carolina Wildlife Resources Commission (WRC) classifies Meat Camp Creek as a Designated Public Mountain Trout Water (DPMTW) which contains wild brown trout (*Salmo trutta*). Also, DWQ lists Meat Camp Creek within the project study area as a Trout Water.

There are no NPDES or significant non-point source dischargers on Meat Camp Creek within 0.5 mile (0.8 km) of Bridge Nos. 35 and 36 (DPA 1991, DENR 2001b).

In 1998 benthic macroinvertebrate samples were taken approximately 5.6 miles (9.01 km) downstream of the project study area at SR 1333 over Meat Camp Creek, and received a rating of Excellent.

Another measure of water quality being used by DWQ is the North Carolina Index of Biotic Integrity (NCIBI), which assesses biological integrity using the structure and health of the fish community. Stream fish community basinwide monitoring was conducted during 1998 on Meat Camp Creek at SR 1333, however, due to the small sample size, no ratings were assessed (DENR 2000).

3. Anticipated Impacts to Water Resources

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

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

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

In-stream construction activities will be scheduled to avoid and minimize impacts to aquatic resources/organisms. The North Carolina Wildlife Resource Commission (NCWRC), in a letter dated August 6, 2001, stated it would require a trout moratorium from October 15 through April 15. This moratorium would be required for both bridges because Meat Camp Creek is a DMPTW which also contains wild brown trout. WRC also stated concerns that replacement of the existing structure with culverts, may impede fish passage (See letters in Appendix).

No adverse long-term impacts to water resources are expected to result from any of the alternatives being considered. Temporary on-site detours will result in limited clearing of some canopy along the stream bank, resulting in potential for localized increase in sunlight and stream temperature. However, the permanent channel-spanning structures will allow for continuation of present stream flow within the channel, thereby protecting stream integrity.

BMP's to be followed for this project are outlined in "Design Standards in Sensitive Watersheds" (NCAC 04B .0024), and will be adhered to during design and construction of this project in and around all waters classified as **WS**, **ORW**, **HQW**, or **Tr**. This includes all stream waters within the project study area, which share the classification **Tr**.

4. Impacts Related to Bridge Demolition and Removal

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

The superstructures of Bridge No. 35 and Bridge No. 36 consist of timber floor on steel I-beams. The substructures of Bridge No. 35 and Bridge No. 36 consist of end bents composed of all timber. The deck, curbs, and pile end bents will be removed in a manner that will avoid dropping any components into "Waters of the United States" during construction.

No temporary fill associated with removal either the superstructure or substructure from either bridge is anticipated, as both structures contain no concrete, being composed of either steel and timber or entirely of timber, and are slated for removal in a manner which will avoid dropping components into Meat Camp Creek.

D. Biotic Resources

1. Plant Communities

Five distinct plant communities were identified within the project study area: Maintained/Disturbed Areas, Agricultural Land, Cove Forest, Hemlock Forest, and Piedmont/Low Mountain Alluvial Forest. These communities total approximately 7.08 acres (2.87 ha) within Sections 1 and 2. This does not include the approximately 0.74 acre (0.30 ha) of impervious surface nor the

approximately 0.54 acre (0.22 ha) of open water associated with Meat Camp Creek and its unnamed tributary. These plant communities are described as follows.

a. Man-Dominated Communities

Maintained/Disturbed Areas – The Maintained/Disturbed Areas cover approximately 4.44 acres (53.1 percent) of the project study area and include areas subject to anthropogenic disturbance and include roadsides, maintained residential yards, powerline right-of-way corridors, and areas where other human related activities dominate. Roadsides and powerline rights-of-way are maintained by mowing and/or herbicides, and include herbaceous species such as wild rose (*Rosa* sp.), blackberry (*Rubus* sp.), and various grasses. Residential yards are dominated by various grasses, ornamental shrubs, and trees including Fraser fir (*Abies fraseri*), river birch (*Betula nigra*), flowering dogwood (*Cornus florida*), weeping willow (*Salix babylonica*), white pine (*Pinus strobus*), and eastern hemlock (*Tsuga canadensis*).

Agricultural Land – Agricultural Land within the project study area is located in Section 2, and covers approximately 0.27 acre (0.11 ha) (3.2 percent) of the project study area. This community includes areas used for crop production. At the time of the field investigation, the agricultural land within the project study area was being tilled for cultivation.

b. Other

Cove Forest – The Cove Forest covers approximately 1.67 acres (0.68 ha) (20.0 percent) of the project study area. This community is limited to the north facing slopes at the southeastern edge of the project study area. Tree species within these areas includes red maple (*Acer rubrum*), eastern hemlock, tulip poplar (*Liriodendron tulipifera*), northern red oak (*Quercus rubra*), and scattered white pine. The midstory is generally open with saplings of overstory species as well as rosebay (*Rhododendron maximum*) and mountain laurel (*Kalmia latifolia*). Herbaceous species present is limited to Christmas fern (*Polystichum acrostichoides*).

Hemlock Forest – The Hemlock Forest covers approximately 0.63 acre (0.25 ha) (7.5 percent) of the project study area and is found in the northern part of Section 2 study area. Tree species within this area includes eastern hemlock and yellow buckeye (*Aesculus octandra*). The midstory is generally open with scattered sapling tree species and mountain laurel. The understory is sparse, consisting of scattered Christmas fern and Solomon's seal (*Polygonatum* sp.).

Piedmont/Low Mountain Alluvial Forest – The Piedmont/Low Mountain Alluvial Forest covers approximately 0.07 acre (0.03 ha) (0.8 percent) of the project study area and is associated with the floodplain Meat Camp Creek in Section 2. The Piedmont/Low Mountain Alluvial Forest community is located in river and stream floodplains in which separate fluvial landforms and associated vegetation zones are too small to distinquish (Schafale and Weakley 1990). This community is characterized by location in a floodplain and the presence of yellow buckeye, red maple, and tulip poplar.

2. Wildlife

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

Few bird species were observed within or adjacent to the project study area. Bird species observed include American crow (*Corvus brachyrhynchos*), wood thrush (*Hylocichla mustelina*), American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*), American crow (*Corvus brachyrhynchos*), and red-winged blackbird (*Agelaius phoeniceus*). Other species expected within the project study area include mourning dove (*Zenaida macroura*) and yellow-bellied sapsucker (*Sphyrapicus varius*).

Few mammals or mammal signs (tracks, scat, *etc.*) were observed within the project study area. Mammal species observed include raccoon (*Procyon lotor*) and domestic dog (*Canis familiaris*). Species expected to be found in and around the project study area include eastern cottontail (*Sylvilagus floridanus*), Virginia opossum (*Didelphis virginiana*), red fox (*Vulpes vulpes*), and gray squirrel (*Sciurus carolinensis*).

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

Terrestrial amphibians were observed within the project study area include mountain dusky salamander (*Desmognathus ochrophaeus*), Appalachian woodland salamander (*Plethodon jordani*), Yonahlossee salamander (*Plethodon yonahlossee*), and American toad (*Bufo americanus*). Other species

expected to occur within the project study area include Fowler's toad (*Bufo woodhouseii*), spring peeper (*Pseudacris crucifer*), and northern cricket frog (*Acris crepitans*).

3. Aquatic Communities

Limited kick-netting, seining, dip-netting, electrofishing and visual observation of stream banks and channel within Sections 1 and 2 of the project study area were conducted in Meat Camp Creek. Visual surveys were conducted on the unnamed tributary to Meat Camp Creek.

Fish species documented in Meat Camp Creek within the project study area include rainbow trout (*Salmo gairdneri*), brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), blacknose dace (*Rhinichthys atratulus*), longnose dace (*Rhinichthys cataractae*), and mottled sculpin (*Cottus bairdi*).

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

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

One aquatic amphibian was observed within the project study area and includes the black-bellied salamander (*Desmognathus quadramaculatus*). Other species expected to occur within the project study area include red-spotted newt *(Notophthalmus viridescens*), bullfrog (*Rana catesbeiana*), and pickeral frog (*Rana palustris*).

4. Anticipated Impacts to Biotic Communities

a. Terrestrial Communities

Anticipated impacts to plant communities are estimated based on the acreage of each plant community present within the proposed right-of-way of 60 feet (18.3 m); actual impacts within construction limits will be less. A summary of potential plant community impacts is presented in Table 2a and Table 2b below:

Table 2.0a Plant Community Impacts for Bridge No. 35

	In Acres (Hectares)		
	ALT 1	ALT 2	
Plant Community	Impacts	Impacts	Temp. Detour Impacts
Maintained/Disturbed Areas	0.07 (0.03)	0.07 (0.03)	0.32 (0.13)
Agricultural Land	0.00	0.00	0.00
Cove Forest	0.00	0.00	0.00
Hemlock Forest	0.00	0.00	0.00
Piedmont/Low Mountain Alluvial Forest	0.01 (<0.01)	0.01 (<0.01)	0.00
Total:	0.08 (0.03)	0.08 (0.03)	0.32 (0.13)
Total for ALT:	0.08 (0.03)	0.40 (0.16)	

Table 2.0b Plant Community Impacts for Bridge No. 36

	In Acres (Hectares)		
	ALT 1	ALT 2	
Plant Community	Impacts	Impacts	Temp. Detour Impacts
Maintained/Disturbed Areas	0.09 (0.04)	0.09 (0.04)	0.27 (0.11)
Agricultural Land	0.00	0.00	0.00
Cove Forest	0.00	0.00	0.00
Hemlock Forest	0.00	0.00	0.00
Piedmont/Low Mountain Alluvial Forest	0.00	0.00	0.00
Total:	0.09 (0.04)	0.09 (0.04)	0.27 (0.11)
Total for ALT:	0.09 (0.04)	0.36 (0.15)	

Note: Temporary construction impacts are based on the portion of the impacts not included in the construction limits for the permanent structure.

In Section 1, both alternatives have the same amount of potential permanent impacts, approximately 0.08 acre (0.03 ha), with the majority of impact occurring within the Maintained/Disturbed Areas. Each alternative contains small, potential permanent impacts to a natural plant community, Piedmont/Low Mountain Alluvial Forest, approximately 0.01 acre (<0.01ha). Alternative 2 has potential temporary impacts, approximately 0.32 acre (0.13 ha), which is contained within the Maintained/Disturbed Areas.

In Section 2, both alternatives have the same amount of potential permanent impact, approximately 0.09 acre (0.04 ha), occurring within the Maintained/Disturbed Areas. No alternative contains any potential impacts to natural communities. Alternative 2 has potential temporary impacts, approximately 0.27 acre (0.11 ha), which is contained within the Maintained/Disturbed Areas.

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

b. Wetland Communities

Anticipated impacts to wetlands and open water areas are estimated based on the amount of each jurisdictional area within the proposed right-of-way width of 60 feet (18.3 m); actual areas within construction limits will be less. Open water areas of Meat Camp Creek (R3UB1H) are included in this table. During bridge removal, Best Management Practices (BMP's), including erosion control measures will be used. Therefore, it is anticipated that removing the existing bridges will result in no impact to surrounding surface waters. No impacts are expected to occur within the unnamed tributary to Meat Camp Creek (R3UB2H). All project alternatives avoid this channel. A summary of potential jurisdictional impacts is presented in Tables 3.0a and 3.0b.

Table 3.0a Estimated Impacts to Jurisdictional Areas per Alternative for Bridge No. 35			
JURISDICTIONAL AREAS	ESTIMATED IMPACTS		
	ALT 1	ALT 2	
	Impacts	Impacts	Temporary Detour Impacts
R3UB1H In Acres (Hectares)	0.06 (0.02)	0.06 (0.02)	0.03 (0.01)
TOTAL FOR ALTS:	0.06 (0.02)	0.09 (0.03)	
Stream Channel Impacts in Linear Feet (Meters)	60 (18.3)	60 (18.3)	40 (12.2)
TOTAL FOR ALTS:	60 (18.3)	100 (30.5)	

Table 3.0b Estimated Impacts to Jurisdictional Areas per Alternative for Bridge No. 36			
JURISDICTIONAL AREAS	ESTIMATED IMPACTS		
	ALT 1	ALT 2	
	Impacts	Impacts	Temporary Detour Impacts
R3UB1H In Acres (Hectares)	0.04 (0.02)	0.04 (0.02)	0.03 (0.01)
TOTAL FOR ALTS:	0.04 (0.02)	0.07 (0.03)	
Stream Channel Impacts In Linear Feet (Meters)	60 (18.3)	60 (18.3)	40 (12.2)
TOTAL FOR ALTS:	60 (18.3)	100 (30.5)	

Note: Temporary construction impacts are based on the portion of the impacts not included in the construction limits for the permanent structure.

Within Section 1, Alternatives 1 and 2 each have approximately 0.06 acre (0.02 ha) of potential open water impact and potential impact of 60 linear feet (18.3 m) of stream channel. Alternative 2 has an additional 0.03 acre (0.01 ha) of potential temporary impact to open water and 40 feet (12.2 m) of potential temporary impact to the stream channel due to the temporary on-site detour.

Within Section 2, Alternatives 1 and 2 each have approximately 0.04 acre (0.02 ha) of potential open water impact and potential impact of 60 linear feet (18.3 m) of stream channel. Alternative 2 has an addition 0.03 acre (0.01 ha) of potential temporary open water impact and 40 feet (12.2 m) of potential temporary stream channel impact due to the temporary on-site detour.

Wetlands subject to review under Section 404 of the Clean Water Act (33 U.S.C. 1344) are defined by the presence of three primary criteria: hydric soils, hydrophytic vegetation, and evidence of hydrology at or near the surface for a portion (12.5 percent) of the growing season (DOA 1987). Based on the three-parameter approach, jurisdictional wetlands were not present within the project study area. Meat Camp Creek and its unnamed tributary are both bank-to-bank systems. Available floodplain is limited in Meat Camp Creek, and does not meet jurisdictional criteria. Soil colors did not exhibit hydric characteristics (Munsell color 7.5YR6/4).

c. Aquatic Communities

Potential down-stream impacts to aquatic habitat will be avoided by bridging Meat Camp Creek to maintain regular flow and stream integrity. In addition, temporary impacts to downstream habitat from increased sediment during construction are expected to be reduced by limiting the in-stream work to an absolute minimum, except for the removal of the portion of the substructure below the water. Best Management Practices for the protection of surface waters should be strictly enforced to reduce impacts. BMP-BDRs will be followed to minimize impacts due to anticipated bridge demolition. Impacts to trout populations will be minimized by avoiding all in-stream work during the trout spawning season, between October 15 and April 15.

E. Special Topics

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

Surface waters within the embankments of Meat Camp Creek and its unnamed tributary are subject to jurisdictional consideration under Section 404 of the Clean Water Act as "Waters of the United States" (33 CFR 328.3). The waters in Meat Camp Creek within the project study area exhibit characteristics of riverine, upper perennial, unconsolidated cobble-gravel bottom, permanently flooded waters (R3UB1H) (Cowardin *et al.* 1979). The waters in the unnamed tributary exhibit characteristics of riverine, upper perennial, unconsolidated sand bottom, permanently flooded waters (R3UB2H) (Cowardin *et al.* 1979).

2. Permits

a. Section 404 of the Clean Water Act

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

b. Section 401 Water Quality Certification

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

c. Bridge Demolition and Removal

Section 402-2 of NCDOT's Standard Specifications for Roads and Structures is labeled **Removal of Existing Structure**. This section outlines restrictions and Best Management Practices for Bridge Demolition and Removal (BMP-BDRs), as well as guidelines for calculating maximum potential fill in the creek resulting from demolition. After construction activities are completed, abandoned approaches associated with the existing structure and/or temporary detours will be removed and revegetated in accordance with NCDOT guidelines.

These projects fall under both Case 1 and Case 2 stream crossings according to the BMP-BDR. Applying to ORW, Case 1 stream crossings limit in-water work to an absolute minimum, except for the removal of the portion of the sub-structure below the water. Applying to trout waters, Case 2 stream crossings allow no work at all in the water during moratorium periods associated with fish migration, spawning and larval recruitment into nursery areas.

d. Coast Guard

Bridge replacement of construction over navigable waters used for commerce or that have a maintained navigation channel may require United State Coast Guard (USCG) authorization pursuant to 33 CFR 114-115. Meat Camp Creek is not classified as navigable water; therefore, USCG authorization is not required.

e. Tennessee Valley Authority

Bridge Nos. 35 and 36 are located outside of the Tennessee River drainage area and no TVA land or land rights are involved. Therefore, TVA's approval of the plans pursuant to Section 26a of the TVA Act for Bridges and Indicated Locations is not required.

f. Designated Public Mountain Trout Waters

Watauga County is among the twenty-five mountain counties designated as having trout waters. Meat Camp Creek is a Designated Public Mountain Trout Water (DPMTW) and a Trout Water by DWQ. Specific moratoriums for this project have been previously discussed in Section V.D.4.c.

g. Special Waters

Due to the presence of a special resource water (**Tr+**), efforts will be made to limit any in-water work to an absolute minimum, except for the removal of the portion of the sub-structure below the water.

3. Buffer Rules

No buffer rules currently apply to the New River Basin.

4. Mitigation

Avoidance – Due to the presence of surface waters within the project study area, avoidance of impacts is not possible. Wetland and stream impacts for each alternative are previously discussed in Section V.D.4.b.

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

Mitigation - Compensatory mitigation is not proposed for this project due to the limited nature of project impacts. However, utilization of BMPs is recommended in an effort to minimize impacts including avoiding placing staging areas within wetlands. Temporary impacts associated with the construction activities could be mitigated by replanting disturbed areas with native species and removal of temporary fill material upon project completion. Final compensatory wetland and stream mitigation requirements will be determined by the USACE under the statutory provisions of CWA §404 and the January 15, 2002 Final Notice of Issuance of Nationwide Permits.

F. Rare and Protected Species

1. Federally Endangered and Threatened Species

Species with the federal classification of Endangered (E) or Threatened (T), or officially proposed (P) for such listing, are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The following federal protected species are listed for Watauga County (March 7, 2002 FWS list):

Table 4.0 Federally Endangered and Threatened Species

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

**Note: E – Endangered, T – Threatened, T(S/A) – Threatened due to similarity of appearance*

Bog Turtle - The bog turtle is a small turtle reaching an adult size of approximately 3 to 4 inches (7.6 to 10.2 cm). This otherwise darkly-colored species is readily identifiable by the presence of a bright orange or yellow blotch on the sides of the head and neck (Martof *et. al.* 1980). The bog turtle is typically found in bogs, marshes, and wet pastures, usually in association with aquatic or semi-aquatic vegetation and small, shallow streams over soft bottoms (Palmer and Braswell 1995). In North Carolina, bog turtles have a discontinuous distribution in the Mountains and western Piedmont. NHP records do not indicate that bog turtle has been documented within 3.0 miles (4.8 km) of the project study area.

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

Carolina Northern Flying Squirrel - The Carolina northern flying squirrel is an isolated, endangered subspecies of the more wide-ranging northern flying squirrel. Flying squirrels are nocturnal and have a loose, fully furred fold of skin on each side of the body between the wrists and the ankles that enable the squirrels to glide from trees to other trees or to the ground for foraging. Carolina northern flying squirrel can be distinguished from the similar southern flying squirrel (*G. volans*) by its larger size of 10.2 to 12.0 inches (25.9 to 30.5 cm) in total length (USFWS 1990) and by having gray rather than white bases of the ventral hairs (Weigl 1987).

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

BIOLOGICAL CONCLUSION: The proposed project is not expected to affect Carolina northern flying squirrel since elevations within the project study area are a maximum of 3,600 feet (1,097 m) above MSL, significantly below the reported minimum elevation of 4,000 feet (1,219 m) for this species. Suitable habitat for this species, consisting of high elevation spruce-fir and mature hardwood forest, was not identified within the project study area. **NO EFFECT.**

Spruce-fir Moss Spider – The spruce-fir moss spider is small arachnid, approximately 0.10 to 0.15 inch (0.25 to 0.38 cm) in length, with light brown, yellow brown, to reddish brown coloration. Typical habitat for this species appears to be associated with moist, well-drained moss mats growing on rocks and boulders in well shaded situations in mature, high-elevation conifer forests dominated by Fraser fir, often with scattered red spruce (USFWS 1998). This species is known from the highest elevations at or above 5,400 feet (1,646 m) above MSL on the southern Appalachian Mountains in western North Carolina and eastern Tennessee (Coyle 1981, 1997, 1999; Harp 1991, 1992). The typical habitat of this spider is damp but well drained moss mats growing on rock outcrops and boulders in well-shaded areas within these

forest types. NHP records do not indicate that spruce-fir moss spider has been documented within 3.0 miles (4.8 km) of the project study area.

BIOLOGICAL CONCLUSION: The proposed project is not expected to affect spruce-fir moss spider since elevations within the project study area are a maximum of 3,600 feet (1,097m) above MSL, significantly below the reported minimum elevation of 5,400 feet (1,646 m) above MSL for this species. Suitable habitat for this species, consisting of damp moss mats on rock outcrops in high elevation Fraser fir and red spruce forest, was not identified within the project study area. **NO EFFECT.**

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

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

BIOLOGICAL CONCLUSION: The proposed project is not expected to affect spreading avens since elevations within the project study area are a maximum of 3,600 feet (1,097 m) above MSL, significantly below the reported minimum elevation of 5,000 feet (1,524 m) for this species. Suitable habitat for this species, consisting of balds or rock outcroppings, was not identified within the project study area. **NO EFFECT.**

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

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

> **BIOLOGICAL CONCLUSION:** The proposed project is not expected to affect Roan Mountain bluet since elevations within the project study area are a maximum of 3,600 feet (1,097 m) above MSL, significantly below the reported minimum elevation of 4,200 feet (1,280 m) for this species. Suitable habitat for this species, consisting of balds, was not identified within the project study area. **NO EFFECT.**

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

Heller's blazing star has been found on rocky summits at high elevations in the mountains of western North Carolina. This species typically is found in full sun growing in shallow, acidic soils on or around granitic outcrops, ledges, and cliff faces (Kral 1983, Massey *et al.* 1983). Heller's blazing star is reported to occur at elevations between approximately 3,500 to 6,200 feet (1,067 to 1,889 m) above MSL. NHP

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

BIOLOGICAL CONCLUSION: The proposed project is not expected to affect Heller's blazing star. Although elevations within the project study area are a minimum of 3,580 feet (1,091 m) above MSL, above the reported minimum elevation of 3,500 feet (1,067 m) for this species, suitable habitat for this species, consisting of rocky summits exposed to full sunlight, was not identified within the project study corridor. **NO EFFECT.**

2. Federal Species of Concern

The March 7, 2002 FWS list includes a category of species designated as "Federal species of concern" (FSC). The FSC designation provides no federal protection under the ESA for the species listed. The presence of potential suitable habitat (Amoroso 1999, LeGrand and Hall 1999) within the project study area has been evaluated for the FSC species listed for Watauga County.

Table 5.0 Federal Species of Concern			
Common Name	Scientific Name	State Status	Potential Habitat
Southern Appalachian saw-whet owl	*Aegolius acadicus*	SC(PT)	N
Hellbender	*Cryptobranchus alleganiensis*	SC	N
Cerulean warbler	*Dendroica cerulea*	SR	Y
Southern Appalachian red crossbill	*Loxia curvirostra*	SR(PSC)	N
Alleghany woodrat	*Neotoma magister*	SC	N
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	SC	N
Kanawha minnow	*Phenacobius teretulus*	SC	Y
Southern water shrew	*Sorex palustris punctulatus*	SC	N
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	SC(PSC)	Y
Appalachian cottontail	*Sylvilagus obscurus*	SR	N
Green floater	*Lasmigona subviridus*	E	Y
Diana fritillary butterfly	*Speyeria diana*	SR	N
Frasier fir	*Abies fraseri*	C	N
Mountain bittercress	*Cardamine clematitis*	C	N
Tall larkspur	*Delphinium exaltatum*	E-SC	Y
Glade spurge	*Euphorbia purpurea*	C	Y
Bent avens	*Geum geniculatum*	T	N
Butternut	*Juglans cinerea*	W5	Y
Gray's lily	*Lilium grayi*	T-SC	N
Bog bluegrass	*Poa paludigena*	E	N

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

NHP files do not document any FSC occurrences within the project study area. NHP files do document four FSC occurrences within 3.0 miles (4.8 km) of the project study area; one occurrence of Southern Appalachian saw-whet owl, one occurrence of tall larkspur, and two occurrences of Gray's lily. Although Fraser fir has been noted within the project study area as an ornamental, the project study area does not contain potential habitat for this species to occur naturally. The Southern Appalachian saw-whet owl occurrence is a 1992 record located along Long Hope Creek, approximately 3.0 miles (4.8 km) northeast of the project study area. The tall larkspur occurrence is a 1987 record located near the peak of Rich Mountain Bald, approximately 1.5 miles (2.4 km) west of the project study area. The first Gray's lily occurrence is a 1988 record in a seepage near the headwaters of Long Hope Creek, approximately 2.0

miles (3.2 km) northeast of the project study area. The second Gray's lily occurrence is a 1987 record in the vicinity of the peak of Rich Mountain Bald, approximately 1.2 miles (1.9 km) west of the project study area. No other FSC species has been documented as occurring within 3.0 miles (4.8 km) of the project study area.

3. Summary of Anticipated Impacts

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

VI. CULTURAL RESOURCES

A. Compliance Guidelines

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

B. Historic Architecture

The State Historic Preservation Office (HPO) conducted a review of the APE on November 1, 2001 for Bridge Nos. 35 and 36. All structures within the APE were photographed, and later reviewed by the HPO. In a concurrence form dated November 1, 2001, the State Historic Preservation Officer (SHPO) concurred that there are no historic architectural resources either listed in or eligible for listing in the National Register of Historic Places within the APE. A copy of the concurrence form is included in the Appendix.

C. Archaeology

The State Historic Preservation Officer (SHPO), in a memorandum dated September 23, 2002 recommended that "no archaeological investigation be conducted in connection with this project." A copy of the SHPO memorandum is included in the Appendix.

VII. SECTION 4(f) RESOURCES

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

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

There are no 4(f) impacts.

VIII. ENVIRONMENTAL EFFECTS

Watauga County is a participant in the National Flood Insurance Regulatory Program (FIRM). The approximate 100-year floodplain in the project area is shown on Figure 5. The amount of floodplain area to be affected is not substantial. Field surveys were performed and a Hydraulic Technical Memorandum was produced for this project in February 2001. Bridge Nos. 35 and 36 are not located in a 100-year Federal Emergency Management Agency (FEMA) floodplain (See Figure 5). The project will not increase the upstream limits of the 100-year floodplain. No base flood elevations have been determined. There are no USGS gage sites on Meat Camp Creek.

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

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

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

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

Although right-of-way acquisition will be limited, the project will impact individual families, communities, and services. In Section 1, one property, located west of Bridge No. 35, contains a septic field that will be impacted by the preferred alternative (Alternative 2). In Section 2, two properties contain a well and a septic tank that will be impacted by the preferred alternative (Alternative 2). The project is not expected to adversely affect social, economic, or religious opportunities in the surrounding area.

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

No geodetic survey markers will be impacted.

This project has been coordinated with the United States Natural Resources Conservation Service (NRCS). The Farmland Protection Policy Act requires all Federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. There are soils classified as prime, unique, or having state or local importance in the vicinity of the project. One prime farmland soil, Porters loam (8 to 15 percent slopes), and one state and local important soil, Saunook loam (8 to 15 percent slopes) are found within the 0.5-mile (0.8-km) search radius. Neither of these soils are expected to be impacted by the proposed bridge replacements. The project will not involve the direct conversion of farmland acreage within these classifications.

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

This project is located in Watauga County, which has been determined to be in compliance with the National Ambient Air Quality Standards. 40 CFR Part 51 is not applicable because the proposed project is located in an attainment area. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

Noise levels could increase during construction but will be temporary. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality in compliance with 15 NCAC2D.0520. This evaluation completes the assessment requirements for highway traffic noise of Title 23, Code of

Federal Regulations (CFR), Part 772 and for air quality (1990 Clean Air Act Amendments and the National Environmental Policy Act) and no additional reports are required.

A search was performed of the project study area utilizing the ASTM Standard Practice for Environmental Site Assessments (E 1527-00). This search included the NPL (National Priority List), CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System), RCRIS (Resource Conservation and Recovery Information), and UST (Petroleum Underground Storage Tank Database) as well as other applicable databases. The results of this search documented no mapped sites found on the target site or within the ASTM search radius.

There are no other practical alternatives to crossing the floodplain area. Any shift in alignment will result in a crossing of about the same magnitude. All reasonable measures will be taken to minimize any possible harm.

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

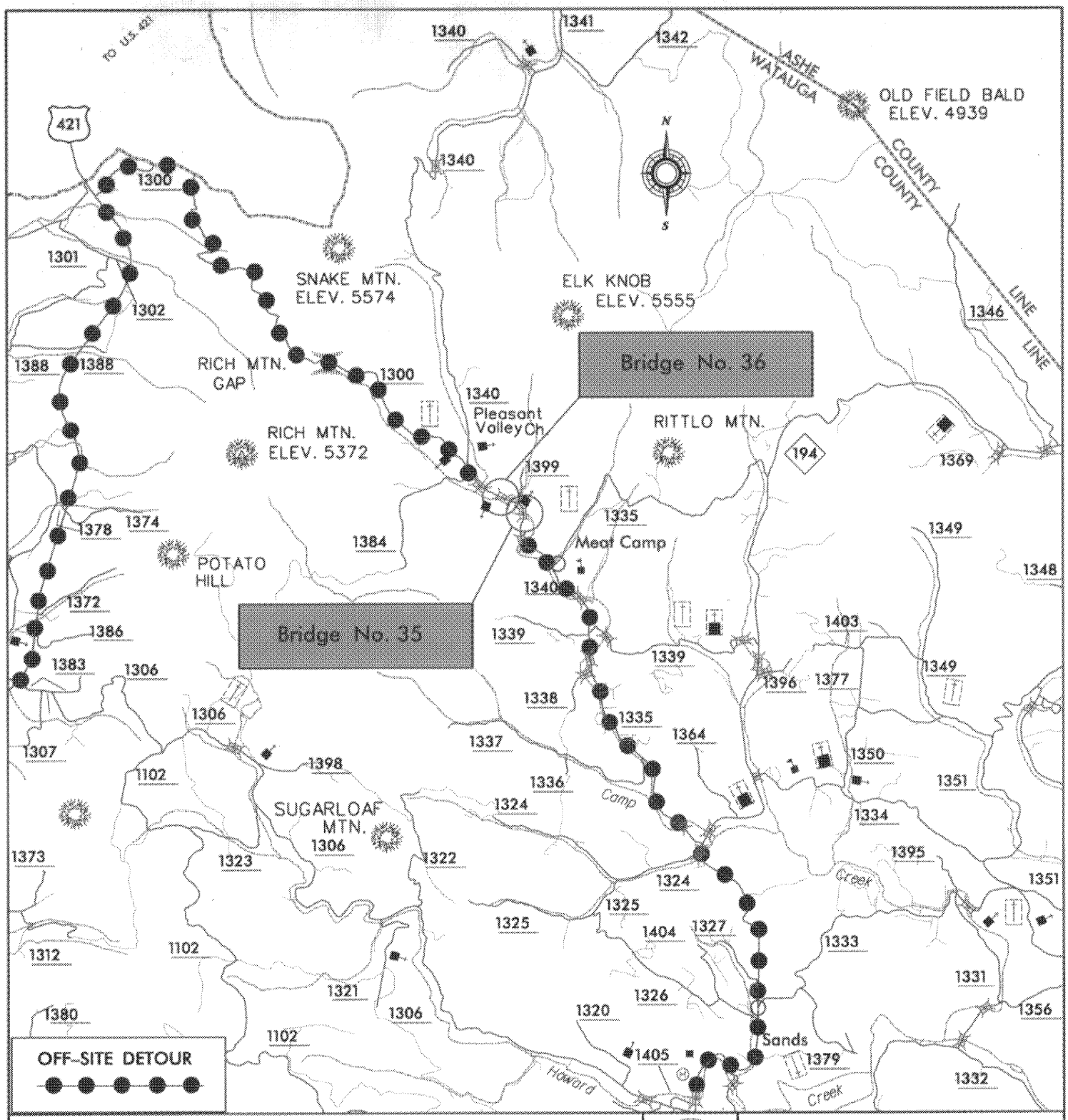
IX. PUBLIC INVOLVEMENT

Public involvement for this project initially involved compiling a database of property owners, area business persons and local public officials. This database was used to send out Newsletter No. 1 in October 2001 announcing the project and detailing the original four alternatives being considered for Bridge Nos. 35 and 36 (See Appendix). No comments or questions were received from local public officials or citizens.

X. AGENCY COMMENTS

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

EXHIBITS



North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

WATAUGA COUNTY

BRIDGE Nos. 35 AND 36
ON SR 1340 (Meat Camp Road)
Over Meat Camp Creek
T.I.P. No. B-3926

FIGURE 1

J:\COMMOS\300-1061\b-3926\wataug.dgn

North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

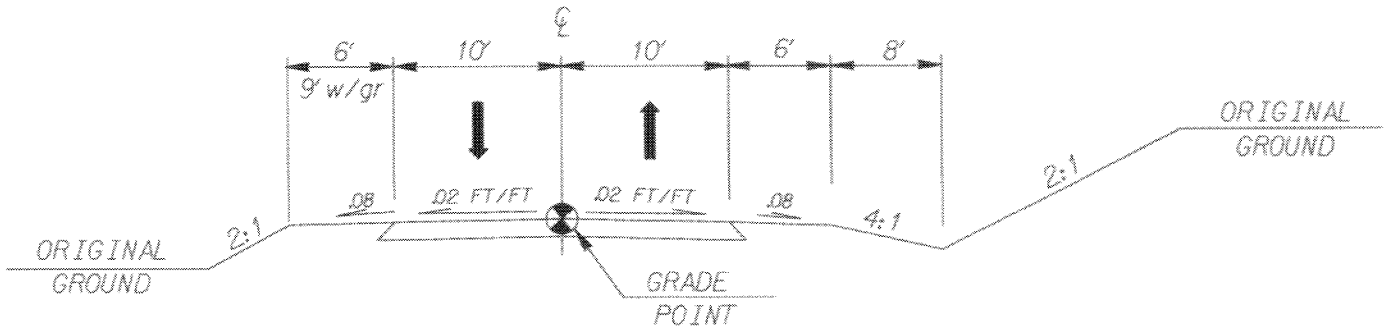
WATAUGA COUNTY

BRIDGE Nos. 35 & 36
ON SR 1340 (MEAT CAMP ROAD)
OVER MEAT CAMP CREEK

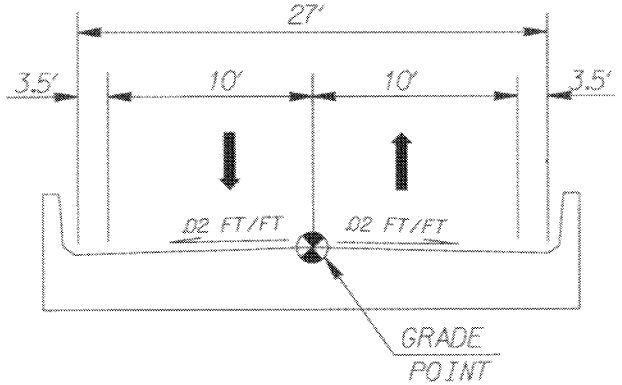
T.I.P. No. B-3926

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

FIGURE 2



ROADWAY TYPICAL SECTION



TYPICAL BRIDGE SECTION

EXISTING BRIDGE LENGTH IS 26 FT.

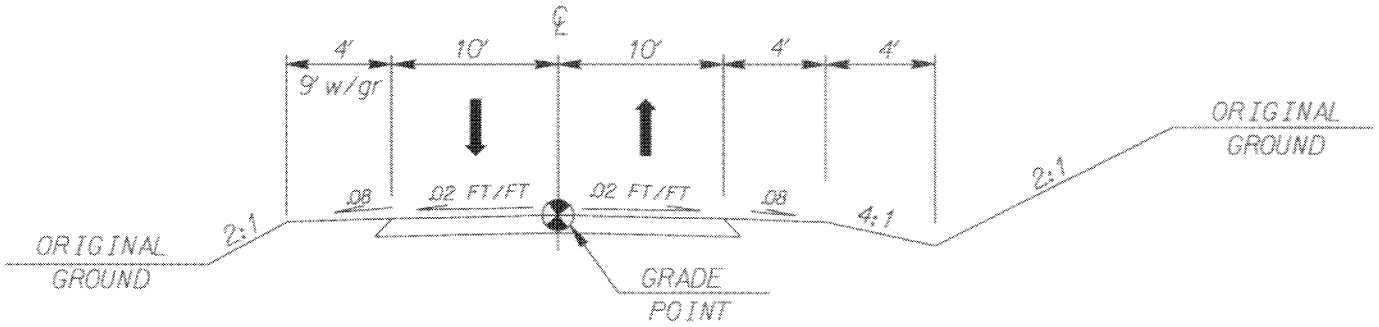
North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

WATAUGA COUNTY

BRIDGE No. 36
ON SR 1340 (Meat Camp Road)
Over Meat Camp Creek

T.I.P. No. B-3926

FIGURE 3a



DETOUR ROADWAY TYPICAL SECTION

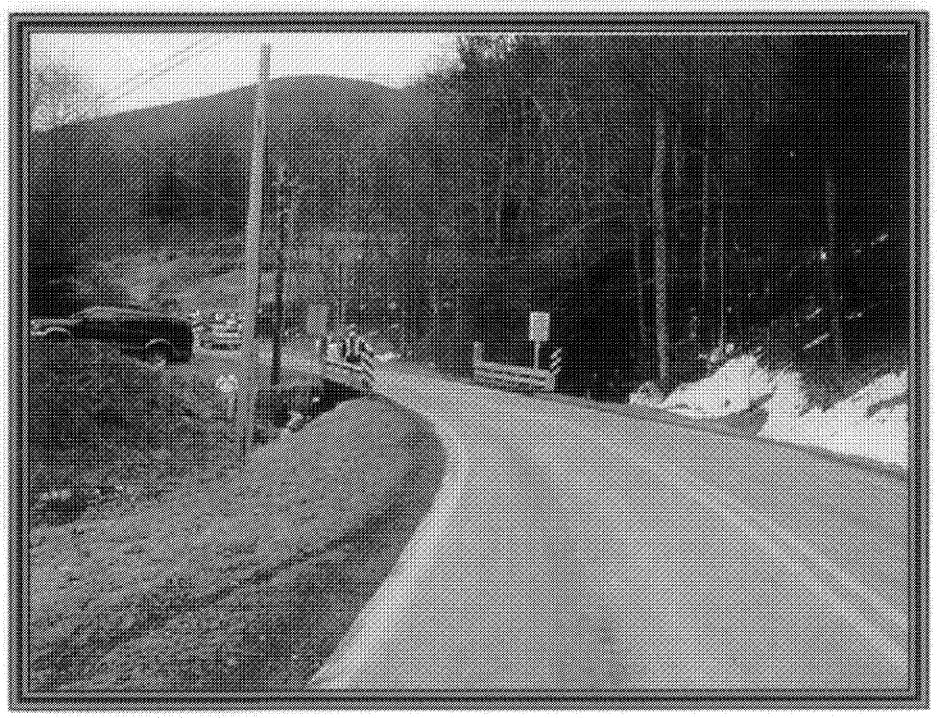
North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

WATAUGA COUNTY

BRIDGE No. 36
ON SR 1340 (Meat Camp Road)
Over Meat Camp Creek

T.I.P. No. B-3926

FIGURE 3b



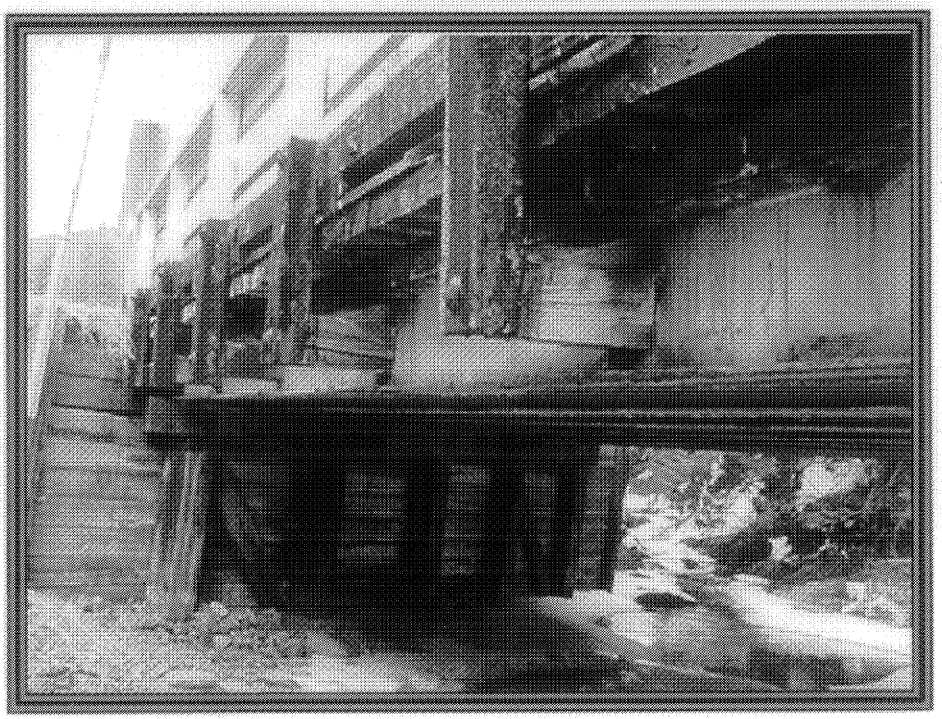
WATAUGA COUNTY
BRIDGE No. 36
B-3926

Looking North

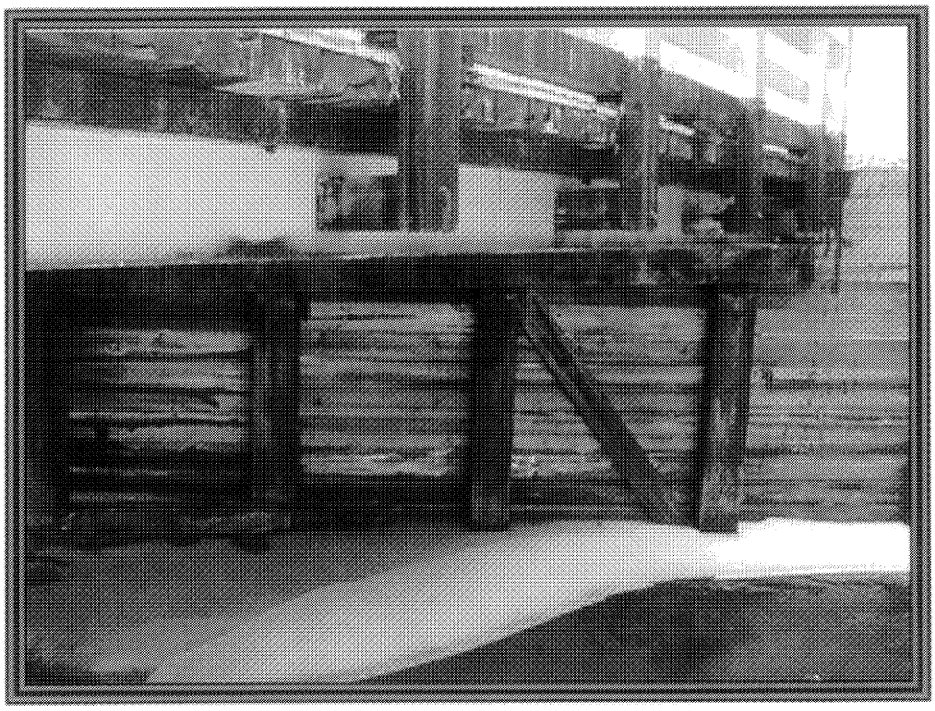
Looking South

Figure 4a

WATAUGA COUNTY
BRIDGE No. 36
B-3926



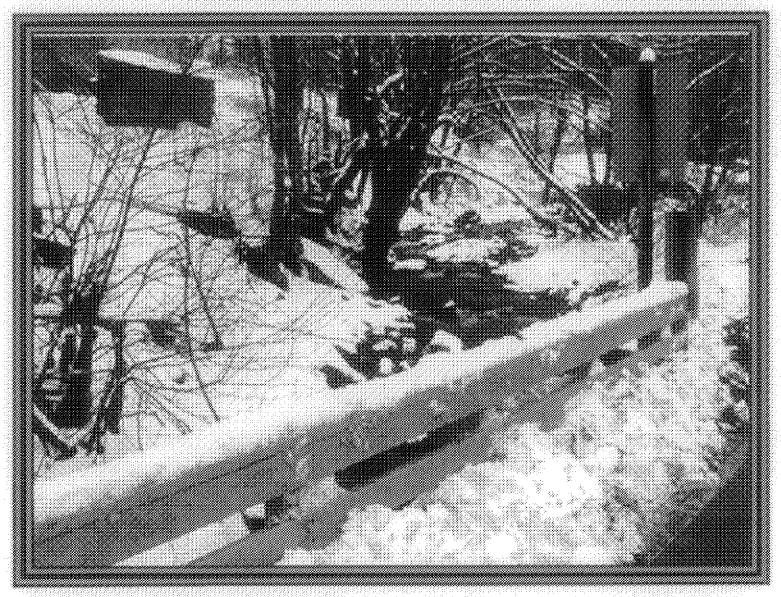
Looking East side



Looking at West side

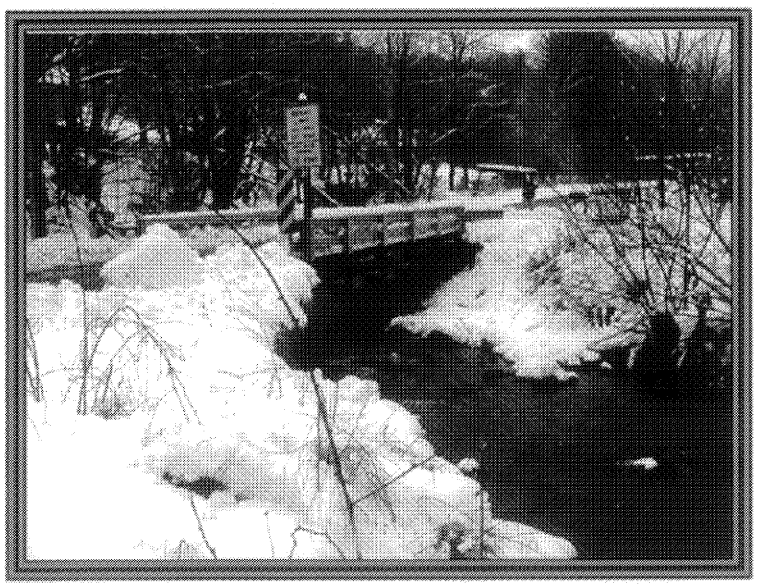
Figure 4b

WATAUGA COUNTY
Bridge No. 36
B-3926



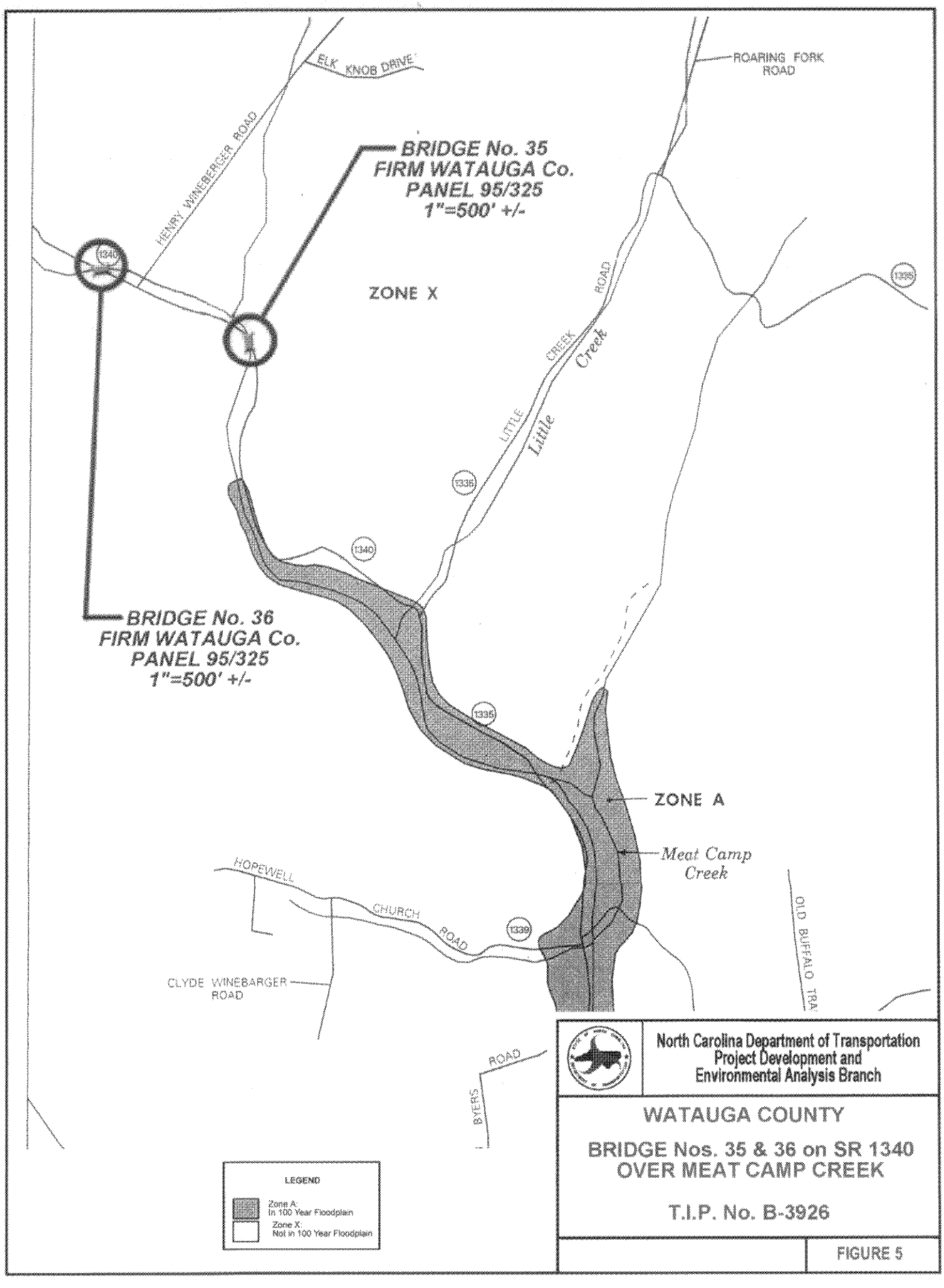
Looking Northwest

Looking Southeast



Looking Northwest

Figure 4c


ELK KNOB DRIVE
ROARING FORK ROAD
HENRY WINEBERGER ROAD
BRIDGE No. 35
FIRM WATAUGA Co.
PANEL 95/325
1"=500' +/-
ZONE X
LITTLE CREEK ROAD
Little Creek
1340
1336
1335
BRIDGE No. 36
FIRM WATAUGA Co.
PANEL 95/325
1"=500' +/-
ZONE A
Meat Camp Creek
HOPEWELL CHURCH ROAD
1339
CLYDE WINEBARGER ROAD
OLD BUFFALO TRA
BYERS ROAD
LEGEND
Zone A:
In 100 Year Floodplain
Zone X:
Not in 100 Year Floodplain
North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch
WATAUGA COUNTY
BRIDGE Nos. 35 & 36 on SR 1340
OVER MEAT CAMP CREEK
T.I.P. No. B-3926
FIGURE 5

APPENDIX

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

TO: Ms. Kim Leight
Rummel, Klepper & Kahl

FROM: Maryellen Haggard, Highway Project Coordinator
Habitat Conservation Program

DATE: August 6, 2001

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

Biologists with the N. C. Wildlife Resources Commission (NCWRC) have reviewed the information provided and have the following preliminary comments on the subject project. Our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

On bridge replacement projects of this scope our standard recommendations are as follows:

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

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

3. Wet concrete should not be allowed to contact stream water. This will lessen the chance of altering the stream's water chemistry and causing a fish kill.

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

5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should

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

be planted with a spacing of not more than 10'x10'. If possible, when using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.

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

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

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

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

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

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

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

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

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

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

16. All mechanized equipment operated near surface waters should be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.

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

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

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

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

4. Riprap should not be placed on the streambed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

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

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

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

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

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

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

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

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

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

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

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

B00-106
ESM
KSL

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

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

August 15, 2001

MEMORANDUM

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

Subject: Scoping Comments for Eleven Bridge Replacement Projects

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

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

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

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

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

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

Division of Historical Resources
David J. Olson, Director

September 23, 2002

MEMORANDUM

TO: Drew Joyner
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook BSR for David Brook

SUBJECT: B-3926, Watauga County, ER 02-7217

Thank you for providing the additional information on the above project. Based on the information provided no archaeological survey is needed.

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

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

cc: Matt Wilkerson, NCDOT

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

E. Vance 34

Federal Aid # BRZ-1340(4) *TIP* # B-3926 *County*: Watauga

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

Project Description: Replace Bridge No. 36 on SR 1340 over Meat Camp Creek

On 11/1/2001, representatives of the

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

Reviewed the subject project at

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

All parties present agreed

- [ ] There are no properties over fifty years old within the project's area of potential effects.
- [x] There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- [x] There are properties over fifty years old within the project's Area of Potential Effects (APE), but based on the historical information available and the photographs of each property, the property identified as **#1-11** is considered not eligible for the National Register and no further evaluation of it is necessary.
- [x] There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- [x] All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- [x] There are no historic properties affected by this project. (*Attach any notes or documents as needed*)

Signed:

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

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

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

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

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

WATAUGA COUNTY

Department of Planning & Inspections

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

March 12, 2001

RECEIVED
MAR 16 2001
RUMMEL, KLEPPER & KAHL
RALEIGH, NC

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

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

Dear Ms. Mack,

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

Sincerely,

Joseph A. Furman, AICP
Director

Watauga County Board of Education

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

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

February 13, 2001

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

Dear Ms. Mack:

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

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

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

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

If I can provide any further information, please call.

Sincerely,

Toni Parlier
Transportation Director

RELOCATION REPORT

North Carolina Department of Transportation
DIVISION RIGHT OF WAY OFFICE

[X] E.I.S. [ ] CORRIDOR [ ] DESIGN

PROJECT:	8.2752101	COUNTY	WATAUGA	Alternate 1 of 2 Alternate	
I.D. NO.:	B-3926	F.A. PROJECT	BRZ-1340(4)		
DESCRIPTION OF PROJECT:	Replace bridge(s) #35 and #36 on SR 134 over Meat Camp Creek				

ESTIMATED DISPLACEES

Type of Displacee	Owner	Tenant	Total	Minority
Residential	0	0	0	0
Businesses	0	0	0	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	0	0	0

VALUE OF DWELLING

Owners		Tenants	
0-20M	0	$ 0-150	0
20-40M	0	150-250	0
40-70M	0	250-400	0
70-100M	0	400-600	0
100 UP	0	600 UP	0
TOTAL	0		0

DSS DWELLING AVAILABLE

For Sale		For Rent	
0-20M	0	$ 0-150	0
20-40M	3	150-250	2
40-70M	12	250-400	5
70-100M	9	400-600	5
100 UP	16	600 UP	0
TOTAL	40		12

ANSWER ALL QUESTIONS

Yes	No	*Explain all "YES" answers.*
		1. Will special relocation services be necessary?
		2. Will schools or churches be affect by displacement?
		3. Will business services still be available after project?
		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
		5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
		7. Will additional housing programs be needed?
		8. Should Last Resort Housing be considered?
		9. Are there large, disabled, elderly, etc. families?
		10. Will public housing be needed for project?
		11. Is public housing available?
		12. Is it felt there will be adequate DSS housing housing available during relocation period?
		13. Will there be a problem of housing within financial means?
		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? N/A

REMARKS (Respond by Number)

There are no relocatees on this project.

TJP
MTM
KSL
ESM
300-106

A. A. Adams A. A. Adams 8-2-2002
Right of Way Agent Date

Ann Simpson 8-9-02
Approved by Date

Form 15.4 Revised 02/95 d

Original & 1 Copy: State Relocation Agent
2 Copy Area Relocation Office

LOCATION REPORT

North Carolina Department of Transportation
DIVISION RIGHT OF WAY OFFICE

[X] E.I.S. [ ] CORRIDOR [ ] DESIGN

PROJECT:	8.2752101	COUNTY	WATAUGA	Alternate 2 of 2 Alternate
I.D. NO.:	B-3926	F.A. PROJECT	BRZ-1340(4)	
DESCRIPTION OF PROJECT:	Replace bridge(s) #35 and #36 on SR 134 over Meat Camp Creek			

ESTIMATED DISPLACEES

Type of Displacee	Owner	Tenant	Total	Minority
Residential	0	0	0	0
Businesses	0	0	0	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

ANSWER ALL QUESTIONS

Yes	No	*Explain all "YES" answers.*
		1. Will special relocation services be necessary?
		2. Will schools or churches be affect by displacement?
		3. Will business services still be available after project?
		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
		5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
		7. Will additional housing programs be needed?
		8. Should Last Resort Housing be considered?
		9. Are there large, disabled, elderly, etc. families?
		10. Will public housing be needed for project?
		11. Is public housing available?
		12. Is it felt there will be adequate DSS housing housing available during relocation period?
		13. Will there be a problem of housing within financial means?
		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? N/A

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	0	0	0

VALUE OF DWELLING

Owners		Tenants	
0-20M	0	$ 0-150	0
20-40M	0	150-250	0
40-70M	0	250-400	0
70-100M	0	400-600	0
100 UP	0	600 UP	0
TOTAL	0		0

DSS DWELLING AVAILABLE

For Sale		For Rent	
0-20M	0	$ 0-150	0
20-40M	3	150-250	2
40-70M	12	250-400	5
70-100M	9	400-600	5
100 UP	16	600 UP	0
	40		12

REMARKS (Respond by Number)

There are no relocatees on this project.

A. A. Adams — Right of Way Agent — 8-2-2002 — Date

Am Simpson — Approved by — 8-9-02 — Date

Form 15.4 Revised 02/95 d

Original & 1 Copy: State Relocation Agent
2 Copy Area Relocation Office

REPLACEMENT OF BRIDGE NUMBERS 35 AND 36 OVER MEAT CAMP CREEK

Watauga County, North Carolina

October 2001 | *T.I.P. No. B-3926* | *Newsletter No. 1*

NCDOT to Replace Bridge Nos. 35 and 36

This newsletter is published by the North Carolina Department of Transportation (NCDOT) to inform citizens about the proposed replacement of Bridge Nos. 35 and 36 on SR 1340 over Meat Camp Creek (tributary to the New River) in Watauga County. Right-of-way acquisition and construction are scheduled to begin in 2003 and 2004, respectively.

Planning Studies Initiated

During **Step 1** of the planning process, information was collected on the existing human and natural environments. This information was used to identify preliminary alternatives for replacing Bridge Nos. 35 and 36. In **Step 2**, the preliminary alternatives were evaluated and, based on their potential impacts, four "reasonable and feasible" alternatives were selected for detailed environmental studies. **Step 3** involves conducting detailed environmental studies for the "reasonable and feasible" alternatives. Following completion of the detailed studies, **Step 4** will consist of selecting the preferred alternative. **Step 5** will be the completion of the environmental document.

PROJECT SCHEDULE

The schedule for the project is shown below:

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

HOTLINE

A project HOTLINE has been established to provide a toll free telephone number for information requests. Please call **(888) 521-4455** for information regarding the replacement of Bridge Nos. 35 and 36 over Meat Camp Creek (T.I.P. No. B-3926).

Description of Alternatives

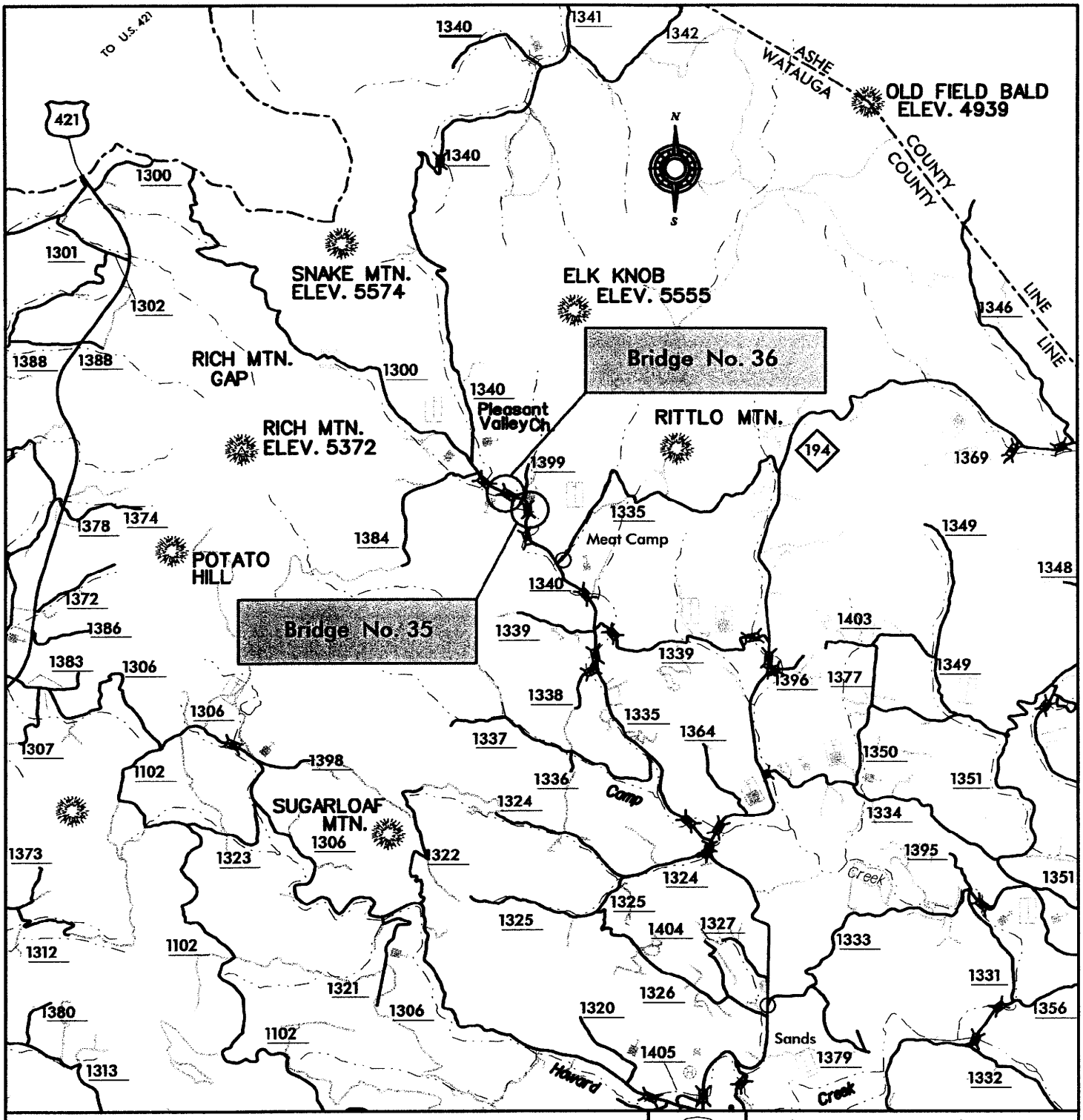
Four "reasonable and feasible" alternatives at each bridge will be evaluated during Step 3 of the planning and environmental process. These alternatives are briefly described below:

Alternative 1 – replaces bridge with culvert on the existing alignment. An "off-site" detour will be used to maintain traffic during the construction period.

Alternative 2 - replaces bridge with bridge on the existing alignment. An "off-site" detour will be used to maintain traffic during the construction period.

Alternative 3 - replaces bridge with culvert on the existing alignment. An "on-site" detour, located along the west (bridge no. 35)/north (bridge no. 36) side and using temporary pipe or extra length culvert under detour, will maintain traffic during the construction period.

Alternative 4 - replaces bridge with bridge on the existing alignment. An "on-site" detour located along the west (bridge no. 35)/north (bridge no. 36) side and using temporary pipe will maintain traffic during the construction period.



North Carolina Department of Transportation
Project Development and
Environmental Analysis Branch

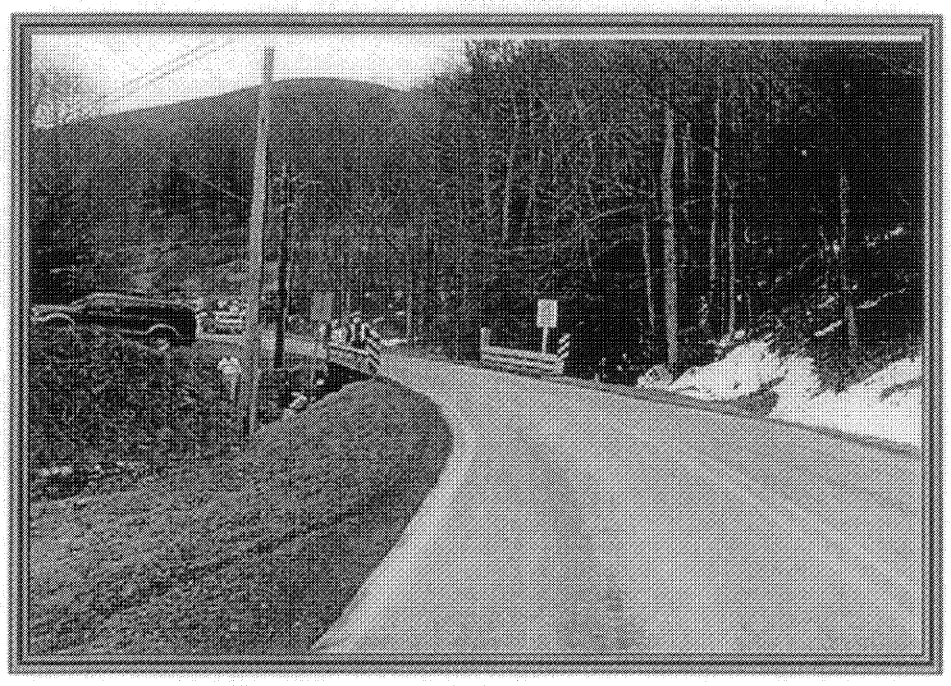
WATAUGA COUNTY

BRIDGE Nos. 35 AND 36 ON SR 1340
Meat Camp Road
Meat Camp Creek

T.I.P. No. B-3926

FIGURE 1

WATAUGA COUNTY
Bridge Nos. 35 & 36
B-3926



(Bridge No. 35) Looking North

(Bridge No. 36) Looking Northwest

NCDOT Welcomes Citizen Input

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

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

or

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

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

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

ADDRESS CORRECTION REQUESTED