STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 21, 2008

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTENTION: Mr. Dave Baker
NCDOT Coordinator

SUBJECT: **Nationwide Permit 23 and 33 Application** for the proposed replacement of Bridge No. 48 over Hemphill Creek on SR 1318 in Haywood County, Division 14. Federal Project No. BRZ-1318(8), State Project No. 8.2941301, T.I.P. No. B-3343.
Debit Work Order $240.00

Dear Sir:

Please find enclosed a copy of the Pre-Construction Notification, Approved Jurisdictional Determination Form, permit drawings, and1/2 size plans for the above referenced project. A Categorical Exclusion was completed for the project on November 5, 2004. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace the existing 36-foot long single span Bridge No. 48 on a new alignment just to the north with a new 37-foot wide and 65-foot long single span bridge. There will be 114 linear feet of permanent impacts to surface waters resulting from a relocation of a UT to Hemphill Creek. Traffic will be maintained onsite via staged construction.

IMPACTS TO WATERS OF THE UNITED STATES

General Description: The water resource impacted for project B-3343 is Hemphill Creek and is classified as "**C;Tr**" by the North Carolina Division of Water Quality (NCDWQ) and lies within the French Broad River Basin HUC 06010105. Hemphill Creek is classified as a hatchery supported and a wild trout river by the NC Wildlife Resources Commission (WRC). Neither High Quality Waters (HQW), Water Supplies (WS-I or

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

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

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

WS-II), nor Outstanding Resource Waters (ORW) occur within 1.0 mile of the project area. Hemphill Creek is not designated as a North Carolina Natural or Scenic River, or as a national Wild and Scenic River. Hemphill Creek is not listed on DWQs 303(d) list (2006) of impaired waters in North Carolina nor are any listed within one mile of the project. There are no wetlands on the project site.

Permanent Impacts: The construction of the new bridge and approach on a new alignment slightly to the north will result in 114 linear feet of permanent impacts to surface waters. A perennial UT to Hemphill Creek runs along the north side of SR 1318 and flows into Hemphill Creek north of the existing bridge. The UT will be relocated to flow under the road through a new 36" CMP with headwall that will connect with Hemphill Creek on the south side of road.

Temporary Impacts: A temporary diversion channel (Site 1) will be utilized for the dewatering of the UT to Hemphill Creek while the headwall is being constructed at the inlet end of the new 36" CMP resulting in <0.01 acre of temporary impacts to surface waters.

Utilities: There are no utility impacts to jurisdictional resources from this project.

Bridge Demolition: Bridge No. 48 is a single span structure with timber flooring on steel I-beams with a substructure of vertical, masonry abutments. Best Management Practices for Bridge Demolition and Removal will be implemented; however, there is potential for bridge components to drop into Waters of the United States during demolition. Any bridge components that fall into the water during demolition will be removed according to Best Management Practices.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), Proposed Threatened (PT), are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 31, 2008, the United States Fish and Wildlife Service lists a total of nine federally protected species for Haywood County (Table 1). A description of the nine species and biological conclusions are provided in the referenced CE document. Subsequent to the CE document approval in 2004, the Indiana Bat has been added to the Haywood County List and the Bald Eagle has been delisted. As noted in the CE document, Biological Conclusions for all species listed below are "No Effect", due to lack of suitable habitat. Suitable habitat for Appalachian elktoe had been noted in the CE document but an updated survey in July 2008 conducted by NCDOT personnel found no suitable habitat in the project area.

The bald eagle is now protected under The Bald and Golden Eagle Act which requires NCDOT to look for suitable foraging habitat within one mile of the project area for these species. No suitable foraging habitat was observed within a mile of the project study area. The Natural Heritage database was reviewed on June 17, 2008 and no elemental occurrences were noted within one mile of the project area.

Table 1. Federally protected species of Haywood County.

Scientific Name	**Common Name**	**Status**	**Habitat**	**Biological Conclusion**
Glyptemys muhlenbergii	Bog Turtle	T (S/A)	No	N/A
Puma concolor cougar	Eastern Cougar	E	No	No Effect
Microhexura montivaga	Spruce-fir Moss Spider	E	No	No Effect
Glaucomys sabrinus coloratus	Carolina Northern Flying Squirrel	E	No	No Effect
Alasmidonta raveneliana	Appalachian Elktoe	E	No	No Effect
Myotis sodalis	Indiana Bat	E	No	No Effect
Myotis grisescens	Gray Bat	E	No	No Effect
Gymnoderma lineare	Rock gnome lichen	E	No	No Effect
Isotria medeoloides	Small-whorled Pogonia	T	No	No Effect

AVOIDANCE, MINIMIZATION AND MITIGATION

Avoidance and Minimization:
Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States." The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional stages; minimization measures were incorporated as part of the project design. The use of best management practices for construction should reduce impacts to plant communities. The following avoidance and minimization measures will apply to this project:

- The proposed bridge replacement will be built utilizing staged construction; therefore, avoiding additional temporary surface water impacts from an onsite detour.
- NCDOT will adhere to Design Standards in Sensitive Watersheds.
- In stream construction will be prohibited from November 1 to April 15 to avoid impacts on trout reproduction.

Compensatory Mitigation: Construction for this project will impose temporary impacts and minimal permanent impacts to jurisdictional waters. NCDOT proposes no mitigation for the 114 linear feet of impacts. There are no High Quality Waters or Outstanding Resources Waters on the project site.

PROJECT SCHEDULE

The project is currently scheduled for review on December 30, 2008 and to Let on February 17, 2009 with construction scheduled to begin shortly thereafter.

REGULATORY APPROVALS

Section 404 Permit: It is anticipated that the temporary dewatering of Hemphill Creek 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 the temporary dewatering of a UT to Hemphill Creek. All other aspects of

this project are being processed by the Federal Highway Administration as a "Categorical Exclusion". The NCDOT requests that these activities be authorized by a Nationwide Permit 23.

Section 401 Permit: We anticipate 401 General Certification numbers 3701 and 3688 will apply to this project. We are hereby requesting a water quality certification from DWQ. We are submitting five copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their review and approval.

Comments from the NCWRC will be requested prior to authorization by the US Army Corps of Engineers (USACE). By copy of this letter and attachment, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the USACE and NCDOT within 30 days of receipt of this application.

Thank you for your assistance with this project. A copy of this permit application will be posted on the NCDOT Website at http://207.4.62.65/PDEA/PermApps/. If you have any questions or need additional information, please contact Jeff Hemphill at (919) 715-1458.

Sincerely,

E. L. Lusk

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

Cc

W/attachment

Mr. Brian Wrenn, NCDWQ **(5 Copies)**
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC
Mr. Harold Draper, TVA

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. J. B. Setzer, P.E., Division Engineer
Mr. Mark Davis, Division Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Ms. Stacy Oberhausen, PDEA Project Planning Engineer

Office Use Only: Form Version March 05

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
   - ☐ Express 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NWPs 23 & 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 Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, 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: Gregory J. Thorpe, Ph.D., Environmental Management Director
   Mailing Address: 1598 Mail Service Center
   Raleigh, NC 27699-1598
   Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
   E-mail Address:

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

III. Project Information

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

1. Name of project: Replacement of Bridge No. 48 on SR 1318 (Hemphill Rd) over Hemphill Creek

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3343

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

4. Location
   County: Haywood Nearest Town: Waynesville
   Subdivision name (include phase/lot number): N/A
   Directions to site (include road numbers/names, landmarks, etc.): Take I-40 west to Exit 20 near the small town of Cove Creek and turn left (south) on US 276. Proceed south on US 276 for approximately three miles to SR 1313 (Hemphill Road). Turn right on SR 1313 (After the intersection with SR 1314 Hemphill Road becomes SR 1318 but retains the same name) and proceed approximately 1 3/4 miles to the bridge site which is located just west of the intersection with SR 1315 (Pot Leg Road).

5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
   Decimal Degrees (6 digits minimum): 35.5432 °N 83.0363 °W

6. Property size (acres): N/A

7. Name of nearest receiving body of water: Hemphill Creek

8. River Basin: French Broad 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/.)

9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The site is located in a rural section of Haywood County. The site is primarily surrounded by pasture land and rural residential property.

10. Describe the overall project in detail, including the type of equipment to be used: The North Carolina Department of Transportation (NCDOT) proposes to replace the existing 36 foot long single span Bridge No. 48 on a new alignment just to the north with a new 37-foot wide and 65-foot long single span bridge. There will be 114 linear feet of permanent impacts to surface waters resulting from a relocation of a UT to Hemphill Creek. Dewatering for the construction of a headwall will result in <0.01 acre of temporary impacts to a UT to Hemphill Creek. Traffic will be maintained onsite via staged construction. Construction equipment will consist of heavy trucks, earth moving equipment, cranes, etc.

11. Explain the purpose of the proposed work: The existing bridge is structurally deficient and according to federal guidelines are considered functionally obsolete. The replacement of this bridge will result in safer traffic operations.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. 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. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems.

Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

Provide a written description of the proposed impacts: The construction of the new bridge and approach on a new alignment to north will result in 114 linear feet of permanent impacts to surface waters for the replacement of Bridge No. 48 (Site 1). A perennial UT to Hemphill Creek runs along the north side of SR 1318 and flows into Hemphill Creek north of the existing bridge. The UT will be relocated to flow under the road through a new 36" CMP with headwall that will connect with Hemphill Creek on the south side of road. A temporary diversion channel (Site 1) will be utilized for the dewatering of the UT to Hemphill Creek while the headwall is being constructed at the inlet end of the new 36" CMP resulting in <0.01 acre of temporary impacts to surface waters for the replacement.

1. Individually list wetland impacts. Types of 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.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
N/A					
Total Wetland Impact (acres)					

2. List the total acreage (estimated) of all existing wetlands on the property: 0 acre

3. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, 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. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
Bridge 48	UT to Hemphill Creek	Permanent	Perennial	2 feet	114	0.01
Bridge 48	UT to Hemphill Creek	Permanent	Termporary	2 feet	11	<0.01
Total Stream Impact (by length and acreage)					125	0.01

4. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

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

5. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	0.01
Wetland Impact (acres):	0
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0.01
Total Stream Impact (linear feet):	125

6. Isolated Waters
Do any isolated waters exist on the property? ☐ Yes ☒ No
Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

_____

_____

7. 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.):_____
Current land use in the vicinity of the pond:_____
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. See Permit Application Cover Letter

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 January 15, 2002, 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 NCEEP 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 Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at http://h2o.enr.state.nc.us/wrp/index.htm. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

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

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes ☒ No ☐

2. 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 ☐

3. 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.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify_____)? Yes ☐ No ☒

2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

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

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

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. N/A

XI. Stormwater (required by DWQ)

Describe impervious acreage (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. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. 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. Cumulative Impacts (required by DWQ)

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes ☐ No ☐
If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at http://h2o.enr.state.nc.us/ncwetlands. If no, please provide a short narrative description:

XV. 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).
N/A

E.L. Lusk 7-21-08

Applicant/Agent's Signature **Date**
(Agent's signature is valid only if an authorization letter from the applicant is provided.)

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION: TIP# B-3343 NCDOT
State: NC County/parish/borough: Haywood City: Waynesville
Center coordinates of site (lat/long in degree decimal format): Lat. 35° N, Long. 83° W.
Universal Transverse Mercator:
Name of nearest waterbody: Hemphill Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: French Broad River
Name of watershed or Hydrologic Unit Code (HUC): 06010105
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 350 linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

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[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]: .
   Tributary stream order, if known: .

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[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☒ High Tide Line indicated by:	☒ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

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[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: DWQ rating form greater than 30.
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **87 Corps Manuel Wetland criteria were met in areas adjacent to RPWs.**

   - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- ☐ Other: (explain, if not covered above): .

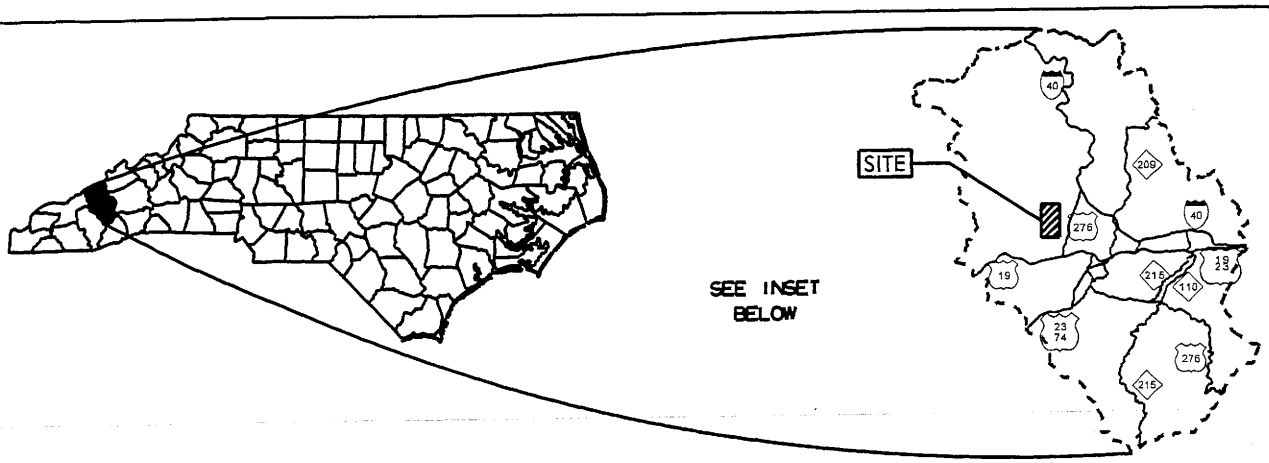
Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

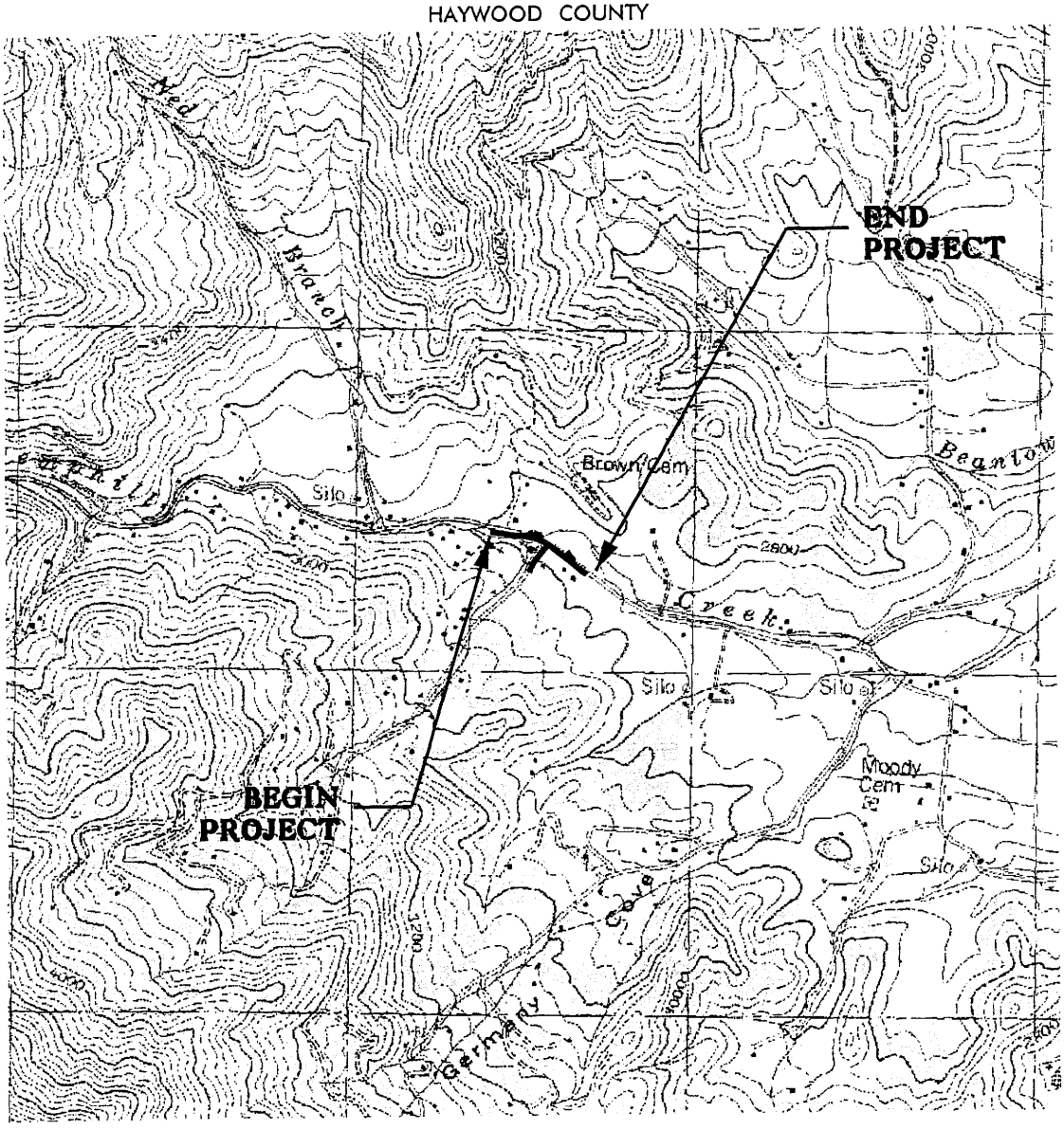
SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- ☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☐ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite scale & quad name: .
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☐ National wetlands inventory map(s). Cite name: .
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☐ Photographs: ☐ Aerial (Name & Date): .
  - or ☐ Other (Name & Date): .
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .



HAYWOOD COUNTY



WETLAND IMPACTS
VICINITY MAP

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

PROJECT: 33002.1.1 (B-3343)
BRIDGE NO. 48 OVER
HEMPHILL CREEK ON SR 1313
(HEMPHILL ROAD)

SHEET ___OF ___ 4-4-08

Permit Drawing

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	13+21-14+83 -L- LT							0.01	<.01	114	11	
TOTALS:			0.00	0.00	0.00	0.00	0.00	0.01	<.01	114	11	0

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

HAYWOOD COUNTY
PROJECT: 33002.1.1 (B-3343)

SHEET 5/6/2008

ATN Revised 3/31/05

Permit Drawing
Sheet 2 of 9

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
2	CHARLENE RUSSELL	ADDRESSES
4	WILLA CAGLE	120 TOPIARY DRIVE CLYDE, NC 28721
5	KENNETH W. OWEN	LOT 26 ASHEVILLE, NC 28806

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

PROJECT: 33002.1.1 (B-3343)
BRIDGE NO. 48 OVER
HEMPHILL CREEK ON SR 1313
(HEMPHILL ROAD)

SHEET ___OF ___ 4-4-08

Permit Drawing
Sheet 3 of 9

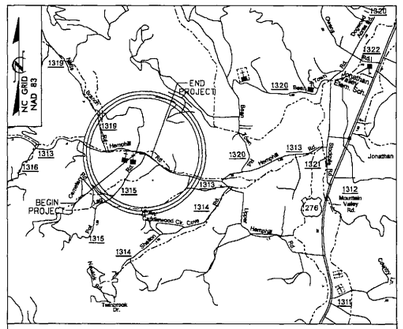
09/08/99

TIP PROJECT: B-3343

CONTRACT:

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

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

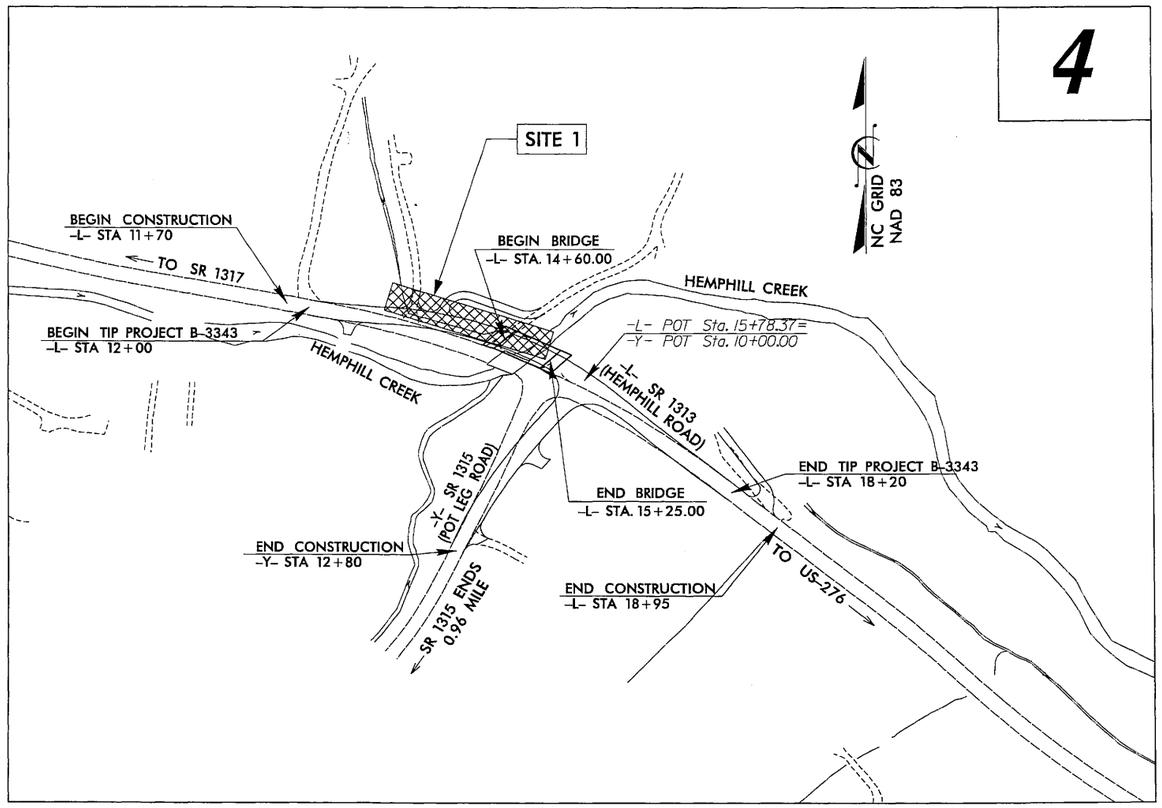
LOCATION: BRIDGE No. 48 OVER HEMPHILL CREEK ON SR 1313

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3343	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33002.1.1	BRZ-1318(8)	P.E.
33002.2.2	BRZ-1318(8)	R/W & UTILITIES

RECEIVED
MAY 0 5 2008
DIVISION OF HIGHWAYS
HYDRAULICS UNIT



WETLAND/STREAM IMPACTS

Clearing on this project shall be performed to the limits established by method II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

DESIGN DATA

ADT 2005 = 600
ADT 2030 = 1300
DHV = 14%
D = 65%
T = 3% (1% TTST + 2% DUALS)
V = 40 MPH *
FUNCT. CLASS = RURAL LOCAL

* DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3343 = 0.105 MI
LENGTH STRUCTURE TIP PROJECT B-3343 = 0.012 MI
TOTAL LENGTH OF TIP PROJECT B-3343 = 0.117 MI

Prepared In the Office of:
VAUGHN & MELTON
1318-F PATTON AVE.
ASHEVILLE NC, 28806
FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 16, 2007

LETTING DATE:

JERRY CARTER, PE
PROJECT ENGINEER

AARON CARVER, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT:
DOUG TAYLOR, PE
PROJECT ENGINEER - ROADWAY DESIGN

HYDRAULICS ENGINEER

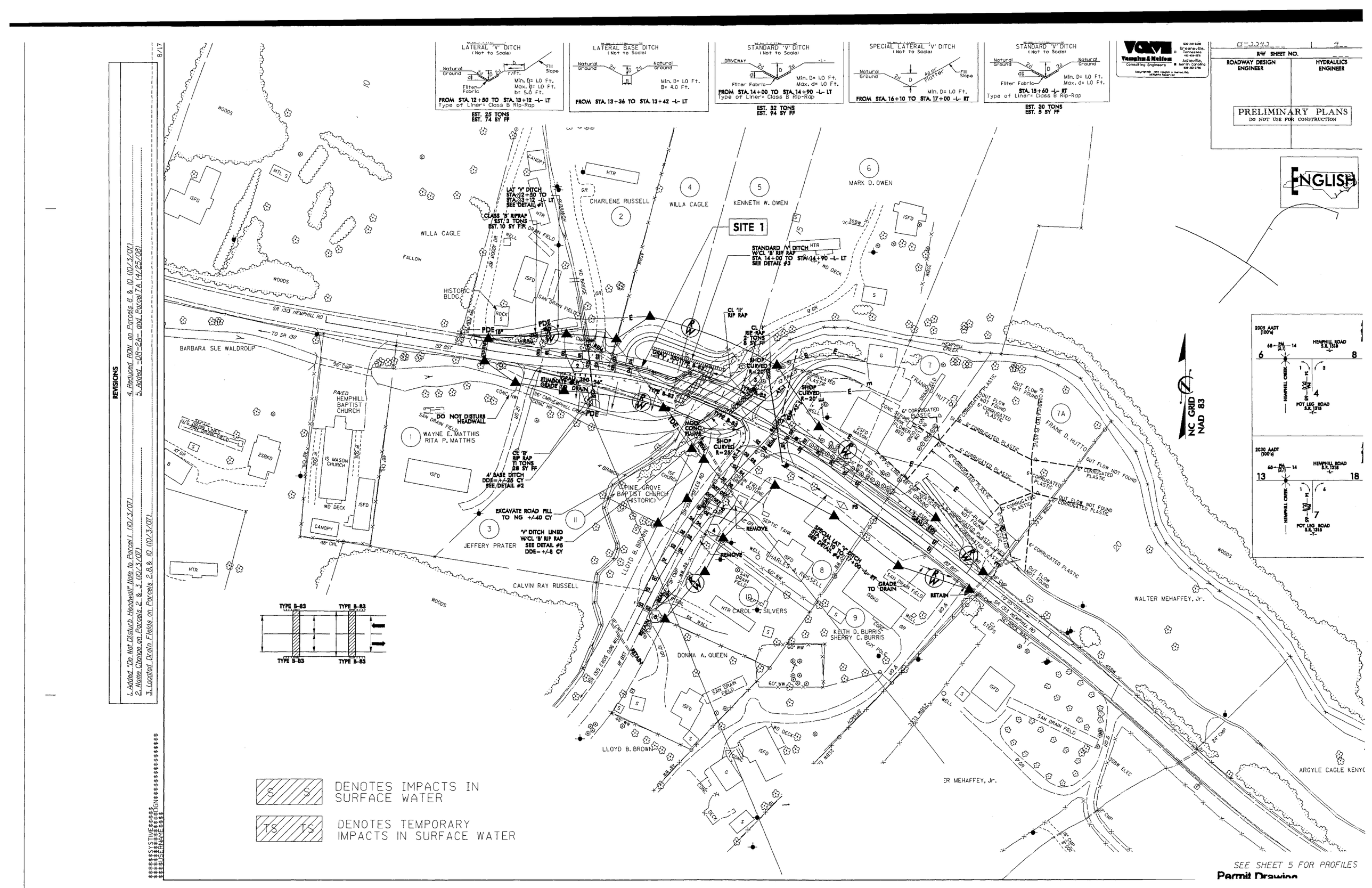
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Permit Drawing
Sheet 4 of 9 P.E.
STATE HIGHWAY DESIGN ENGINEER


LATERAL 'V' DITCH (Not to Scale)
Natural Ground
Fill Slope
Filter Fabric
Min. D= 1.0 Ft.
Max. D= 1.0 Ft.
b= 5.0 Ft.
FROM STA. 12+80 TO STA. 13+12 -L- LT
Type of Liner= Class B Rip-Rap
EST. 25 TONS
EST. 74 SY FF
LATERAL BASE DITCH (Not to Scale)
Min. D= 1.0 Ft.
B= 4.0 Ft.
FROM STA. 13+36 TO STA. 13+42 -L- LT
STANDARD 'V' DITCH (Not to Scale)
DRIVEWAY
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
FROM STA. 14+00 TO STA. 14+90 -L- LT
Type of Liner= Class B Rip-Rap
EST. 32 TONS
EST. 94 SY FF
SPECIAL LATERAL 'V' DITCH (Not to Scale)
Ad or Flatter
FROM STA. 16+10 TO STA. 17+00 -L- RT
STANDARD 'V' DITCH (Not to Scale)
STA. 18+60 -L- RT
EST. 30 TONS
EST. 5 SY FF
Vaughn & Melton
Consulting Engineers
Greenville, Tennessee
Asheville, North Carolina
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
ENGLISH
REVISIONS
4. Reduced ROW on Parcels 8 & 10 (10/3/07).
5. Added -DR-2A- and Parcel 7A (11/25/08).
1. Added "Do Not Disturb Headwall" Note to Parcel 1. (10/3/07).
2. Name Change on Parcels 2 & 3. (10/3/07).
3. Located Drain Fields on Parcels 2,8,& 10 (10/3/07).
8/17
SITE 1
LAT 'V' DITCH STA. 12+30 TO STA. 13+12 -L- LT SEE DETAIL #1
CLASS 'B' RIPRAP EST. 3 TONS EST. 10 SY FF
STANDARD 'V' DITCH W/CL 'B' RIP RAP STA 14+00 TO STA 14+90 -L- LT SEE DETAIL #3
CL 'II' RIP RAP
CL 'I' RIP RAP 2 TONS 8 SY FF
SHOP CURVED R=20' Ir
SHOP CURVED R=25' Ir
CL 'B' RIP RAP 11 TONS 28 SY FF
4' BASE DITCH DDE=+/-25 CY SEE DETAIL #2
EXCAVATE ROAD FILL TO NG +/-40 CY
'V' DITCH LINED W/CL 'B' RIP RAP SEE DETAIL #5 DDE=+/-8 CY
DO NOT DISTURB HEADWALL
SPECIAL LAT 'V' DITCH STA. 16+10 TO STA. 17+00 -L- RT
GRADE TO DRAIN
RETAIN
REMOVE
WAYNE E. MATTHIS
RITA P. MATTHIS
JEFFERY PRATER
CALVIN RAY RUSSELL
CHARLENE RUSSELL
WILLA CAGLE
KENNETH W. OWEN
MARK D. OWEN
BARBARA SUE WALDROUP
HEMPHILL BAPTIST CHURCH
PINE GROVE BAPTIST CHURCH (HISTORIC)
HISTORIC BLDG.
LLOYD B. BROWN
DONNA A. QUEEN
HTR CAROL F. SILVERS
KEITH D. BURRIS
SHERRY C. BURRIS
CHARLES A. RUSSELL
FRANK D. HUTTO
WALTER MEHAFFEY, Jr.
ARGYLE CAGLE KENYC
SR 1313 HEMPHILL RD
TO SR 1317
HEMPHILL CREEK
FALLOW
WOODS
ISFD
2SBKD
2SFD MASON
IS MASON CHURCH
WD DECK
CANOPY
SEPTIC
SAN DRAIN FIELD
WELL
HTR
GR
WD BRIDGE
ROCK
S
TYPE B-83
TYPE B-83
TYPE B-83
TYPE B-83
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
NC GRID NAD 83
2005 AADT (100's)
HEMPHILL ROAD S.R. 1318
POT LEG ROAD S.R. 1319
2030 AADT (100's)
SEE SHEET 5 FOR PROFILES
Permit Drawing

8/17/99

PROJECT REFERENCE NO. B-3343

SHEET NO. 4

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

V&M
Vaughn & Melton
Consulting Engineers
☐ Middlesboro, Kentucky 606-248-6600
☐ Greeneville, Tennessee 423-639-0271
■ Asheville, North Carolina 828-253-2796
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REVISIONS

1. Added "Do Not Disturb Headwall" Note to Parcel 1 (10/3/07)
2. Name Change on Parcels 2 & 3 (10/3/07)
3. Located Drain Fields on Parcels 2,8,& 10 (10/3/07)
4. Reduced ROW on Parcels 8 & 10 (10/3/07)
5. Added -DR-2A- and Parcel 7A (4/25/08)

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

REVISIONS

1. Added "Do Not Disturb Headwall" Note to Parcel 1.. (10/3/07)
2. Name Change on Parcels 2 & 3. (10/3/07)
3. Located Drain Fields on Parcels 2,8,& 10 (10/3/07)
4. Reduced ROW on Parcels 8 & 10 (10/3/07)
5. Added -DR-2A- and Parcel TA (4/25/08)

Vaughan & Melton
Consulting Engineers
Greenville, Tennessee 423-639-0275
Asheville, North Carolina 828-257-2796

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

SCALE: 1"=50'

SITE 1

EST. 10 SY F.F.

STANDARD 'V' DITCH
W/CL 'B' RIP RAP
STA 14+00 TO STA 14+90 -L- LT
SEE DETAIL #3

CL 'II' RIP RAP

CL 'I' RIP RAP 2 TONS 8 SY FF

DO NOT DISTURB HEADWALL

CL 'B' RIP RAP 11 TONS 28 SY FF

4' BASE DITCH
DDE = +/-25 CY
SEE DETAIL #2

EXCAVATE ROAD FILL TO NG +/-40 CY

'V' DITCH LINED W/CL 'B' RIP RAP
SEE DETAIL #5
DDE = +/-8 CY

SPECIAL LAT 'V' DITCH
STA 16+10 TO 17+00 -L- RT
SEE DETAIL #4

ELIMINATE OUT GRADE TO DRAIN

MOD. CONC. FLUME

SHOP CURVED R=20'

SHOP CURVED R=25'

SHOP CURVED R=20'

REMOVE

REMOVE

TO ISBKD

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

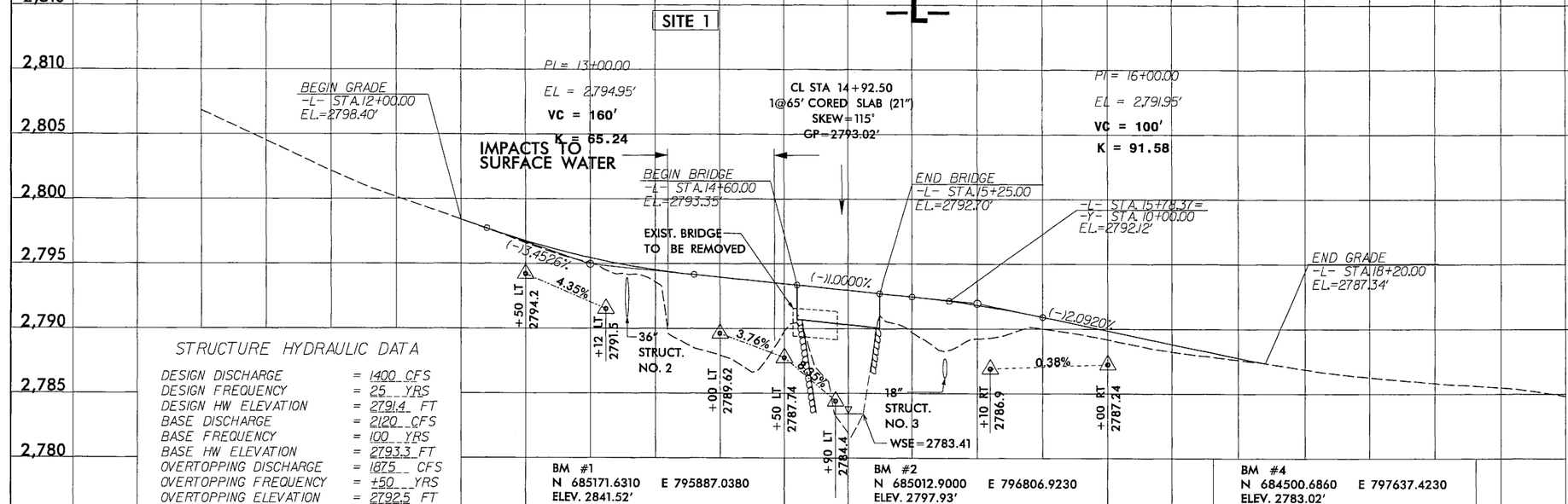
NC GRID NAD 83

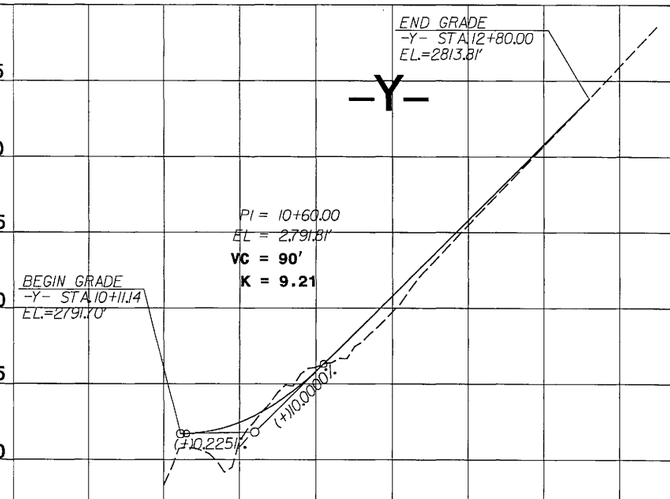
2005 AADT (100's)

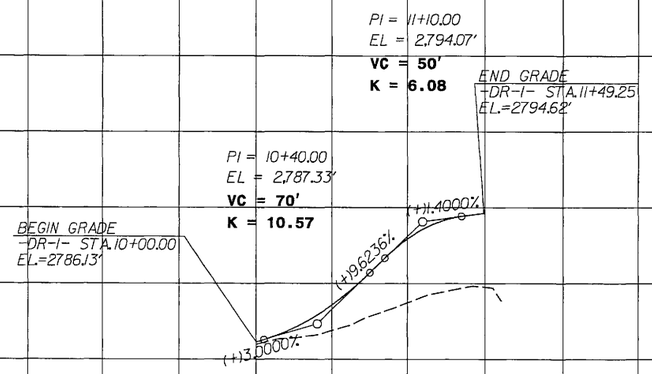
2030 AADT (100's)

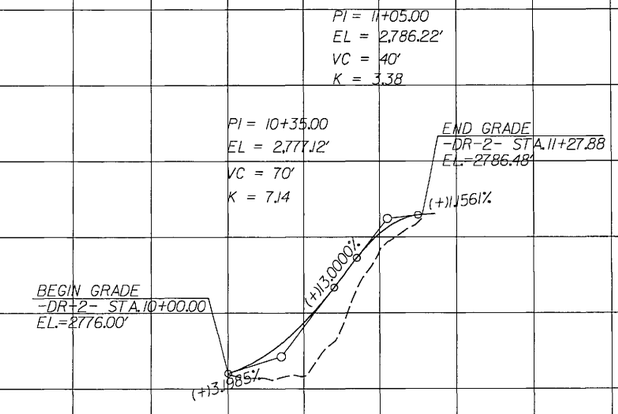
SEE SHEET 5 FOR PROFILES

Permit Drawing
Sheet 7 of 9









PROJECT REFERENCE NO.	SHEET NO.
B-3343	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 1400 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 2791.4 FT
BASE DISCHARGE = 2120 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 2793.3 FT
OVERTOPPING DISCHARGE = 1875 CFS
OVERTOPPING FREQUENCY = +50 YRS
OVERTOPPING ELEVATION = 2792.5 FT

BM #1
N 685171.6310 E 795887.0380
ELEV. 2841.52'
OUTSIDE OF CHAIN BL

BM #2
N 685012.9000 E 796806.9230
ELEV. 2797.93'
-BL- STA 13+23.21 35.94' RIGHT

BM #4
N 684500.6860 E 797637.4230
ELEV. 2783.02'
-BL- STA 23+19.50 15.80' RIGHT

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 2

DRAINAGE AREA	= 65	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 57	CFS
DESIGN HW ELEVATION	= 2796.90	FT
100 YEAR DISCHARGE	= 91	CFS
100 YEAR HW ELEVATION	= 2803.90	FT
OVERTOPPING FREQUENCY	= < 5	YRS
OVERTOPPING DISCHARGE	= < 29	CFS
OVERTOPPING ELEVATION	= 2794.00	FT

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 3

DRAINAGE AREA	= 1.04	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 2.9	CFS
DESIGN HW ELEVATION	= 2782.82	FT
100 YEAR DISCHARGE	= 3.6	CFS
100 YEAR HW ELEVATION	= 2787.95	FT
OVERTOPPING FREQUENCY	= 25	YRS
OVERTOPPING DISCHARGE	= 2.9	CFS
OVERTOPPING ELEVATION	= 2788	FT

SEE SHEET 4 FOR PLAN VIEW

BM #3
N 684598.2480 E 796876.1940
ELEV. 2833.96'
OUTSIDE OF CHAIN BY

SEE SHEET 4 FOR PLAN VIEW

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

Permit Drawing
Sheet 7 of 9

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
B-3343	X-1

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

SITE 1

IMPACTS TO SURFACE WATER

2800 / 2795 / 2790 / 2785

2793.14

WIDENED SHOULDER

0.0400 | 0.0400

2793.95

WIDENED SHOULDER

2:1 -DR-I- 2:1 2:1

2789.62

2787.92

14+00.000

2800 / 2795 / 2790

2794.52

0.0247 | 0.0247

WIDENED SHOULDER

2:1

2793.58

13+50.000

2795 / 2790

2795.44

0.0006 | 0.0150

WIDENED SHOULDER

2:1

2795.05

2:1 2:1

2792.02

13+00.000

2800 / 2795 / 2790

2796.74

0.0150 | 0.0150

DRIVEWAY

2:1

2796.58

2794.20

12+50.000

2805 / 2800 / 2795 / 2790

0.0150 | 0.0150

2798.40

12+00.000

BEGIN TIP PROJECT B-3343
STA 12+00.00

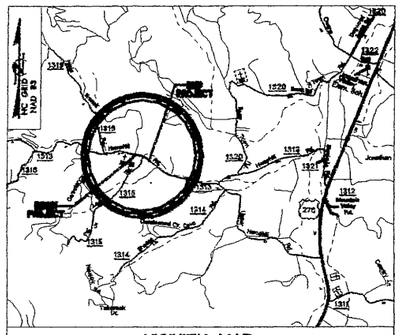
BEGIN CONSTRUCTION B-3343
STA 11+70.00

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 9 of 9

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

$$$$$$$SYSTIME$$$$$$$
$$$$$$$USERNAME$$$$$$$
$$$$$$$DESIGN$$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$



TIP PROJECT: B-3343

CONTRACT:

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

See Sheet 1-A For Index of Sheets

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3343	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33002.1.1	BRZ-1318(8)	P.E.
33002.2.2	BRZ-1318(8)	R/W & UTILITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

LOCATION: BRIDGE No. 48 OVER HEMPHILL CREEK ON SR 1313

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

Clearing on this project shall be performed to the limits established by method II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

DESIGN DATA

ADT 2005 = 600
ADT 2030 = 1300
DHV = 14%
D = 65%
T = 3% (1% TTST + 2% DUALS)
V = 40 MPH *
FUNCT. CLASS = RURAL LOCAL

* DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3343 = 0.105 MI
LENGTH STRUCTURE TIP PROJECT B-3343 = 0.012 MI
TOTAL LENGTH OF TIP PROJECT B-3343 = 0.117 MI

Prepared In the Office of:
VAUGHN & MELTON
1318-F PATTON AVE.
ASHEVILLE NC, 28806
FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 16, 2007

LETTING DATE:
____

JERRY CARTER, PE
PROJECT ENGINEER

AARON CARVER, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT:
DOUG TAYLOR, PE
PROJECT ENGINEER - ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: __________ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: __________ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

__________ P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
B-3543	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — IP
- Property Corner
- Property Monument — CM
- Parcel/Sequence Number — 25
- 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
- Well
- 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 — PDD
- False Sump

RAILROADS:

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

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

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

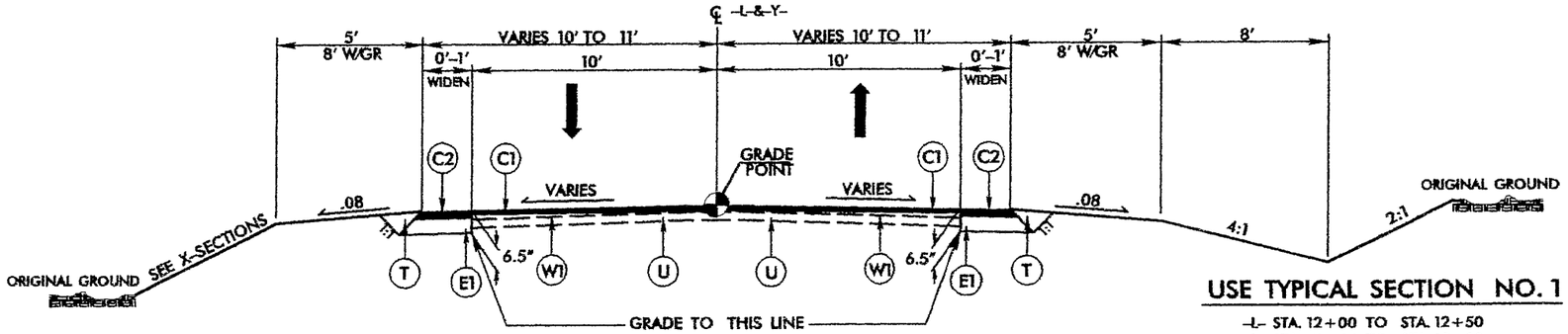
- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

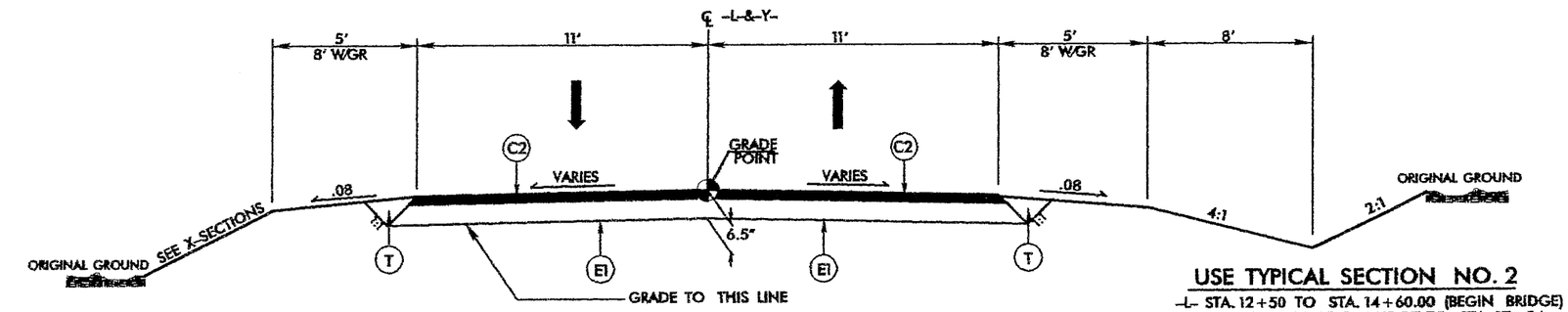
SANITARY SEWER:

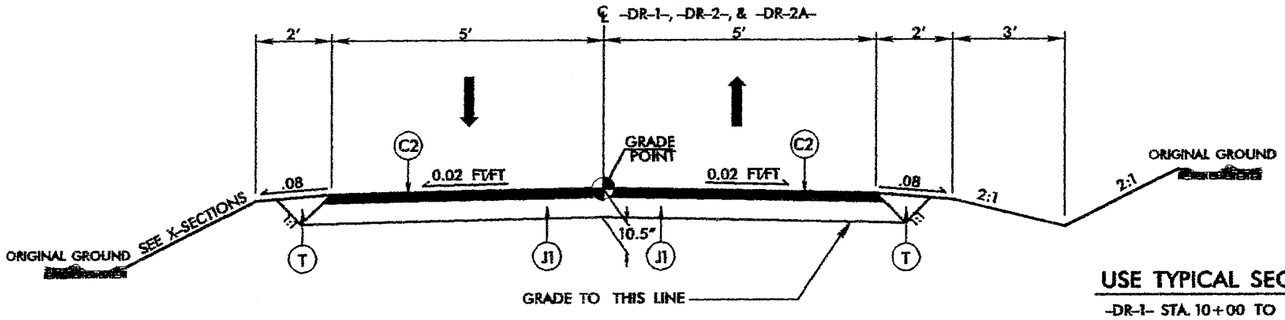
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

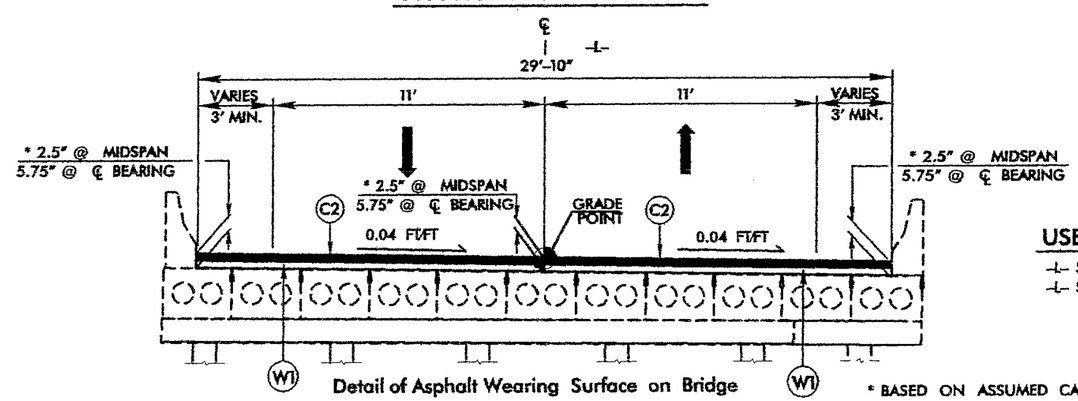
MISCELLANEOUS:

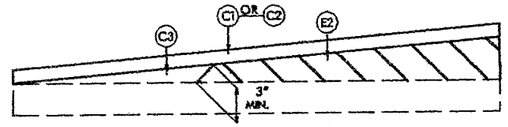
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

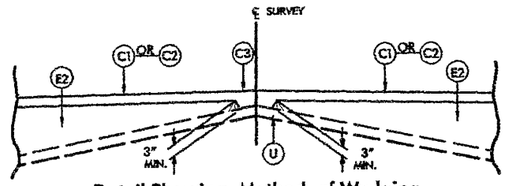












PROJECT REFERENCE NO.	SHEET NO.
B-3343	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 12+00 TO STA. 12+50
-L- STA. 17+54 TO STA. 18+20
-Y- STA. 12+30 TO STA. 12+80

Wedging Detail 2
For Roadway

Detail Showing Method of Wedging

TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 12+50 TO STA. 14+60.00 (BEGIN BRIDGE)
-L- STA. 15+25.00 (END BRIDGE) TO STA. 17+54
-Y- STA. 10+11.14 TO STA. 12+30.00

TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-DR-1- STA. 10+00 TO STA. 11+49.25
-DR-2- STA. 10+00 TO STA. 11+27.88
-DR-2A- STA. 10+00 TO STA. 11+40.22

Detail of Asphalt Wearing Surface on Bridge

TYPICAL SECTION NO. 4

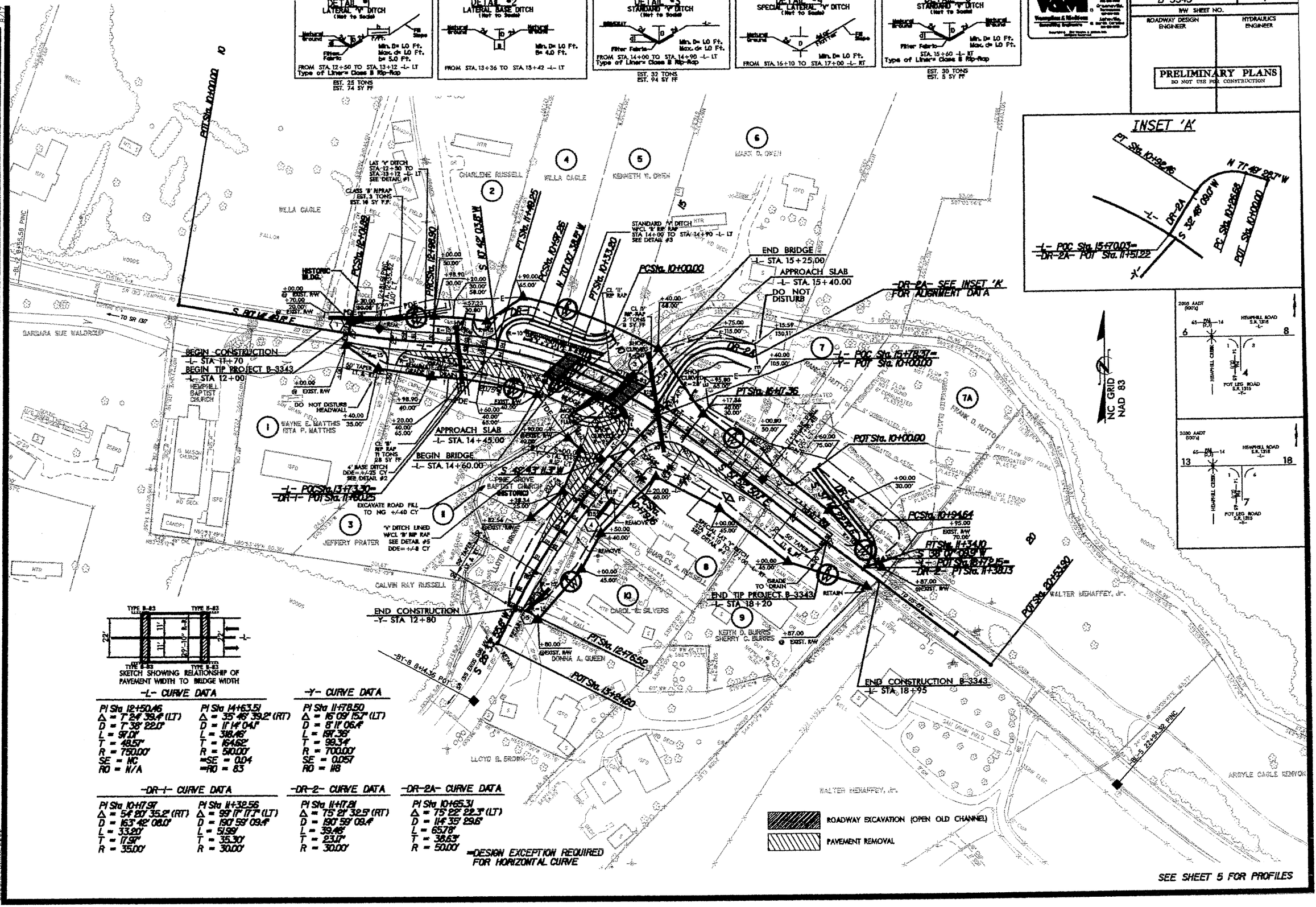
* BASED ON ASSUMED CAMBER
AT MIDSPAN = 3.25"

USE TYPICAL SECTION NO. 4

-L- STA. 14+60.00 (BEGIN BRIDGE) TO
-L- STA. 15+25.00 (END BRIDGE)

C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH.
J1	8" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W1	VARIABLE DEPTH ASPHALT PAVEMENT FOR ROADWAY (SEE WEDGING DETAIL FOR RESURFACING).

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



PROJECT REFERENCE NO.	SHEET NO.
B-3343	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Vaughn & Melton Consulting Engineers

REVISIONS

1. Added "Do Not Disturb Headwall" Note to Parcel 1 (10/3/07)
2. Name Change on Parcels 2 & 3 (10/3/07)
3. Located Drain Fields on Parcels 2, 8, & 10 (10/3/07)
4. Reduced ROW on Parcels 8 & 10 (10/3/07)
5. Added -DR-2A- and Parcel 7A (4/25/08)

DETAIL #1
LATERAL "V" DITCH
(Not to Scale)

Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
b= 5.0 Ft.
FROM STA. 12+50 TO STA. 13+12 -L- LT
Type of Liner= Class B Rip-Rap
EST. 25 TONS
EST. 74 SY FF

DETAIL #2
LATERAL BASE DITCH
(Not to Scale)

Min. D= 1.0 Ft.
B= 4.0 Ft.
FROM STA. 13+36 TO STA. 13+42 -L- LT

DETAIL #3
STANDARD "V" DITCH
(Not to Scale)

Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
FROM STA. 14+00 TO STA. 14+90 -L- LT
Type of Liner= Class B Rip-Rap
EST. 32 TONS
EST. 94 SY FF

DETAIL #4
SPECIAL LATERAL "V" DITCH
(Not to Scale)

Min. D= 1.0 Ft.
FROM STA. 16+10 TO STA. 17+00 -L- RT

DETAIL #5
STANDARD "V" DITCH
(Not to Scale)

Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
STA. 15+60 -L- RT
Type of Liner= Class B Rip-Rap
EST. 30 TONS
EST. 5 SY FF

-L- CURVE DATA

PI Sta 12+50.46
Δ = 7° 24' 39.4" (LT)
D = 7° 38' 22.0"
L = 97.01'
T = 48.57'
R = 750.00'
SE = NC
RO = N/A

PI Sta 14+63.51
Δ = 35° 46' 39.2" (RT)
D = 11° 14' 04.1"
L = 318.46'
T = 164.62'
R = 510.00'
*SE = 0.04
*RO = 83

-Y- CURVE DATA

PI Sta 11+78.50
Δ = 16° 09' 15.7" (LT)
D = 8° 11' 06.4"
L = 197.36'
T = 99.34'
R = 700.00'
SE = 0.057
RO = 118

-DR-1- CURVE DATA

PI Sta 10+17.97
Δ = 54° 20' 35.2" (RT)
D = 163° 42' 08.0"
L = 33.20'
T = 17.97'
R = 35.00'

PI Sta 11+32.56
Δ = 99° 17' 17.7" (LT)
D = 190° 59' 09.4"
L = 51.99'
T = 35.30'
R = 30.00'

-DR-2- CURVE DATA

PI Sta 11+17.81
Δ = 75° 21' 32.5" (RT)
D = 190° 59' 09.4"
L = 39.46'
T = 23.17'
R = 30.00'

-DR-2A- CURVE DATA

PI Sta 10+65.31
Δ = 75° 22' 22.3" (LT)
D = 114° 35' 29.6"
L = 65.78'
T = 38.63'
R = 50.00'

*DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE

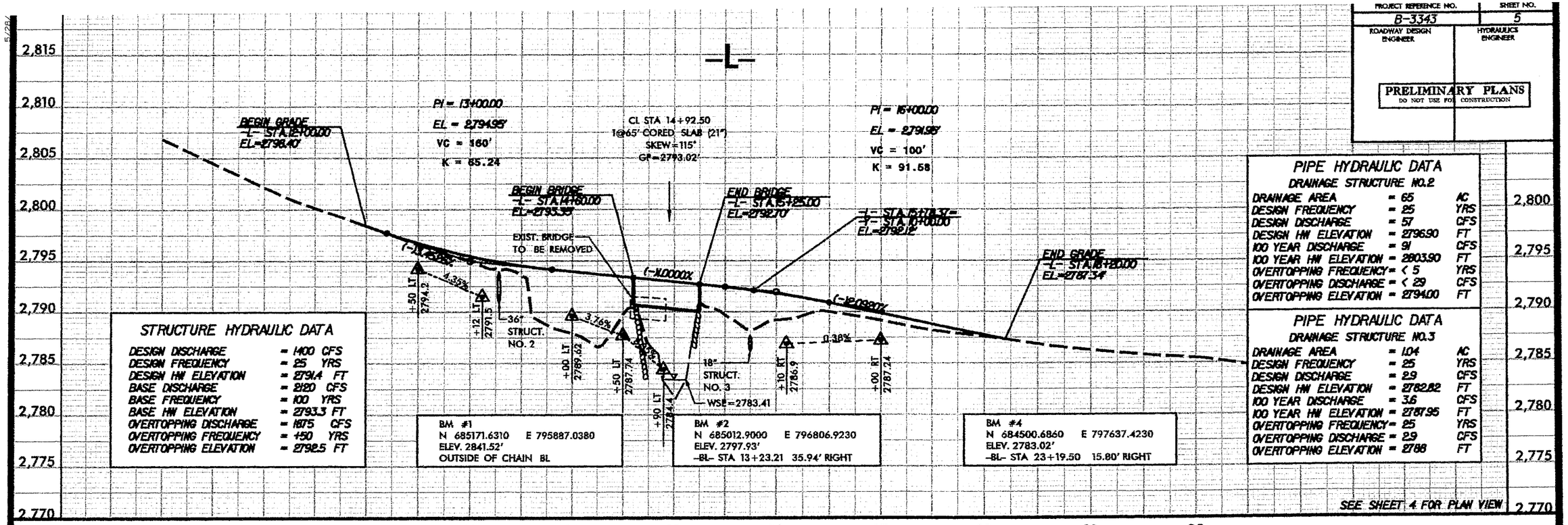
▨ ROADWAY EXCAVATION (OPEN OLD CHANNEL)

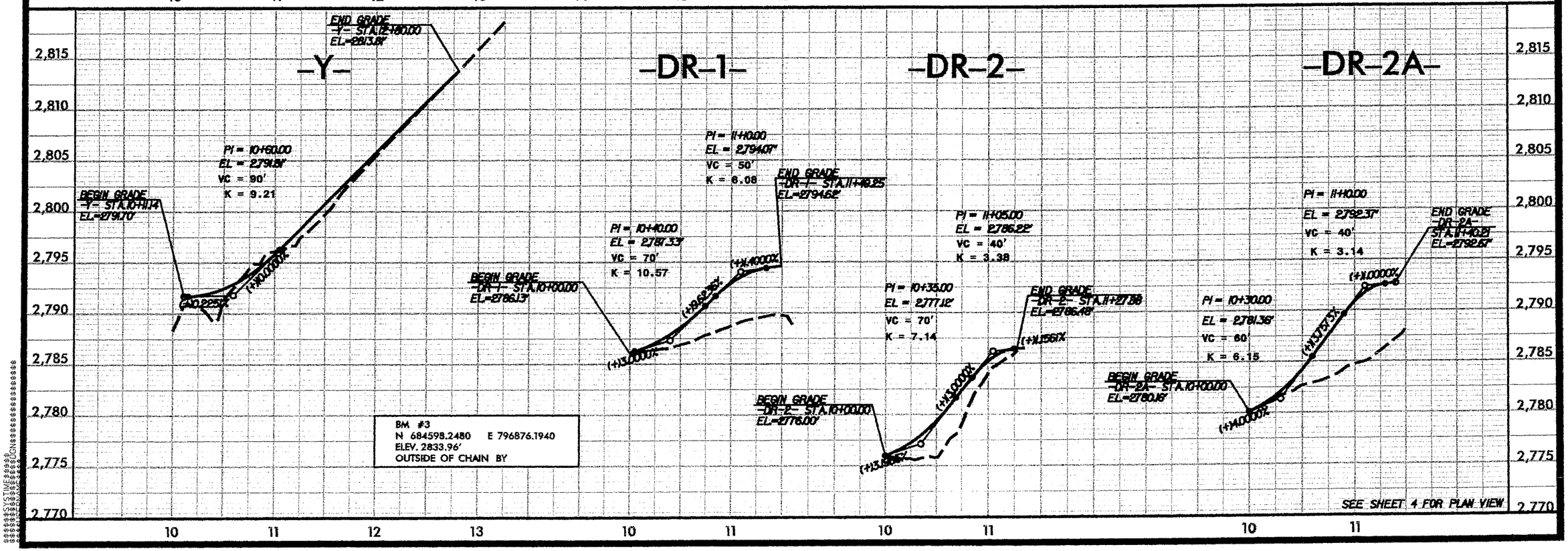
▨ PAVEMENT REMOVAL

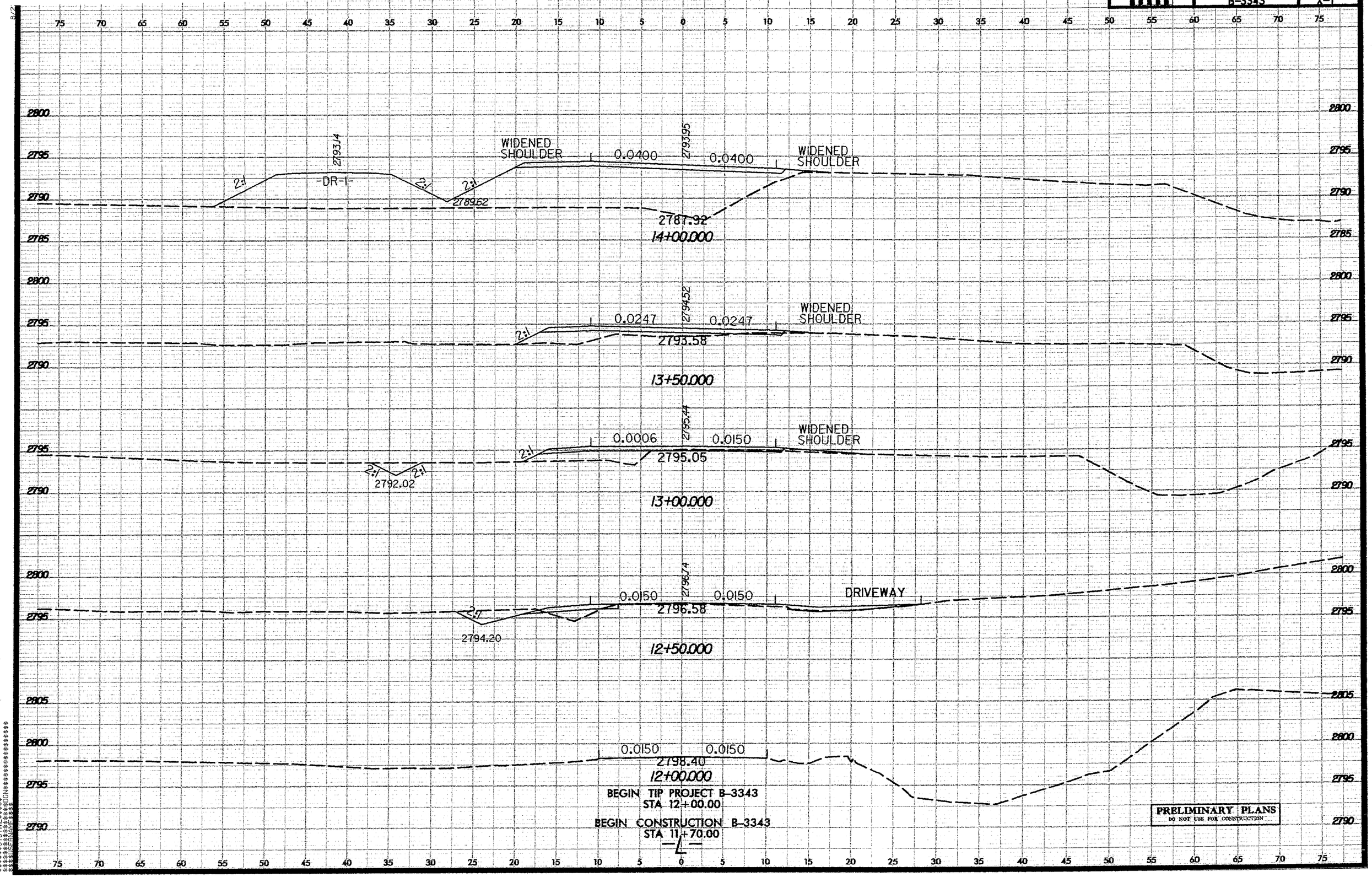
SEE SHEET 5 FOR PROFILES

PROJECT REFERENCE NO.	SHEET NO.
B-3343	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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2793.95
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2795.44
2795.05
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DRIVEWAY
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2794.20
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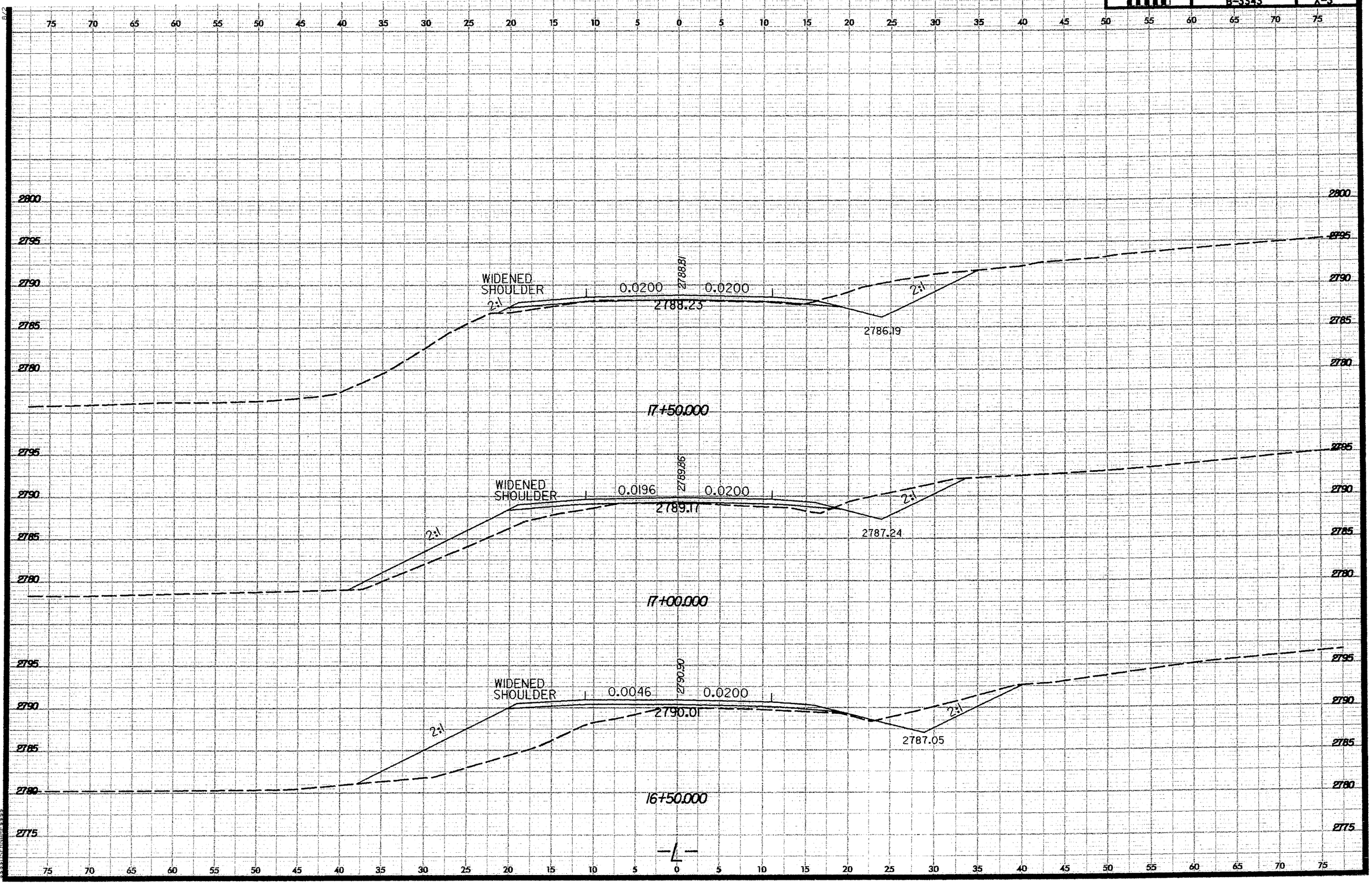
0.0150
2798.40
12+00.000
BEGIN TIP PROJECT B-3343
STA 12+00.00
BEGIN CONSTRUCTION B-3343
STA 11+70.00
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJ. REFERENCE NO.	SHEET NO.
B-3343	X-2

PROJ. REFERENCE NO. B-3343

SHEET NO. X-3



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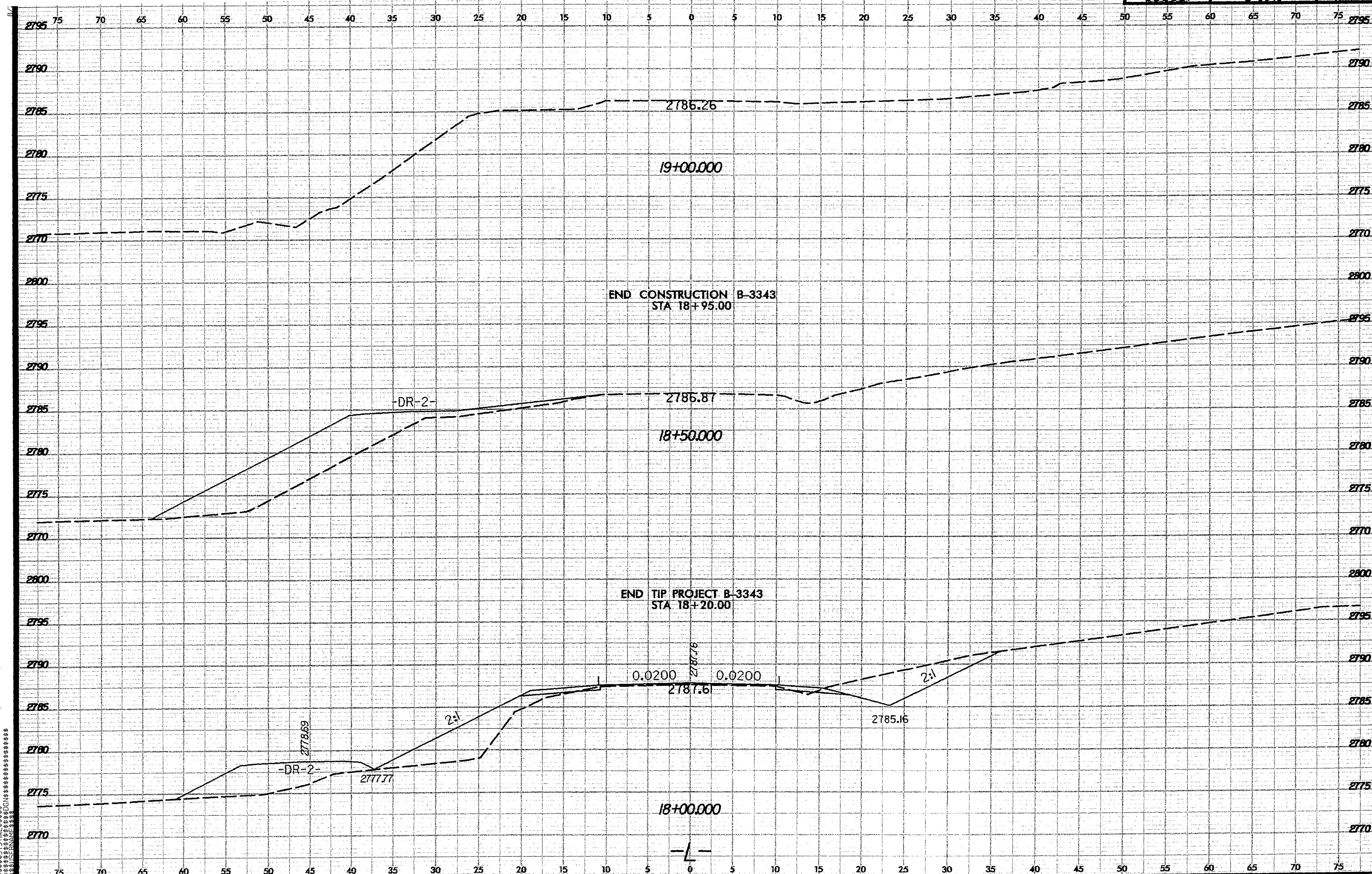
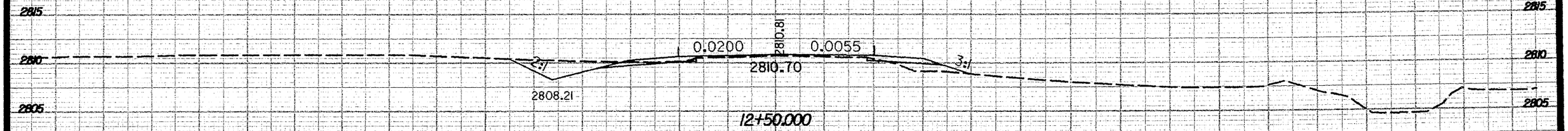
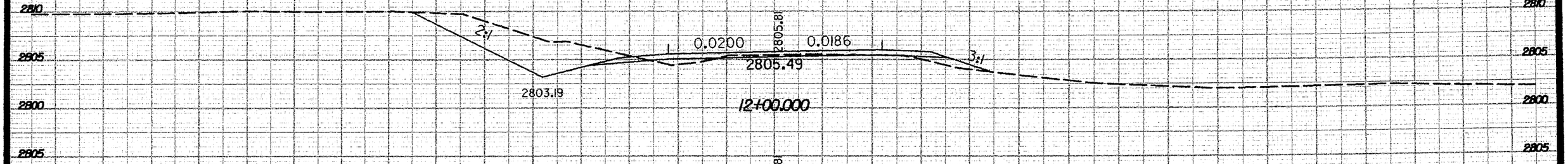
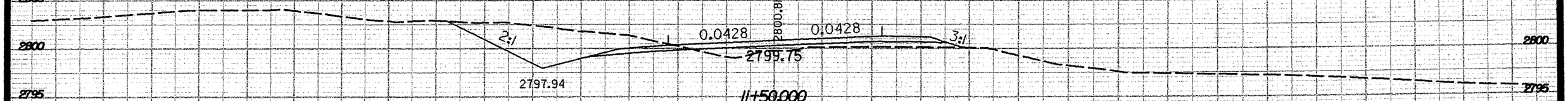
B-3343	X-4

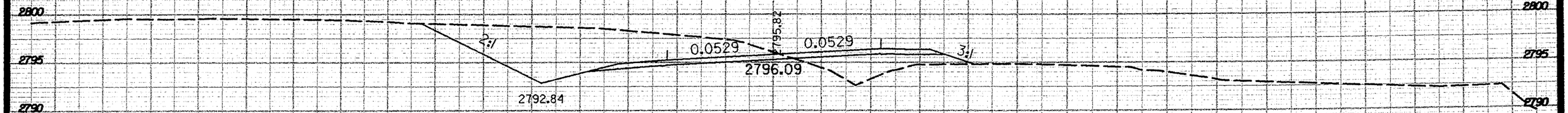


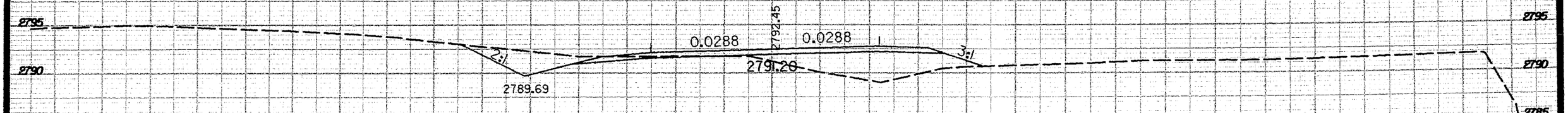
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-3343	X-5











PROJ. REFERENCE NO.	SHEET NO.
B-3343	X-6

Underwood

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 9, 2004

MEMORANDUM TO: Mr. Omar Sultan
Program Development Branch, Room G106M

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

SUBJECT: Federal Categorical Exclusion for Haywood County, SR 1318, Bridge No. 48 over Hemphill Creek, Federal Aid Project No. BRZ-1318(8), State Project No. 8.2941301, WBS 33002.1.1, TIP Project No. B-3343

Attached are three copies of the subject report, including 2 copies for your files and 1 copy for distribution to FHWA. No significant adverse environmental effects are expected as a result of the project; therefore, no other distribution of the report is necessary.

GJT/plr
Attachment
cc/atta: Ms. Deborah M. Barbour
Mr. Art McMillan
Mr. Jay A. Bennett (2 copies)
Mr. Greg Perfetti (2 copies)
Mr. J. V. Barbour
Mr. D. R. Henderson
Mr. Njoroge Wainaina (2 copies)
Mr. Charles W. Brown (3 copies)
Mr. C. B. Goode, Jr. (3 copies)
Mr. E. C. Powell, Jr.
Mr. Don G. Lee
Mr. J. Kevin Lacy (3 copies)
Mr. J. B. Williamson, Jr.
Mr. Mike Bruff
Mr. William H. Williams, Jr.
Mr. Tom Norman
Mr. J. B. Setzer (3 copies)
Mr. John Emerson
Mr. Doug Lane
N. C. State Publications Clearinghouse (10 copies)
Phil Harris

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

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

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Haywood County

SR 1318

Bridge No. 48 over Hemphill Creek

Federal Aid Project No. BRZ-1318(8)

State Project 8.2941301

WBS 33002.1.1

TIP Project No. B-3343

CATEGORICAL EXCLUSION
and
FINAL SECTION 4(F) EVALUATION

US DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

9/23/04
DATE

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

11/5/04
DATE

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

Haywood County

SR 1318

Bridge No. 48 over Hemphill Creek

Federal Aid Project No. BRZ-1318(8)

State Project 8.2941301

WBS 33002.1.1

TIP Project No. B-3343

CATEGORICAL EXCLUSION
and
FINAL SECTION 4(F) EVALUAITON

September 2004

Document Prepared by

EarthTech
A Tyco International Ltd. Company

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Project Manager
Earth Tech

For the North Carolina Department of Transportation

John Wadsworth, P.E.
Project Manager
Consultant Engineering Unit

Haywood County
SR 1318
Bridge No. 48 over Hemphill Creek
Federal Aid Project No. BRZ-1318(8)
State Project 8.2941301
WBS 3002.1.1
TIP Project No. B-3343

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

Project Commitments

Division 14

Hemphill Creek is a designated Public Mountain Trout Water and is classified as Hatchery Supported in the project area. "Guidelines for Construction Adjacent to and Crossing Trout Waters" as incorporated into *Erosion and Sediment Control Guidelines* will be implemented and followed throughout the project. All work in-stream and within the 25-foot (7.6-m) buffer will be prohibited between November 1 and April 15 to avoid impacts to trout reproduction.

Tennessee Valley Authority (TVA)

Approval under Section 26a of the Tennessee Valley Authority (TVA) Act will be required for the bridge replacement project. A copy of this document will be forwarded to TVA.

Haywood County
SR 1318
Bridge No. 48 over Hemphill Creek
Federal Aid Project No. BRZ-1318(8)
State Project 8.2941301
WBS 3002.1.1
TIP Project No. B-3343

INTRODUCTION: Bridge No. 48 in Haywood County is included in the 2004 – 2010 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) and in the Federal Aid Bridge Replacement Program. The location is shown in **Figure 1**. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion."

I. PURPOSE AND NEED STATEMENT

Bridge Maintenance Unit records indicate the bridge has a sufficiency rating of 32.3, out of a possible 100 for a new structure. The bridge is considered structurally deficient and functionally obsolete. The replacement of this inadequate structure will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

SR 1318 (Hemphill Road) in Haywood County is classified as "Local" in the Statewide Functional Classification System and is not a Federal Aid Highway.

Through the project area, SR 1318 (Hemphill Road) has a 24.5-foot (7.5-m) wide clear roadway width and a 24.5-foot (7.5-m) wide right of way. SR 1318 is primarily a two-lane facility. The bridge is located approximately 50 feet (15.2 m) west of the intersection of SR 1315 (Pot Leg Road) and SR 1318 (Hemphill Road). The speed limit is not posted in the project area, therefore the statutory limit of 55 mph (88 kph) applies.

The existing bridge was constructed in 1971. The one-span superstructure consists of a timber floor on I-beams. The substructure consists of vertical, masonry abutments. The bridge is made up of one 36-foot (11-m) span, and has a clear roadway width of 24.5 feet (7.5 m). The crown of the roadway is approximately 8 feet (2.44 m) over the bed of Hemphill Creek. Presently, the posted weight limit is 16 tons (14.2 metric tons) for single vehicles and 20 tons (17.8 metric tons) for trucks with trailers. The bridge crosses the stream at approximately 90 degrees. **Figures 4a and 4b** include photographs of the existing structure.

The average daily traffic volume on SR 1318 at Bridge No. 48 is 690 vehicles per day for 2004. By the design year 2025, the average daily traffic volume is expected to increase to 1000 vehicles per day. The projected traffic volume includes two percent dual-tired vehicles, and one percent truck-tractor semi-trailers.

Two (2) school buses cross this bridge twice a day. SR 1318 is not a designated bicycle route.

One accident was reported within 100 feet (304 m) of Bridge No. 48 in the period between January 1, 2000 and May 31, 2003. This accident took place west of Bridge No. 48 and involved one vehicle. The accident does not appear to be caused by the bridge alignment or conditions.

III. ALTERNATIVES

A. Project Description

The proposed bridge will be approximately 65 feet (19.8 m) in length and 37 feet (11.3 m) wide, accommodating two 11-foot (3.3-m) travel lanes. The typical sections for the approaches and bridge are shown in **Figures 3a and 3b**.

B. Build Alternatives

Two build alternatives were investigated for the replacement of the subject bridge.

Alternative 1 will construct a new bridge at the existing location while maintaining traffic on a temporary one-lane detour structure to the north (downstream) of the existing bridge. The new facility is designed with a 55 mph (88 kph) design speed and a proposed 65-foot (19.8-m) long and 37-foot (11.3-m) wide structure. The detour is designed with a 30 mph (48 kph) design speed. Detour traffic will be controlled with a temporary signal during construction. **Alternative 1** can be seen in **Figure 2a**.

Alternative 2 (preferred) will replace the bridge in two stages, just north of the existing alignment. Traffic will be maintained on one-lane of the staged bridge. The resulting bridge will be 65 feet (19.8 m) long and 37 feet (11.3 m) wide. This alternative is designed with a 40 mph (64 kph) design speed. This design speed is necessary to avoid the historic structures located in the project area. Detour traffic will be controlled with a temporary signal during construction. **Alternative 2** can be seen in **Figure 2b**.

C. Alternatives Eliminated From Further Study

Replacing the bridge using a **new alignment** was considered but eliminated from further study due to the proximity of historic resources to Hemphill Road and the existing structure. It would not be possible to replace the bridge in a new location while maintaining a comparable design speed to the existing facility, without permanently adversely impacting the Hemphill Church located south of Bridge No. 48 or the Burgess Store located north and west of Bridge No. 48.

Both **rehabilitation** of the existing structure and the **"no build"** alternative were considered early in the project study but were eliminated from further study. Because of the bridge's poor condition, rehabilitating the existing structure is not feasible; many of the wood structural elements are decaying. The bridge's safe load-bearing capacity has already been reduced due to the decay. The "no build" alternative, consisting of short-term minor reconstruction and maintenance activities that are part of an ongoing plan for continuing operation of the existing bridge and roadway system in the project area, would eventually necessitate closure

of the bridge and would thereby eliminate the traffic service provided by SR 1318 in the project area.

D. Preferred Alternative

Alternative 2, replacing the bridge in two stages, just north of the existing alignment, is the preferred alternative. The resulting bridge will be 65 feet (19.8 m) long and 37 feet (11.3 m) wide. The proposed project will maintain the existing grade and provide additional sight distance to travelers using Pot Leg Road, through 12 feet (3.6 m) of additional deck width to the south (see **Figure 3b** for typical section). This alternative is designed with a 40 mph (64 kph) design speed. This design speed is necessary to avoid the historic structures located in the project area. Traffic will be maintained on one-lane of the staged bridge. Traffic will be controlled with a temporary signal during construction. **Alternative 2** can be seen in **Figure 2b**. **Alternative 2** minimizes impacts to the human and natural environments at minimal cost.

E. Anticipated Design Exceptions

Alternative 2 will require a design exception. The design exception is required for a design speed of 40 mph (64 kph).

IV. ESTIMATED COSTS

Construction and right of way cost estimates for the alternatives studied are presented below in **Table 1**.

Table 1. Estimated Costs in Dollars

	Alternative 1	Alternative 2 (Preferred)
Structure Removal	5,430	5,792
Structure	180,375	216,450
Roadway and Approaches	309,000	226,075
Temporary Detour	300,000	N/A
Temporary Traffic Signal	25,000	25,000
Miscellaneous and Mobilization	170,195	146,683
Engineering and Contingencies	110,000	105,000
Right-of-Way/Utilities	90,675	70,825
Relocatees	0	0
Total Cost of Alternative	**$ 1,190,675**	**$ 795,825**

The estimated cost of the preferred alternative, based on current prices, is $ 795,825, including $ 70,825 for right of way, relocation, and utilities, and $ 725,000 for construction. The estimated cost of the project, as shown in the 2004-2010 NCDOT Transportation Improvement Program, is $ 501,000 including $ 81,000 for right of way and $ 300,000 for construction. Right of way acquisition is scheduled for Federal Fiscal Year 2004, with construction to follow in Federal Fiscal Year 2005.

V. NATURAL RESOURCES

An evaluation of natural resources in the immediate area of potential project impact was performed. The evaluation included: 1) an assessment of biological features in the vicinity of the existing roadway including descriptions of vegetation, wildlife, protected species, wetlands, and water quality issues; 2) an evaluation of probable impacts resulting from construction; and 3) a preliminary determination of permit needs and conceptual mitigation options. The information included in this report was taken from the Natural Resources Technical Report.

A. Methodology

Published information and resources were collected prior to the field investigation. Information sources used to prepare this report include the following:

- U.S. Geological Survey (USGS) quadrangle map (Dellwood, 1979),
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map (Dellwood, 1995),
- NCDOT aerial photograph of project area (1:1200),
- Soil Survey of Haywood County area (Natural Resources Conservation Service [NRCS], 1997),
- N.C. Department of Environment and Natural Resources (NCDENR) basin-wide assessment information (NCDENR, 1999),
- USFWS list of protected and candidate species, and
- N.C. Natural Heritage Program (NHP) files of rare species and unique habitats.

Water resource information was obtained from publications posted on the World Wide Web by N.C. Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ). Information concerning the occurrence of Federally protected species in the study area was obtained from the U.S. Fish and Wildlife Service (USFWS) list of protected and candidate species (last updated February 2003), posted on the World Wide Web by the Ecological Services branch of the USFWS in North Carolina. Information about species under State protection was obtained from the N.C. Natural Heritage Program (NHP) database of rare species and unique habitats. NHP files were reviewed for documented sightings of species on State or Federal lists and locations of significant natural areas.

A general field survey was conducted along the proposed project route by Earth Tech biologists on April 18, 2000. Water resources were identified and their physical characteristics were recorded. For the purposes of this study, a brief habitat assessment was performed within the project area of Hemphill Creek. Plant communities and their associated wildlife were identified using a variety of observation techniques including active searching, visual observations, and identifying characteristic signs of wildlife (sounds, tracks, scats, and burrows).

Jurisdictional wetlands, if present, were delineated and evaluated based on criteria established in the U.S. Army Corps of Engineers' *Wetlands Delineation Manual* (USACE, 1987). Wetlands were classified based on Cowardin *et al.* (1979).

B. Physiography and Soils

The project area lies in the western portion of North Carolina within the Blue Ridge physiographic province. Elevations in the project area are approximately 2760 feet (841 m) (National Geodetic Vertical Datum, 1929). The topography in the project vicinity is a broad, rolling floodplain between low, intermountain hills.

The following information about soils in the project area was taken from the Soil Survey of Haywood County (NRCS, 1997). The Cullowhee-Nikwasi complex (CxA) is mapped along the banks and floodplain of Hemphill Creek within the project area. This soil unit is a complex of about 50 percent Cullowhee soil and 35 percent Nikwasi soil. These soils are nearly level, poorly to very poorly drained soils found on narrow floodplains. The Cullowhee-Nikwasi complex is frequently flooded for brief periods. The seasonal high water table for the Cullowhee component is 1.5 to 2.0 feet (0.4 to 0.6 m) deep. The Nikwasi component has a seasonal high water table less than 1.0 foot (0.3 m) deep. The Nikwasi portion of this soil is classified as hydric.

Site index is a measure of soil quality and productivity. The index is the average height, in feet, that dominant and co-dominant trees of a given species attain in a specified number of years (typically 50). The site index applies to fully-stocked, even-aged, unmanaged stands. Cullowhee soils have a site index of 103 for yellow poplar (*Liriodendron tulipifera*), 82 for shortleaf pine (*Pinus echinata*), and 100 for Eastern white pine (*Pinus strobus*). The Nikwasi soils have a site index of 88 for yellow poplar (*Liriodendron tulipifera*) and 86 for Eastern white pine (*Pinus strobus*).

C. Water Resources

This section contains information concerning water resources likely to be impacted by the proposed project. Water resource assessments include the physical characteristics likely to be impacted by the proposed project (determined by field survey), best usage classifications, and water quality aspects of the water resources. Probable impacts to surface waters are also discussed, as well as means to minimize impacts.

1. Waters Impacted

The project is located in the French Broad basin (FBR05 sub-basin). One surface water resource, Hemphill Creek, will be directly impacted by the proposed project. Hemphill Creek originates about 3.2 miles (5.1 km) west of the project area, near the Cataloochee Divide. From the project area, the creek flows east about 1.4 miles (2.3 km) to its confluence with Jonathan Creek.

2. Water Resource Characteristics

Hemphill Creek is approximately 10 feet (3 m) wide in the project area. The day of the site visit, flow was rapid and clear over a substrate of 80 percent small boulders and cobbles and 20 percent sand and gravel. Water was about 12 inches (30.5 centimeters [cm]) deep in the widely spaced pools and about 6 inches (15.2 cm) deep in the riffles.

The banks are nearly vertical and are lined with rocks and boulders up to a height of 4 feet (1.2 m), except on the left bank downstream of the bridge, where the unlined bank is about 2 feet (0.6 m) high and forms a bench that slopes up about 3 feet (1 m) to a driveway.

The creek is about 15 percent shaded in the project area. Riparian vegetation is maintained or semi-natural and consists of widely spaced trees with a sparse understory of shrubs and herbs.

An unnamed tributary flows into Hemphill Creek just upstream of Bridge No. 48, on the south side of SR 1318. Flow was rapid and clear over a substrate of 50 percent small boulders, 30 percent cobbles, and 20 percent sand. The stream forms a series of step pools over a six to eight percent gradient. The banks are nearly vertical, somewhat undercut on the right bank, and stabilized with large boulders at the confluence with Hemphill Creek. The banks are about 1 foot (0.3 m) high at the confluence, increasing to 5 feet (1.5 m) upstream. A few large trees provide about 60 percent canopy cover. Other vegetation along this stream consists of a maintained lawn with a few herbaceous species commonly found on moist slopes.

An unmapped stream parallels SR 1318 on the north side and joins Hemphill Creek just downstream of Bridge No. 48. The channel is 2 feet (0.6 m) wide with 5-foot (1.5-m) vertical banks. Flow was moderate over a substrate of sand and silt. A small, unidentified salamander, grubs, and a water strider were observed in the stream and substrate. Vegetation on the right bank was a grassy maintained road shoulder. A pasture bordered the left bank, leaving the stream unshaded.

Surface waters in North Carolina are assigned a classification by the DWQ that is designed to maintain, protect, and enhance water quality within the state. Hemphill Creek [Index # 5-26-16)] is classified as a *Class C Tr* water body (NCDENR, 1999). *Class C* water resources are used for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. There are no restrictions on watershed development activities. The supplemental *Tr* classification refers to trout waters, which are fresh waters protected for natural trout propagation and survival of stocked trout.

Basin-wide water quality assessments are conducted by the Environmental Sciences Branch, Water Quality Section of the DWQ. The program has established monitoring stations for sampling selected benthic macroinvertebrates, which are known to have varying levels of tolerance to water pollution. An index of water quality can be derived from the number of taxa present and the ratio of tolerant to intolerant taxa. Streams can then be given a bioclassification ranging from Poor to Excellent. There are no monitoring stations on Hemphill Creek.

Non-point source runoff from adjacent landscaping, paved roadways, and pastures is likely to be the primary source of water quality degradation to the water resources located within the

project vicinity. There are maintained lawns, gravel and paved roads, and a pasture in the project area. Nutrient loading from fertilizers and contaminants and sediment from roadway runoff could affect water quality. No straight-piping was observed in the project area.

Point source discharges in North Carolina are permitted through the National Pollutant Discharge Elimination System (NPDES) program administered by the DWQ. All dischargers are required to obtain a permit to discharge. As of December 2003, there were no permits issued to discharge in Hemphill Creek.

3. Anticipated Impacts to Water Resources

a) General Impacts

No waters classified as High Quality Water (HQW), Water Supplies (WS-I or WS-II) or Outstanding Resource Waters (ORW) occur with 1.0 mile (1.6 km) of the project study area.

Any action that affects water quality can adversely affect aquatic organisms. Temporary impacts during the construction phases may result in long-term impacts to the aquatic community. In general, replacing an existing structure in the same location with an off-site detour is the preferred environmental approach. Bridge replacement at a new location results in more severe impacts, and physical impacts are incurred at the point of detour construction as well as at the point of bridge replacement.

Project construction may result in the following impacts to surface water resources:

- Increased sediment loading and siltation as a consequence of watershed vegetation removal, erosion, and/or construction.
- Decreased light penetration/water clarity from increased sedimentation.
- Changes in water temperature with vegetation removal.
- Changes in the amount of available organic matter with vegetation removal.
- Increased concentration of toxic compounds from highway runoff, construction activities and construction equipment, and spills from construction equipment.
- Alteration of water levels and flows as a result of interruptions and/or additions to surface and groundwater flow from construction.

Construction impacts may not be restricted to the communities in which the construction activity occurs, but may also affect downstream communities. NCDOT's *Best Management Practices for the Protection of Surface Waters* will be implemented, as applicable, during the construction phase of the project to ensure that no sediment leaves the construction site. In addition, "*Guidelines for Construction Adjacent to or Crossing Trout Waters*" as incorporated into *Erosion and Sediment Control Guidelines* will be implemented and adhered to throughout the project.

4. Impacts Related to Bridge Demolition and Removal

Demolition and removal of a highway bridge over Waters of the United States requires a permit from the U.S. Army Corps of Engineers. The permit application will require disclosure of demolition methods and potential impacts to the body of water in the planning document for the bridge reconstruction.

Section 402-2 "Removal of Existing Structures" of NCDOT's *Standard Specifications for Roads and Structures* stipulates that "excavated materials shall not be deposited...in rivers, streams, or impoundments," and "the dropping of parts or components of structures into any body of water will not be permitted unless there is no other practical method of removal. The removal from the water of any part or component of a structure shall be done so as to keep any resulting siltation to a minimum." To meet these specifications, NCDOT shall adhere to *Best Management Practices for the Protection of Surface Waters*, as supplemented with *Best Management Practices for Bridge Demolition and Removal*.

In addition, all in-stream work shall be classified into one of three categories as follows:

Case 1) In-water work is limited to an absolute minimum, due to the presence of special resource waters or threatened and/or endangered species, except for the removal of the portion of the sub-structure below the water. The work is carefully coordinated with the responsible agency to protect the Special Resource Water or T&E species.

Case 2) No work at all in the water during moratorium periods associated with fish migration, spawning, and larval recruitment into nursery areas.

Case 3) No special restrictions other than those outlined in Best Management Practices for Protection of Surface Waters

Hemphill Creek in the vicinity of the proposed project is not a special resource water and is not known to provide habitat for aquatic species on the Federal list of threatened and endangered species. However, it is classified as a Public Mountain Trout Water by the WRC, and carries the DWQ supplemental *Tr* classification. Therefore, Case 2 applies to the proposed replacement of Bridge No. 48 over Hemphill Creek. All work in-stream and within the 25-foot (7.6-m) buffer will be prohibited between November 1 and April 15 to avoid impacts to trout reproduction.

The superstructure consists of a timber floor on steel I-beams. The substructure is a single span with two vertical masonry abutments. It is anticipated that both the superstructure and the masonry abutments can be removed with the proper equipment without depositing debris in the stream. Therefore, there is no potential fill in Hemphill Creek expected from the demolition of Bridge No. 48.

Because of the potential sedimentation concerns resulting from demolition of the bridge, where it is possible to do so, a turbidity curtain shall be included to contain and minimize sedimentation in the stream. Although the streambed in the project area is not bedrock, turbidity problems are not expected from demolition activities.

D. Biotic Resources

Terrestrial and aquatic communities are included in the description of biotic resources. Living systems described in the following sections include communities of associated plants and

animals. These descriptions refer to the dominant flora and fauna in each community and the relationships of these biotic components. Descriptions of the terrestrial systems are presented in the context of plant community classifications. Terrestrial community classifications generally follow Schafale and Weakley (1990), where appropriate, and plant taxonomy follows Radford *et al.* (1968). They are also cross-referenced to The Nature Conservancy (TNC) *International Classification of Ecological Communities: Terrestrial Vegetation of the Southeastern United States* (1998), which has recently been adopted as the standard land cover classification by the Federal Geographic Data Committee. Vertebrate taxonomy follows Potter *et al.* (1980), Martof *et al.* (1980), and Webster *et al.* (1985). Vegetative communities were mapped using aerial photography of the project site. Predictions regarding wildlife community composition involved general qualitative habitat assessment based on existing vegetative communities. Representative animal species that are likely to occur in these habitats (based on published range distributions) are also cited. Scientific nomenclature and common names, when applicable, are used for the plant and animal species described. Subsequent references to the same species are by common name only.

1. Terrestrial Communities

Essentially one terrestrial community occurs within the project area, a maintained landscape. Dominant faunal components associated with this terrestrial area are discussed in the community description.

Maintained Landscape

This community covers the area on both banks of Hemphill Creek. It consists of maintained residential lawns and pastures covering the project area up to the stream banks. The stream banks are sparsely lined with trees, shrubs, and herbs emerging from the rip-rapped banks. Species include black willow (*Salix nigra*), multiflora rose (*Rosa multiflora*), elderberry (*Sambucus canadensis*), violet (*Viola sp.*), fescue (*Festuca* sp.), dandelion (*Taraxacum officinale*), henbit (*Lamium amplexicaule*), buttercup (*Ranunculus* sp.), chickweed (*Stellaria media*), clover (*Trifolium pratense*), sow thistle (*Sonchus asper*), japanese honeysuckle (*Lonicera japonica*), and wingstem (*Verbesina occidentalis*). The left streambank downstream of the bridge is lined with planted red cedars (*Juniperus virginiana*), black willow, common alder (*Alnus serrulata*), grape (*Vitis* sp.), and sedges (*Carex* spp.).

2. Wildlife

The animal species present in the disturbed habitats of the maintained landscape are opportunistic and are capable of surviving on a variety of resources, ranging from vegetation to both living and dead faunal components. Northern mockingbird (Mimus polyglottos), starling (Sturnus vulgaris), and American robin (Turdus migratorius) are common birds that use these habitats. Northern cardinal (Cardinalis cardinalis), turkey vulture (Cathartes aura), red-bellied woodpecker (Melanerpes carolinus), white-throated sparrow (Zonotrichia albicollis), tufted titmouse (Parus bicolor), mourning dove (Zenaida macroura), Carolina chickadee (Parus carolinensis), red-winged blackbird (Agelaius phoeniceus), bluejay (Cyanocitta cristata), house finch (Carpodacus mexicanus), eastern phoebe (Sayornis

phoebe), and rufous-sided towhee (Pipilo erythrophthalmus) were identified by sight or call in the project area the day of the site visit. Gray squirrel (Sciurus carolinensis), Virginia opossum (Didelphis virginiana), Eastern garter snake (Thamnophis sirtalis), and American toad (Bufo americanus) may also use this area.

3. Aquatic Communities

Within the project area, Hemphill Creek is a mid-gradient, third-order stream. The bed material consists of mostly of small boulders and cobbles, with a small percentage of sand and gravel. On the day of the site visit, the water was clear with no suspended sediment. The riparian community is composed mainly of herbaceous species with a few trees and is described in Maintained Landscape.

Haywood County is designated a "trout" county by the North Carolina Wildlife Resources Commission (WRC) and Hemphill Creek is a designated Public Mountain Trout Water.

4. Anticipated Impacts to Biotic Communities

a) Terrestrial Communities

Terrestrial communities in the project area will be impacted by project construction from clearing and paving and loss of the terrestrial community area along SR 1318. Estimated impacts are based on the length of the alternate and the entire study corridor width of 75 feet (22.9 m). **Table 2** describes the potential impacts to terrestrial communities by habitat type. Because impacts are based on the entire study corridor width, the actual loss of habitat will likely be less than the estimate.

Table 2. Estimated Areas of Impact to Terrestrial Communities

	Impacted Area in Acres (Hectares)		
Community	Alternative 1		Alternative 2
	Permanent	Temporary	(preferred)
Maintained Landscape	1.15 (0.46)	0.18 (0.07)	1.17 (0.47)
Total	**1.33 (0.53)**		**1.17 (0.47)**

Destruction of natural communities along the project alignment will result in the loss of foraging and breeding habitats for the various animal species that utilize the area. Animal species will be displaced into surrounding communities. Adult birds, mammals, and some reptiles are mobile enough to avoid mortality during construction. Young animals and less mobile species, such as many amphibians, may suffer direct loss during construction. The plants and animals that are found in these upland communities are generally common throughout western North Carolina.

Impacts to terrestrial communities, particularly in locations having steep to moderate slopes, can result in the aquatic community receiving heavy sediment loads as a consequence of erosion. Construction impacts may not be restricted to the communities in which the

construction activity occurs, but may also affect downstream communities. Efforts will be made to ensure that no sediment leaves the construction site.

b) Wetland Communities

No jurisdictional wetlands were observed the day of the site visit. The Dellwood, NC NWI map shows a palustrine forested temporarily flooded wetland on the right bank of Hemphill Creek downstream of the proposed project. A house with a maintained lawn currently occupies the area mapped as wetland that falls in the project area. Hemphill Creek meets the definition of surface waters, and is therefore classified as Waters of the United States. The channel is 10 feet (3 m) wide within the project area.

c) Aquatic Communities

No wetlands will be impacted by the project. Project construction cannot be accomplished without infringing on the surface waters. Anticipated surface water impacts fall under the jurisdiction of the USACE and the DWQ. Within the project area, Hemphill Creek is 10 feet (3 m) wide. Assuming a study corridor 75 feet (22.9 m) wide for each alternate, the construction of the new bridge will impact an area of 750 square feet (69.7 square m) of Hemphill Creek. In addition, the project will impact approximately 120 feet (37 m) of the small tributary located just north of SR 1318.

Impacts to aquatic communities include fluctuations in water temperatures as a result of the loss of riparian vegetation. Shelter and food resources, both in the aquatic and terrestrial portions of these organisms' life cycles, will be affected by losses in the terrestrial communities. The loss of aquatic plants and animals will affect the terrestrial fauna that rely on them as a food source.

Temporary and permanent impacts to aquatic organisms may result from increased sedimentation. Aquatic invertebrates may drift downstream during construction and re-colonize the disturbed area once it has been stabilized. Sediments have the potential to affect fish and other aquatic life in several ways, including the clogging and abrading of gills and other respiratory surfaces, affecting the habitat by scouring and filling of pools and riffles, altering water chemistry, and smothering different life stages. Increased sedimentation may cause decreased light penetration through an increase in turbidity. Trout populations are particularly sensitive to water-quality degradation.

Wet concrete will not come into contact with surface water during bridge construction. Potential adverse effects will be minimized through the implementation of NCDOT *Best Management Practices for Protection of Surface Waters.* In addition, "Guidelines for Construction Adjacent to and Crossing Trout Waters" as incorporated into *Erosion and Sediment Control Guidelines* will be implemented and followed throughout the project. In-stream work and land disturbance within the 25-foot (7.6-m) wide trout stream buffer zone will be prohibited during the brown and brook trout spawning season of November 1 through April 15 to protect the egg and fry stages of trout from off-site sedimentation during construction.

E. Special Topics

1. Waters of the United States: Jurisdictional Issues

Wetlands and surface waters fall under the broad category of "Waters of the United States" as defined in 33 CFR § 328.3 and in accordance with provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344). These wetlands and surface waters are regulated by the U.S. Army Corps of Engineers (USACE). Any action that proposes to dredge or place fill material into surface waters or wetlands falls under these provisions.

No jurisdictional wetlands were observed the day of the site visit. Hemphill Creek meets the definition of surface waters, and is therefore classified as Waters of the United States. The channel is 10 feet (3 m) wide within the project area.

2. Permits

Impacts to jurisdictional surface waters are anticipated from the proposed project. Permits and certifications from various State and Federal agencies may be required prior to construction activities.

a) Section 404 of the Clean Water Act

In accordance with Section 404 of the Clean Water Act, construction is likely to be authorized by Nationwide Permit (NWP) No. 23, as promulgated under 61 FR 2020, 2082; January 15, 2002. This permit authorizes activities undertaken, assisted, authorized, regulated, funded, or financed in whole or in part, by another Federal agency or department where that agency or department has determined that, pursuant to the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act:

- the activity, work, or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and
- the Office of the Chief Engineer has been furnished notice of the agency's or department's application for the categorical exclusion and concurs with that determination.

b) Section 401 Water Quality Certification

This project will also require a 401 Water Quality Certification or waiver thereof, from the NCDENR prior to issuance of the NWP 23. Section 401 of the Clean Water Act requires that the State issue or deny water certification for any Federally permitted or licensed activity that results in a discharge into Waters of the United States. In addition, the project is located in a designated "trout" county, where NCDOT must obtain a letter of approval from the N.C. Wildlife Resources Commission. Final permit decision rests with the USACE.

c) Bridge Demolition and Removal

Demolition and removal of a highway bridge over Waters of the United States requires a permit from the U.S. Army Corps of Engineers. The permit application will require disclosure of demolition methods and potential impacts to the body of water in the planning document for the bridge reconstruction.

Hemphill Creek in the vicinity of the proposed project is not a special resource water and is not known to provide habitat for aquatic species on the Federal list of threatened and endangered species. However, it is classified as a Public Mountain Trout Water by the WRC, and carries the DWQ supplemental *Tr* classification.

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Because of the potential sedimentation concerns resulting from demolition of the bridge, where it is practicable to do so, a turbidity curtain will be used to contain and minimize sedimentation in the stream. Although the streambed in the project area is not bedrock, turbidity problems are not expected from demolition activities.

d) Tennessee Valley Authority

Haywood County is a participant in the Tennessee Valley Authority Act. Approval under Section 26a of the Tennessee Valley Authority (TVA) Act will be required for the bridge replacement project. A copy of this document will be forwarded to TVA.

3. Mitigation

Because this project will likely be authorized under a Nationwide Permit, mitigation for impacts to surface waters may or may not be required by the USACE. In accordance with the Division of Water Quality Wetland Rules [15A NCAC 2H .0506 (h)(2)] fill or alteration of more than 1 acre [0.4 hectares] of wetlands will require compensatory mitigation; and fill or alteration of more than 150 linear feet (45.6 m) of streams may require compensatory mitigation. Because there are no wetlands within the study corridor, wetland mitigation will not be required. A total of 75 linear feet (22.9 m) of Hemphill Creek are located within the study corridor for the proposed project. In addition, 120 feet (37 m) of impacts to a tributary to Hemphill Creek are anticipated. If the final length of stream impact is greater than 150 linear feet (45.6 m), compensatory mitigation may be required.

F. Rare and Protected Species

Some populations of plants and animals are declining either as a result of natural forces or their difficulty competing with humans for resources. Rare and protected species listed for Haywood County, and any likely impacts to these species as a result of the proposed project construction, are discussed in the following sections.

1. Federally Protected Species

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

The USFWS lists seven species under Federal protection for Haywood County as of February 24, 2003 (USFWS, 2003). These species are listed in **Table 3.**

Table 3. Species Under Federal Protection for Haywood County

Scientific Name	Common Name	Federal Status
Vertebrates		
Bald eagle	*Haliaeetus leucocephalus*	T
Bog turtle	*Clemmys muhlenbergii*	T(S/A)
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	E
Eastern cougar	*Felis concolor couguar*	E
Gray bat	*Myotis grisescens*	E
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	E
Spruce fir moss spider	*Microhexura montivaga*	E
Vascular Plants		
Small-whorled pogonia	*Isotria medeoloides*	T
Nonvascular Plants		
Rock Gnome Lichen	*Gymnoderma lineare*	E

Notes:
- E — Endangered-A species that is threatened with extinction throughout all or a significant portion of its range.
- T — Threatened-A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- T S/A — Similarity of Appearance-A species that is listed as threatened due to similarity of appearance with other rare species.

A brief description of the characteristics and habitat requirements of each species follows, along with a conclusion regarding potential project impact.

Haliaeetus leucocephalus (bald eagle) — *Threatened*

Family: Accipitridae

Federally Listed: 1995

The bald eagle is a large raptor with a wingspan reaching 7 feet (2.1 m). Adults have a dark brown body with a pure white head and tail, whereas the juvenile plumage is chocolate brown to blackish with white mottling on the tail, belly and underwings. Adult plumage is fully acquired by the fifth or sixth year.

The bald eagle is primarily associated with coasts, rivers, and lakes, usually nesting near large bodies of water where it feeds. It preys primarily on fish, but will feed on birds, mammals, turtles, and carrion when fish are unavailable.

In the southeast, the nesting and breeding season runs from September to December. Large nests up to 6 feet (2 m) across and weighing hundreds of pounds are constructed from large sticks, weeds, cornstalks, grasses, and sod. Preferred nesting sites are usually within 0.5-mile (0.8-km) of water, have an open view of the surrounding area, and are in the largest living tree, usually a pine or cypress. Excessive human activity may exclude an otherwise suitable site from use. Wintering areas generally have the same characteristics as nesting sites, but may be farther from shores.

The bald eagle ranges throughout all of North America. Breeding sites in the southeast are concentrated in Florida, coastal South Carolina, and coastal Louisiana, and sporadically located elsewhere. The bald eagle is proposed for delisting in Haywood County.

Biological Conclusion: ***No Effect***

There are no large bodies of water in the project area that would support bald eagles. No occurrences of the bald eagle within the project vicinity were found in the NHP files. Therefore, it can be concluded that the project will not impact this threatened species.

Clemmys muhlenbergii (Bog turtle) ***Threatened due to Similarity of Appearance***

Vertebrate Family: Emydidae

Federally Listed: 1997

The bog turtle is a small freshwater turtle reaching a maximum carapace length of 4.5 inches (11.4 cm). These turtles have a domed carapace that is weakly keeled and is light brown to ebony in color. The scutes have a lighter-colored starburst pattern. The plastron is brownish-black with contrasting yellow or cream areas along the midline. This species is distinguished by a conspicuous orange, yellow, or red blotch on each side of the head.

The bog turtle is semi-aquatic and is typically found in freshwater wetlands characterized by open fields, meadows, or marshes with slow moving streams, ditches, and boggy areas. The bog turtle is also found in wetlands in agricultural areas subject to light to moderate livestock grazing, which helps to maintain an intermediate stage of succession. During the winter, this species hibernates just below the upper surface of mud. Mating occurs in May and June, and the female deposits two to six eggs in sphagnum moss or sedge tussocks in May, June, or July. The diet of the bog turtle is varied, consisting of beetles, lepidopteran and caddisfly larvae, snails, millipedes, pondweed and sedge seeds, and carrion.

Biological Conclusion: ***No Effect***

The southern population of the bog turtle is listed as Threatened due to Similarity of Appearance to the northern population; therefore, the southern population is not afforded protection under Section 7 of the Endangered Species Act. No habitat exists in the project

area for the bog turtle. There are no freshwater wetlands characterized by open fields, meadows, or marshes with slow moving streams, ditches, or boggy areas near the bridge.

Glaucomys sabrinus coloratus *(Carolina northern flying squirrel)* ***Endangered***

Vertebrate Family: Sciuridae

Federally Listed: 1985

The Carolina northern flying squirrel is a small mammal weighing about 3 to 5 ounces (95 to 140 grams). The adult squirrel is gray with a reddish or brownish wash on the back, and a grayish white to white underside. It has a large flap of skin along either side of its body from wrist to ankle. The skin flaps and its broad flattened tail allow the northern flying squirrel to glide from tree to tree. It is a strictly nocturnal animal with large dark eyes.

There are several isolated populations of the northern flying squirrel in the western part of North Carolina along the Tennessee border. This squirrel is found above 5000 feet (1517 m) in the vegetation transition zone between hardwood and coniferous forests. Both forest types are used to search for food and the hardwood forest is used for nesting sites. The squirrel can subsist on lichens and fungi throughout much of its range; however, the diet can also include seeds, buds, fruits, cones, and insects.

Biological Conclusion: ***No Effect***

No habitat exists in the project area for the Carolina northern flying squirrel. The project area is at an elevation of 2760 feet (841 m) with no hardwood or coniferous forests. A search of the NHP database found no occurrence of this animal within the project vicinity. It can be concluded that the project will not impact this endangered species.

Felis concolor couguar *(eastern cougar)* ***Endangered***

Family: Felidae

Federally Listed: 1973

The eastern cougar is a large, unspotted, long-tailed cat. It ranges from 7 to 9 feet (2.1 to 2.7 m) in length and from 150 to 200 pounds (68 to 90.7 kg) in weight as an adult. Its coloring is tawny over the body and legs, with black on the muzzle, behind the ears, and the tip of the tail. The cougar's diet consists mainly of deer, but includes small mammals, wild turkeys, and occasionally domestic livestock.

Once found from Canada to South Carolina, the current distribution of the eastern cougar is limited to a few scattered areas. There have been numerous sightings, but a small permanent population apparently inhabits the Great Smoky Mountains National Park. In North Carolina, other sightings have been made in the Nantahala National Forest, the northern part of the Uwharrie National Forest, and some southeastern counties. The eastern cougar has no apparent habitat preference, as it occurs in mountain forests as well as coastal plain swamps. It does seem to need a large undisturbed wilderness area with adequate food

supply. The eastern cougar's endangered status is largely a result of habitat loss through deforestation, as well as hunting and trapping.

Biological Conclusion: ***No Effect***

There are no extensive wilderness areas in the project area. A search of the NHP database found no occurrences of the eastern cougar in the project vicinity. It can be concluded that the project will not impact this endangered species.

Myotis grisescens *(gray bat)* ***Endangered***

Family: Vespertilionidae

Federally Listed: 1976

The gray bat is easily distinguished from other bats by its large size and uniform fur color. It weighs 0.2 to 0.5 ounces (7 to 16 grams) and the forearm measures 1.5 to 1.8 inches (4 to 5 cm) in length. The dorsal fur is uniformly gray or russet, as opposed to bi- or tri-colored as in other bats. In all other species of *Myotis,* the wing membrane connects to the base of the first toe, whereas in the gray bat it connects at the ankle.

The gray bat is found mainly in the cave regions of Arkansas, Missouri, Kentucky, Tennessee, and Alabama, although colonies and individuals are occasionally found in neighboring states. Gray bats live in caves all year, but move between summer and winter caves. The sexes separate in summer to form maternity and bachelor colonies, with the females specifically occupying caves that trap warm air.

Biological Conclusion ***No Effect***

A search of the NHP database showed no occurrences of the gray bat in the proposed project vicinity, nor were there any caves in the project area. No bats were observed at the time of the site visit. Therefore, it is concluded that the proposed project will have no impact on the gray bat.

Alasmidonta raveneliana (Appalachian elktoe) ***Endangered***

Family: Unionidae

Federally Listed: 1994

The Appalachian elktoe is recognized by a thin, kidney-shaped shell about 3.2 inches (8.1 cm) long, 1.4 inches (3.5 cm) high, and 1 inch (2.5 cm) wide. The outer shell surface of juvenile mussels is yellowish-brown whereas the adult shell is dark brown to greenish-black in color. Rays may be prominent to obscure. The inside shell surface is shiny white to bluish-white, changing to a salmon, pinkish, or brownish color in the central and beak cavity portions of the shell.

The Federal Register lists two known surviving populations of the Appalachian elktoe. One is in the Little Tennessee River between Emory Lake in Macon County and Fontana Reservoir in Swain County. The other is in the Nolichucky River system in Yancey and Mitchell Counties. The habitat in these locations can be described as relatively shallow, medium-sized creeks and rivers with cool, well-oxygenated, moderate- to fast-flowing water. Substrates are gravelly mixed with cobble and boulders, or occasionally coarse and sandy.

Two additional occurrences were found in the files of the NHP. One is a finding of a single specimen in Yancey County in the Cane River, a major tributary of the Nolichucky River. The other finding was a single dead specimen in the Tuckasegee River in Swain County. Additional information from the USFWS Asheville Field Office indicates that the extant range has recently been expanded in both the Little Tennessee and French Broad basins.

Major factors contributing to the endangered status of this species include water quality and habitat degradation resulting from impoundments, stream channelization projects, and point and non-point sources of pollution and siltation.

Biological Conclusion: ***No Effect***

Hemphill Creek fits the habitat description for the Appalachian elktoe. A search of the NHP files found no occurrences of the Appalachian elktoe in the project vicinity, however historic information indicates that the Appalachian elktoe was once widely distributed in western North Carolina. NCDOT biologists conducted surveys for the Appalachian elktoe in the project area on February 10, 2003. The banded sculpin, which is the host fish species that carry the glochidia of the Appalachian elktoe, was not observed during the survey. Wading using a batiscope from approximately 500 meters downstream to 100 meters upstream of Bridge No. 48 resulted in no freshwater mussels found.

Microhexura montivaga *(Spruce-fir moss spider)* ***Endangered***

Invertebrate family: Dipluridae

Federally Listed: 1995

The spruce-fir moss spider is a small spider, approximately 0.1 to 0.2 inches (0.2 to 0.4 cm) in length. It ranges from light brown to yellow-brown to a darker reddish-brown, with no markings on its abdomen. This species is one of only two species belonging to the genus *Microhexura* in the family Dipluridae. Diplurids belong in the primitive suborder *Mygalomorphae*, which are often popularly referred to as "tarantulas". The spruce-fir moss spider is distinguished by chelicerae that project forward beyond the anterior edge of the carapace. Other characteristics include long posterior spinnerets, and a second pair of book lungs that appear as light patches behind the genital furrow.

The spruce-fir moss spider constructs tube-shaped webs in the interface between damp, well-drained moss mats and rock surfaces. It prefers well-shaded areas of mature Fraser fir and red spruce forest communities in the highest elevations of the Southern Appalachian Mountains. The spider has not been observed feeding and prey has not been found in the

webs. It is likely that the abundant springtails (collembolans) which occur in the moss mats are the food source for the spider.

Biological Conclusion: ***No Effect***

A search of the NHP database showed no occurrences of the spruce-fir moss spider in the proposed project vicinity. No Fraser fir or red spruce forest communities are present in the project area, nor were any spruce-fir moss spider observed at the time of the site visit. Therefore, it is concluded that the proposed project will have no impact on the spruce-fir moss spider.

Isotria medeoloides *(small whorled pogonia)* ***Threatened***

Family: Orchidaceae

Federally Listed: 1982

The specific epithet of the small whorled pogonia comes from the resemblance of this perennial orchid to young plants of Indian cucumber root (*Medeola virginiana*). However, the small whorled pogonia has a stout, hollow stem in contrast to the solid, slender stem of Indian cucumber root. The stem is 3.7 to 9.8 inches (9.5 to 25 cm) tall, with a terminal whorl of five or six light green leaves that are elliptical in shape and measure up to 3 inches by 1.5 inches (8 cm by 4 cm). One or two flowers are borne at the top of the stem, appearing from mid-May to mid-June. The flowers lack fragrance and nectar guides, and apparently are self-pollinating.

The small whorled pogonia was formerly scattered in 48 counties in 16 eastern States. Currently, the majority of populations are found in New England at the foothills of the Appalachian Mountains and in northern coastal Massachusetts. The habitat of the small whorled pogonia varies widely throughout its range, although there are a few common characteristics among the majority of sites including sparse to moderate ground cover; a relatively open understory; and proximity to features that create extensive, stable breaks in the canopy, such as logging roads or streams. The pogonia has been found in mature forests as well as stands as young as 30 years old. Forest types include mixed-deciduous/ white pine or hemlock in New England, mixed deciduous in Virginia, white pine/mixed-deciduous or white pine/oak-hickory in Georgia, and red maple in Michigan. Understory components in the southern part of the range are most commonly found to be flowering dogwood (*Cornus florida*), sourwood (*Oxydendron arboreum*), mountain laurel (*Kalmia latifolia*), American chestnut (*Castanea dentata*), witch hazel (*Hamamelis virginiana*), and flame azalea (*Rhododendron calendulaceum*). Early descriptions placed the small whorled pogonia on dry sites, but it has since been found on sites with high soil moisture.

Biological Conclusion: ***No Effect***

No habitat exists in the project area for small whorled pogonia. The NHP files showed no occurrences of this species in the project vicinity. It can be concluded that the project will have no impact on the small whorled pogonia.

Gymnoderma lineare (rock gnome lichen) ***Endangered***

Family: Cladoniaceae

Federally Listed: 1994

The rock gnome lichen is a squamose lichen in the reindeer moss family. The lichen can be identified by its fruiting bodies, which are born singly or in clusters, black in color, and are found at the tips of the squamules. The fruiting season of the rock gnome lichen occurs from July through September.

The rock gnome lichen is a narrow endemic, restricted to areas of high humidity. These high humidity environments occur on high elevation (4000 feet or 1220 m) mountaintops and cliff faces that are frequently bathed in fog or lower elevation (2500 feet or 762 m) deep gorges in the Southern Appalachians. The rock gnome lichen primarily occurs on vertical rock faces where seepage water from forest soils above flows only at very wet times. The rock gnome lichen is almost always found growing with the moss *Adreaea* in these vertical intermittent seeps. The major threat of extinction to the rock gnome lichen relates directly to habitat alteration and loss of high-elevation coniferous forests. These coniferous forests usually lie adjacent to the habitat occupied by the rock gnome lichen. The high elevation habitat occurs in Ashe, Avery, Buncombe, Graham, Haywood, Mitchell, Swain, and Yancey Counties. The lower elevation habitat of the rock gnome lichen can be found in Jackson, Rutherford and Transylvania Counties.

Biological Conclusion: ***No Effect***

No habitat exists in the project area for the rock gnome lichen. The elevation of the project area is approximately 2760 feet (841 m) and there are no vertical rock faces present. In Haywood County, this species occurs on mountaintops and cliff faces at elevations above 4000 feet (1220 m). A search of the NHP database found no occurrence of rock gnome lichen in the project vicinity. It can be concluded that the project will not impact this threatened species.

2. Federal Species of Concern

Federal Species of Concern (FSC) are not legally protected under the Endangered Species Act and are not subject to any of its provisions, including Section 7, until they are formally proposed or listed as Threatened or Endangered. **Table 4** includes FSC species listed for Haywood County and their State classifications. Organisms which are listed as Endangered (E), Threatened (T), or Special Concern (SC) on the North Carolina Natural Heritage Program list of Rare Plant and Animal Species are afforded State protection under the State Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. However, the level of protection given to State-listed species does not apply to NCDOT activities.

Table 4. Federal Species of Concern for Haywood County

Common Name	Scientific Name	State Status	Habitat Present
Vertebrates			
Appalachian Bewick's Wren*	*Thryomanes bewickii altus*	E	No
Appalachian Cottontail	*Sylvilagus transitionalis*	SR	No
Cerulean Warbler	*Dendroica cerulea*	SR	No
Eastern Woodrat, Southern Appalachian Populations	*Neotoma floridana haematoreia*	SC	No
Hellbender	*Cryptobranchus alleganiensis*	SC	Yes
Southern Appalachian Black-capped Chickadee	*Poecile atricapillus practicus*	SC	No
Southern Appalachian Northern Saw-whet Owl	*Aegolius acadicus* pop 1	SC	No
Southern Appalachian Red Crossbill	*Loxia curvirostra* pop 1	SR	No
Southern Appalachian Yellow-bellied Sapsucker	*Sphyrapicus varius appalachiensis*	SR	No
Southern Rock Vole	*Microtus chrotorrhinus carolinensis*	SC	No
Southern Water Shrew*	*Sorex palustris punctulatus*	SC	No
Invertebrates			
Diana Fritillary	*Speyeria diana*	SR	No
Tawny Crescent**	*Phyciodes batesii maconensis*	SR	No
Vascular Plants			
Alabama Least Trillium*	*Trillium pusillum* var 1	E	No
Carolina Saxifrage	*Saxifraga caroliniana*	SR-T	No
Fraser's Loosestrife**	*Lysimachia fraseri*	E	Yes
Glade Spurge (= Darlington's Spurge)	*Euphorbia purpurea*	SR-T	No
Mountain Bittercress	*Cardamine clematitis*	SR-T	No
Mountain Catchfly	*Silene ovata*	SR-T	No
Piratebush	*Buckleya distichophylla*	E	No
Rugel's Ragwort	*Rugelia nudicaulis*	T	No
Smoky Mountain Mannagrass	*Glyceria nubigena*	T	No
Tall Larkspur	*Delphinium exaltatum*	E-SC	No
Non-vascular Plants			
A liverwort*	*Plagiochila sharpii*	SR-L	No
A liverwort*	*Sphenolobopsis pearsonii*	PE	No

Sources: USFWS, 1998; Amoroso, ed., 1997; LeGrand and Hall, eds., 1997

Key: T = Threatened, E = Endangered, SC = Special Concern, SR = Significantly Rare, -T = Throughout, -L = Limited, PE = Proposed Endangered, W1 = Rare, but relatively secure, W5= Rare because of significant decline

** = Obscure record, date uncertain.

* = Historic record. The species was last observed in the county > 50 years ago

No FSC species were observed during the site visit. According to NHP records, none of these species occur within 2 miles (3.2 km) of the project area.

3. Summary of Anticipated Impacts

Of the seven Federally listed species for Haywood County, none are anticipated to be impacted by the proposed project. Of the 25 species listed for Federal Concern, the project area provides potential habitat for two of these species. None of the Federal Species of Concern were observed in the field, and the NHP has no records of these species occurring in the project area.

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 36 CFR Part 800. Section 106 requires that if a Federally funded, licensed, or permitted project has an effect on a property listed on or eligible for the National Register of Historic Places, the Advisory Council on Historic Preservation be given the opportunity to comment.

B. Historic Architecture

A field survey of the Area of Potential Effects (APE) was conducted. All structures within the APE were photographed, and later reviewed by the State Historic Preservation Office (HPO). On March 28, 2001, representatives of the NCDOT and HPO reviewed the subject project. All parties present agreed there are no properties less than fifty years old considered to meet Criterion Consideration G within the project APE. There are three (3) properties over fifty years old within the project area of potential effects (APE). Based on the historical information available and the photographs of each property, Hemphill Methodist Church is considered eligible for listing in the National Register of Historic Places under Criterion C for architecture and meets Criteria Consideration A for religious properties as it is a well-preserved and rare-surviving example of turn-of-the-twentieth-century rural church architecture in Haywood County. Hemphill Methodist Church is located south of Bridge No. 48, off SR 1315 (Pot Leg Road). Burgess Store is eligible for listing in the National Register of Historic Places under Criterion A for commerce as it is a tangible reminder of the roadside stores that once dotted the County and the region. Burgess Store is located at the project beginning, north of Hemphill Road. James Moody House is determined not eligible for the listing in the National Register of Historic Places; this property also does not possess sufficient architectural significance for eligibility under Criterion C. James Moody House is located at the project beginning, behind the Burgess Store. See **Figure 4c** for photographs of the Hemphill Methodist Church and Burgess Store.

In a meeting on July 16, 2002, NCDOT and HPO determined that Alternative 1 would incur 'no adverse effect' on the Hemphill Methodist Church while Alternative 2 (preferred) would incur 'no effect' on the Church. Both proposed build alternative were determined to have an 'adverse effect' on the Burgess Store. Because Alternative 2 (preferred) will result in an 'adverse effect' on the Burgess Store, a Section 4(f) evaluation is required and included in the

attached ***Section 4(f) Evaluation.*** A copy of the concurrence form is included in the **Appendix** and a copy of the Memorandum of Agreement is included in **Memorandum Of Agreement**, both located in the ***Section 4(f) Evaluation.***

C. Archaeology

The State Historic Preservation Officer (SHPO), in a memorandum dated January 29, 2002, stated that the first of two investigated archaeological sites is not eligible for the National Register of Historic Places, while the second site is outside the APE. The proposed project will not involve significant archaeological resources and therefore, no further archaeological investigation is necessary, in conjunction with this project. A copy of the SHPO memorandum is included in the **Appendix**.

VII. ENVIRONMENTAL EFFECTS

Anticipated impacts to the resources in the project area are described in this section. The project is considered to be a Federal "Categorical Exclusion" due to its limited scope and insignificant environmental consequences. The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The project is not in conflict with any plan, existing land use, or zoning regulation. No significant change in land use is expected to result from construction of the project.

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

There will be no relocatees on the project. Right-of-way acquisition will be limited.

There are no publicly owned parks, recreational facilities, or wildlife and waterfowl refuges of National, State, or local significance in the vicinity of the project.

The Farmland Protection Policy Act requires all Federal agencies or their representatives to consider the potential impacts to prime and important farmland soils by all land acquisition and construction projects. The project will not impact prime and important farmlands. The proposed project is anticipated to be limited to the existing right of way, and the land use adjacent to the project is residential.

This project is an air quality "neutral" project, so it is not required to be included in the regional emission analysis (if applicable) and a project level carbon monoxide analysis is not required. The project is located in Haywood 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.

Traffic volumes will not increase or decrease because of this project. The project's impact on noise and air quality will not be significant.

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 for air quality in compliance with 15 NAACO 2D.0520. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 772) and for air quality (1990 CAAA and NEPA), and no additional reports are required.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section and the Division of Waste Management revealed neither underground storage tanks, hazardous waste sites, nor regulated or unregulated landfills or dump sites in the project area.

Haywood County is a participant in the National Flood Insurance Program (NFIP). Bridge No. 48 is not in the FEMA-designated 100-year floodplain.

Based on the findings of this document, no significant adverse environmental impacts are anticipated to result from the replacement of Bridge Number 48 in Haywood County. Therefore, the proposed project is considered to be a "categorical exclusion" as defined by the Federal Highway Administration's environmental guidelines (23 CFR 771.117).

VIII. PUBLIC INVOLVEMENT

A newsletter was circulated to inform residents in the area of the proposed project. A copy of the newsletter is included in the Appendix.

A citizens' informational meeting was held on April 8, 2003 from 4:00 pm to 7:00 pm in the Jonathan Valley Elementary School located at 410 Hall Drive. This meeting gave residents an opportunity to become familiar with the proposed project and to give their comments. Five area residents attended the meeting, along with representatives from NCDOT and its consultant. The residents attending the meeting were primarily interested in specific property impacts, particularly the proposed driveway connections.

Residents in the project area who did not attend the citizens' informational meeting requested a follow-up small group meeting. On June 23, 2003, representatives from NCDOT and its consultant met with six residents from the project area to review the proposed project and give their comments. The residents were primarily concerned with impacts to individual septic systems and loss of property for NCDOT right of way. These concerns were conveyed to the Location and Survey Unit of NCDOT resulting in additional septic and well details included in the property surveys.

IX. AGENCY RESPONSES

United States Department of Agriculture

The Natural Resources Conservation Service does not have any comments at this time.

United States Department of the Interior- Fish and Wildlife Service

Federal List of Endangered and Threatened Wildlife and Plants as well as species of Federal concern were sent for Buncombe County. A survey was recommended of the project area for species prior to further planning or on-the-ground activities to ensure no adverse impacts occur to these species.

North Carolina Wildlife Resources Commission

Hemphill Creek is a designated Public Mountain Trout Water and is classified as Hatchery Supported in the project area. A spanning structure is recommended to replace the existing spanning structure. In stream work is prohibited during the trout spawning period of November 1 through April 15 to protect the egg and fry stages from off-site sedimentation.

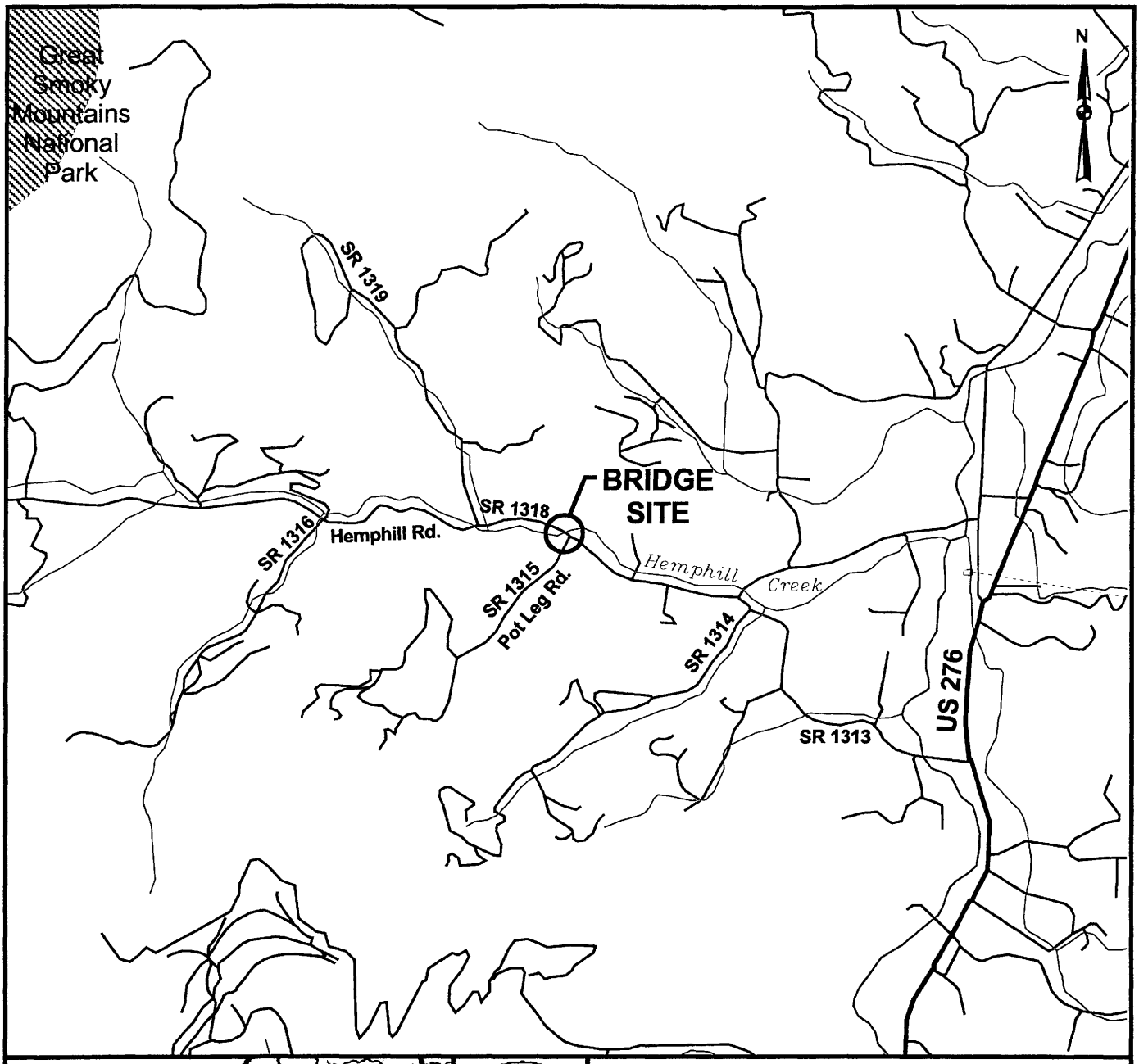
Haywood County Schools

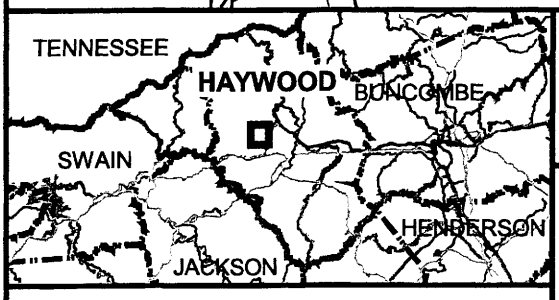
Two school buses use this bridge two times daily. If the bridge is closed to traffic, parents would be required to transport children to a designated bus stop, creating inconvenience. For this reason, maintaining traffic on location is requested. It is also requested that the construction period include June through August, when schools are on summer break.

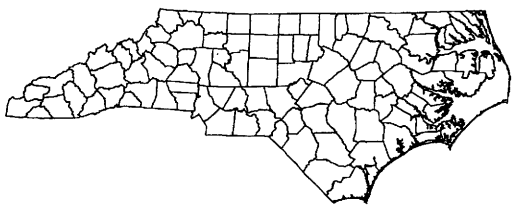
Tennessee Valley Authority

The categorical exclusion document prepared for these projects should note that approvals under Section 26a of the TVA Act would be required for the bridge replacement. At this time, no known environmental concerns are present at the bridge replacement site.

FIGURES







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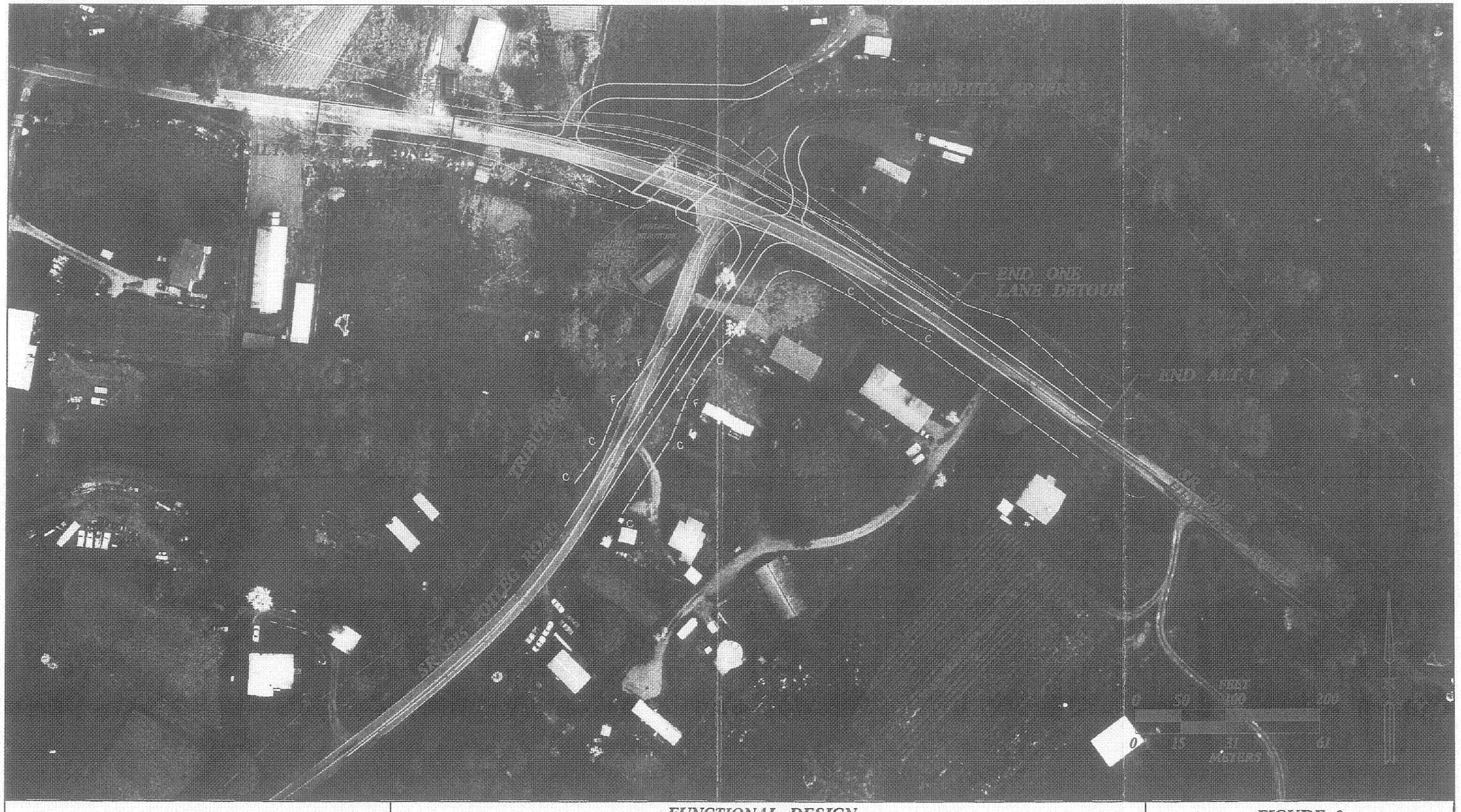
Project Development and Environmental Analysis Branch

FIGURE 1
VICINITY MAP

REPLACEMENT OF BRIDGE NUMBER 48
ON SR 1318 OVER HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

0.5 0 0.5 1 Miles

0.5 0 0.5 1 1.5 Kilometers



North Carolina Department of Transportation
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Project Development & Environmental Analysis Branch

FUNCTIONAL DESIGN LEGEND

- Alt. 1, Centerline
- Alt. 1, Edge of Pavement
- Alt. 1, Construction Limits
- Detour for Alt. 1, Edge of Pavement
- Detour for Alt. 1, Construction Limits
- Historical Property Boundary

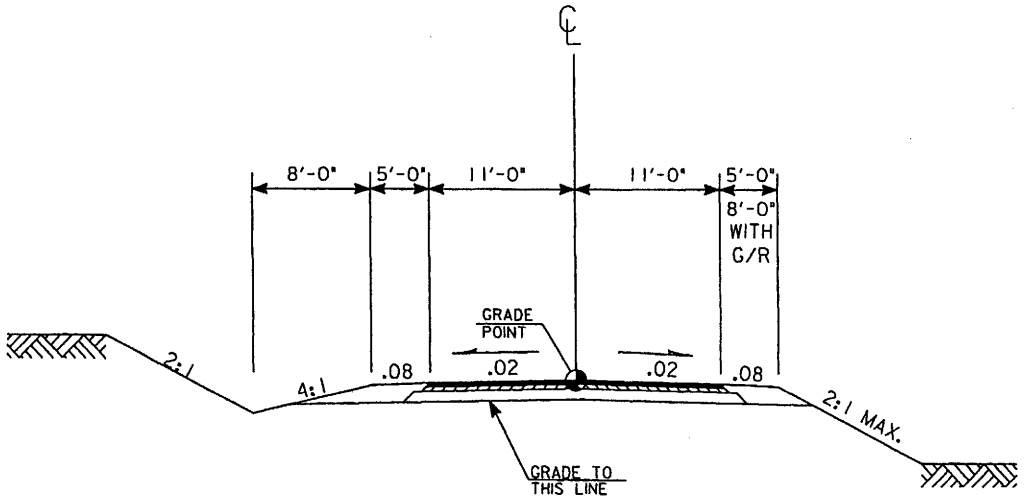
FIGURE 2a
ALTERNATE 1 WITH ONE LN. DET.
REPLACEMENT OF BRIDGE NO. 48
ON SR 1318 OVER
HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

North Carolina Department of Transportation
Division of Highways
Project Development & Environmental Analysis Branch

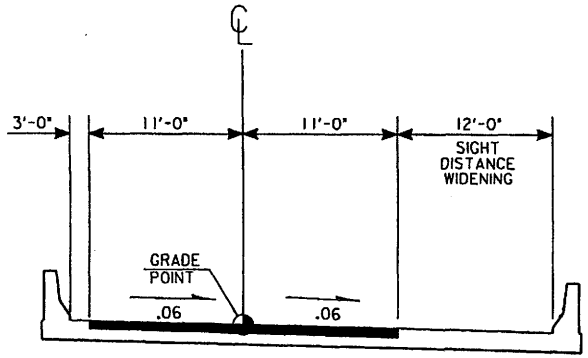
FUNCTIONAL DESIGN LEGEND

- Alt. 2 – Stage 1, Centerline
- Alt. 2 – Stage 1, Edge of Pavement
- Alt. 2 – Stage 1, Construction Limits
- Alt. 2 – Stage 2, Centerline
- Alt. 2 – Stage 2, Edge of Pavement
- Alt. 2 – Stage 2, Construction Limits
- Historical Property Boundary

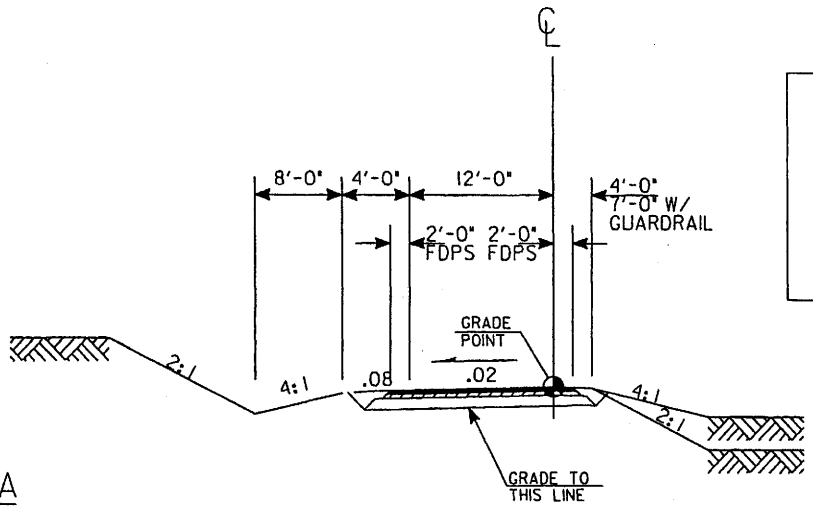
FIGURE 2b
ALTERNATIVE 2, STAGES 1 AND 2
REPLACEMENT OF BRIDGE NO. 48
ON SR 1318 OVER
HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343



TYPICAL PERMANENT ROADWAY APPROACH SECTION



TYPICAL PERMANENT SECTION ON STRUCTURE



TYPICAL TEMPORARY ROADWAY APPROACH SECTION FOR ONE LANE DETOUR

ONE LANE DETOUR IS FOR THE MAINTENANCE OF TRAFFIC ONLY

NO PROVISION FOR THE PASSING OF A STALLED VEHICLE IS INCLUDED

TRAFFIC DATA

ADT 1998	600
ADT 2025	1000
DUAL	2%
TTST	1%

FUNCTIONAL CLASSIFICATION: LOCAL

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

HAYWOOD COUNTY

BRIDGE NO. 48 ON SR 1318 OVER HEMPHILL CREEK

TIP B-3343

FIGURE 3A

ALTERNATIVE 1 TYPICAL SECTION

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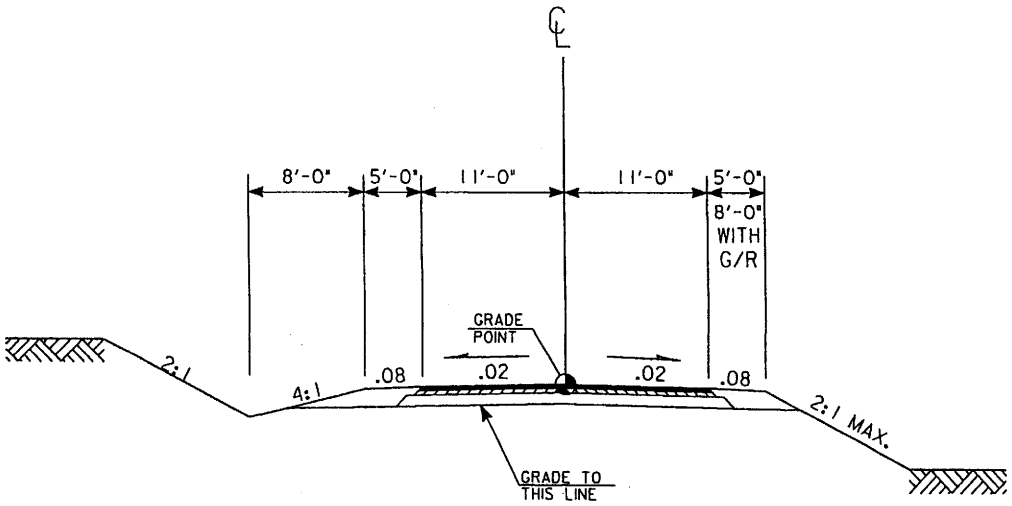
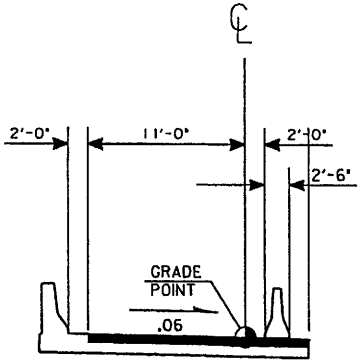
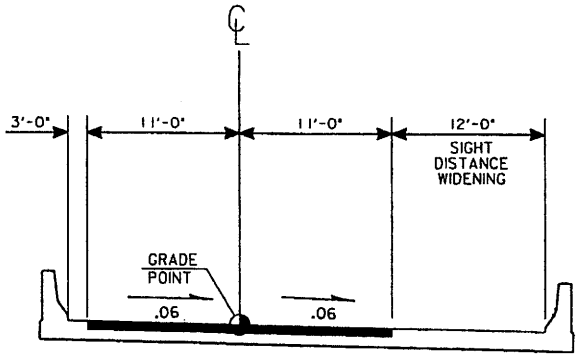


TYPICAL ROADWAY APPROACH SECTION



STAGE 1
TYPICAL SECTION ON STRUCTURE



ULTIMATE
TYPICAL SECTION ON STRUCTURE

TRAFFIC DATA

ADT 1998	600
ADT 2025	1000
DUAL	2%
TTST	1%

FUNCTIONAL CLASSIFICATION: LOCAL

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

HAYWOOD COUNTY

BRIDGE NO. 48 ON SR 1318
OVER HEMPHILL CREEK

TIP B-3343

FIGURE 3B

ALTERNATIVE 2 TYPICAL SECTION

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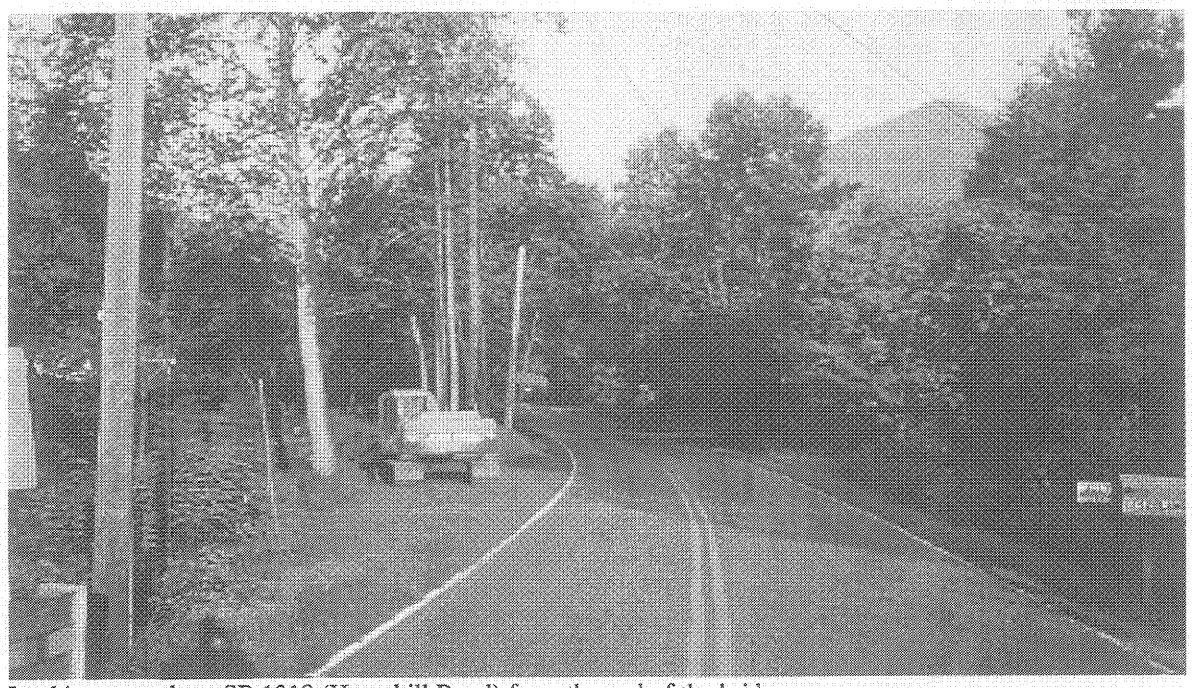
Looking downstream at Bridge Number 48 on SR 1318 (Hemphill Road)



Looking west along SR 1318 (Hemphill Road) from the end of the bridge

North Carolina – Department of Transportation

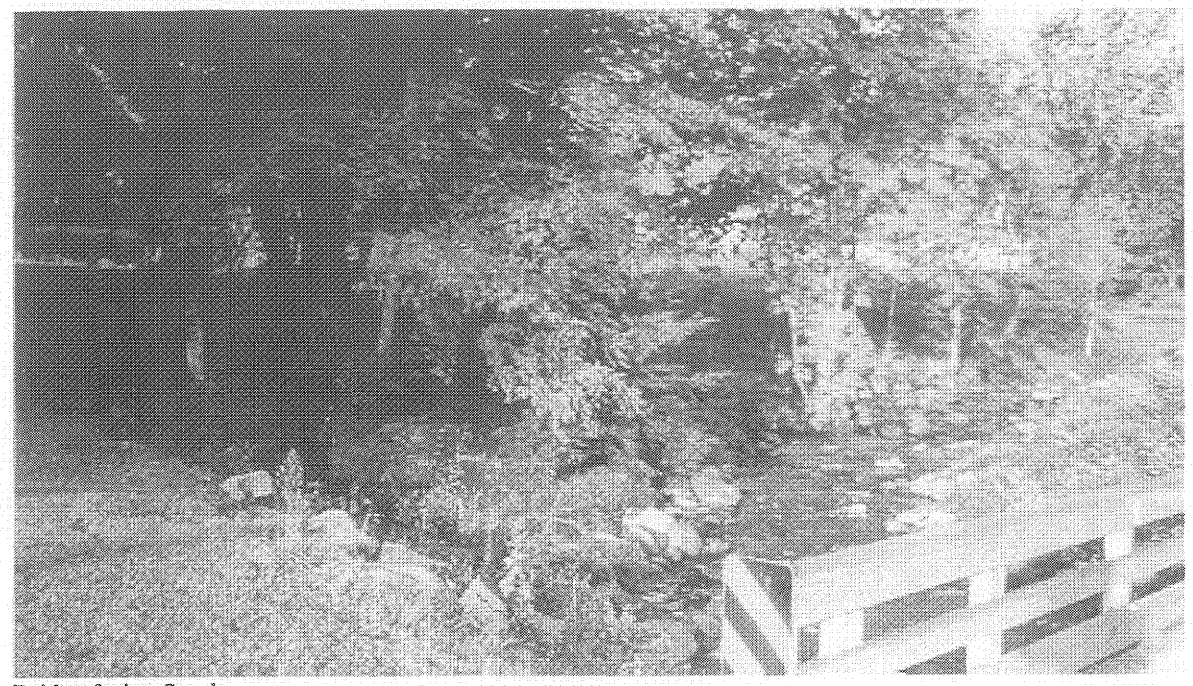
Division of Highways

Project Development and
Environmental Analysis Branch

FIGURE 4a
PHOTOGRAPHS

REPLACEMENT OF BRIDGE NUMBER 48
ON SR 1318 OVER HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

Looking northwest from the existing bridge.



Bridge facing Southwest

North Carolina – Department of Transportation

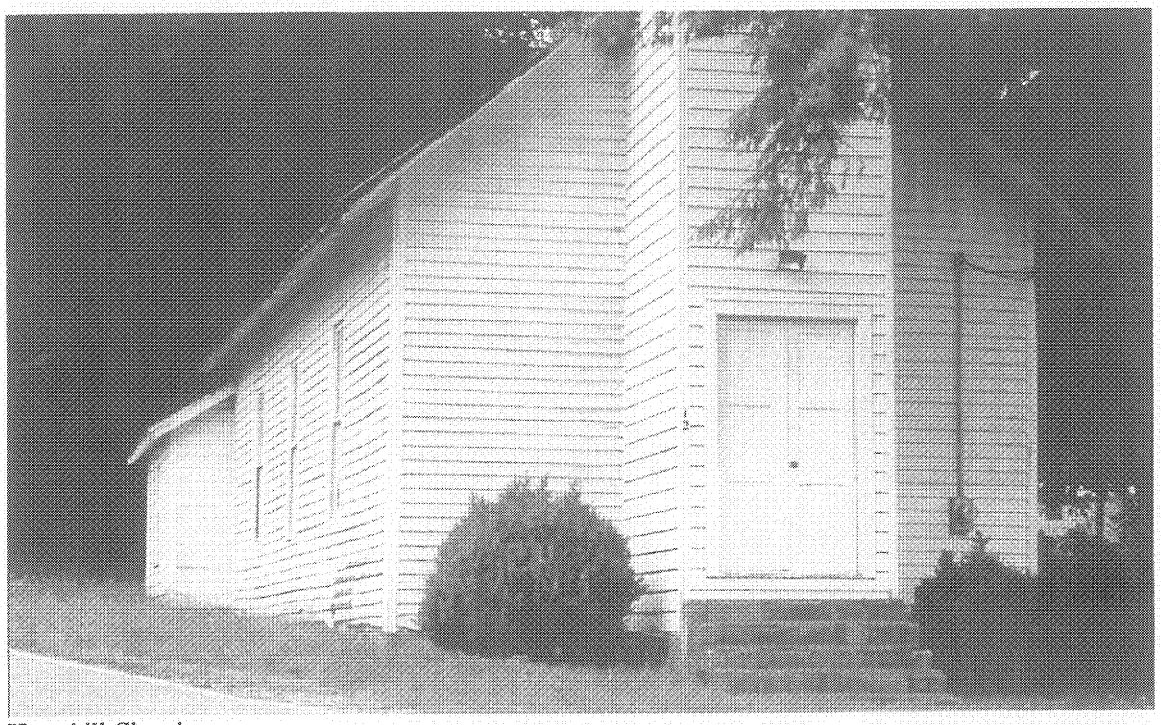
Division of Highways

Project Development and
Environmental Analysis Branch

FIGURE 4b
PHOTOGRAPHS

REPLACEMENT OF BRIDGE NUMBER 48
ON SR 1318 OVER HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

Burgess Store



Hemphill Church

North Carolina – Department of Transportation

Division of Highways

Project Development and
Environmental Analysis Branch

FIGURE 4c
PHOTOGRAPHS

REPLACEMENT OF BRIDGE NUMBER 48
ON SR 1318 OVER HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

APPENDIX

North Carolina Wildlife Resources Commission

512 N. Salisbury Street, Raleigh, North Carolina 27604-1188, 919-733-3391
Charles R. Fullwood, Executive Director

TO: Stacy Harris, PE
Project Engineer, NCDOT

FROM: David Cox, Highway Project Coordinator
Habitat Conservation Program

DATE: May 25, 2000

SUBJECT: NCDOT Bridge Replacements in Buncombe, Burke, and Haywood counties of North Carolina. TIP Nos. B-3310, B-3419, and B-3343.

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

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

5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed

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

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

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

8. In streams that contain threatened or endangered species, 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. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

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. Generally, this means that the culvert or pipe invert is buried at least 1 foot below the natural stream bed. If multiple cells are required the second and/or third cells should be placed so that their bottoms are at stream bankful stage (similar to Lyonsfield design). This could be accomplished by constructing a low sill on the upstream end of the other cells that will divert low flows to another cell. This will allow sufficient water depth in the culvert or pipe during normal flows to accommodate fish movements. 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. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.

3. Culverts or pipes should be situated 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 stream bed.

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-3310 – Buncombe County – Bridge No. 145 over Dillingham Creek. Dillingham Creek is Designated Public Mountain Trout Water and is classified as Hatchery Supported. There is also a high probability of wild trout in this location due to the close proximity of tributaries that contain wild trout. No in-water work should be performed between November 1 and April 15 to protect trout egg and fry stages from sedimentation.

2. B-3419 – Burke County – Bridge No. 46 over the Catawba River. Bridge No. 46 crosses the Catawba River in the Lake James tailwater and is Designated Public Mountain Trout Water and is classified as Hatchery Supported. The river at this location is stocked with catchable trout from March 1 through July 31 annually and supports wild brown and brook trout. Efforts should be made to minimize in-water disturbance during the stocking season from March 1 through July 31. No in-water work should be performed between November 1 and April 15 to protect trout egg and fry stages from sedimentation. In addition to trout, there are spring runs of striped bass, v-lip redhorse, yellow perch and walleye from Lake Rhodhiss that travel up to this location attempting to spawn. There also are records of a rare mussel, the brook floater (*Alasmidonta varicosa*), in this section of the river. NCDOT should perform any necessary surveys to determine the status of this species.

3. B-3343 – Haywood County – Bridge No. 48 over Hemphill Creek. Hemphill Creek is Designated Public Mountain Trout Water and is classified as Hatchery Supported. The headwaters of Hemphill Creek border the Great Smoky Mountains National Park; thus the occurrence of wild trout and in particular brook trout is very likely. No in-water work should be performed between November 1 and April 15 to protect trout egg and fry stages from sedimentation.

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

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 528-9886. Thank you for the opportunity to review and comment on these projects.

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

MEMORANDUM

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

FROM: Mark S. Davis, Mountain Region Coordinator
Habitat Conservation Program

DATE: May 8, 2000

SUBJECT: Comments on Group XX Bridge Replacement Projects in Buncombe, Burke, and Haywood Counties, North Carolina.

This memorandum responds to your request for our concerns regarding impacts on fish and wildlife resources resulting from the subject projects. The North Carolina Wildlife Resources Commission (NCWRC) has reviewed the proposed projects, and our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The proposed work involves 3 bridge replacement/demolition projects in western North Carolina (listed below). Construction impacts on wildlife and fisheries resources will depend on the extent of disturbance in the streambed and surrounding floodplain areas. We prefer bridge designs that do not alter the natural stream morphology or impede fish passage. Bridge designs should also include provisions for the deck drainage to flow through a vegetated upland buffer prior to reaching the subject surface waters. Demolition plans for the existing bridge structures should be addressed in the environmental documents prepared for these projects, as well as any proposed causeways, temporary access roads or detours. We are also concerned about impacts to Designated Public Mountain Trout Waters (DPMTW) and environmental documentation for these projects should include a description of any streams or wetlands on the project site and surveys for any threatened or endangered species that may be affected by construction.

B-3310 - Buncombe County, Bridge No. 145 on SR 2173 over Dillingham Creek

Dillingham Creek is managed by the NCWRC as Hatchery Supported trout water and also supports wild trout populations in the project area. We recommend that the existing bridge be replaced with another spanning structure. We recommend that instream work be prohibited during the trout spawning period of November 1 through April 15 to protect the egg and fry stages from off-site sedimentation.

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 733-3633 ext. 291 • Fax: (919) 715-7643

B-3419 - Burke County, Bridge No. 46 on SR 1223 over Catawba River

The Catawba River is managed by the NCWRC as Hatchery Supported trout water in the project area. The river also supports a small spawning run of striped bass moving out of Lake Rhodhiss in the spring. We recommend that the existing bridge be replaced with another spanning structure.

B-3343 - Haywood County, Bridge No. 48 on SR 1318 over Hemphill Creek

Hemphill Creek is managed by the NCWRC as Hatchery Supported trout water and also supports wild trout populations in the project area. We recommend that the existing bridge be replaced with another spanning structure. We recommend that instream work be prohibited during the trout spawning period of November 1 through April 15 to protect the egg and fry stages from off-site sedimentation.

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

1. Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. Structures should be inspected and maintained regularly, especially following rainfall events.

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

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

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

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

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

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

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

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

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

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

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

cc: Mr. Steve Lund, NCDOT Coordinator, COE, Asheville
Ms. Stacy Harris, P.E., PD & EA Branch, NCDOT, Raleigh
Mr. Ron Linville, Western Piedmont Region Coordinator, NCWRC, Kernersville

39645

HAYWOOD COUNTY SCHOOLS

TRANSPORTATION DEPARTMENT
401 FARMVIEW DRIVE
Waynesville, NC 28786

Telephone 828-456-2421
Fax 828-456-2452

May 18, 2000

Ms. Stacy Harris. P.E.
State of North Carolina
Department of Transportation
Project Development and Environment
Analysis Branch
PO Box 25201
Raleigh, North Carolina 27611-5201

Dear Ms. Harris:

This letter is in reference to the Bridge Replacement Project in Haywood County at Bridge 48 on SR 1318 over Hemphill Creek. I would like to take this opportunity to explain the impact replacing this bridge would have on our school bus transportation .

We have 21 students that live beyond this bridge that depend on 2 school buses to get to and from school each day. If this bridge is closed to traffic the parents would have to bring their children to a designated bus stop. This would cause a tremendous inconvenience for the parents to be at a bus stop at approximately 7:15 a.m. in the morning and 3:45 p.m. in the afternoon.

Please consider doing this bridge project during the months of June through August when school is out for the summer.

Sincerely,

Rodney Bullock

Rodney Bullock
Transportation Director

B-3343

RECEIVED
JUN 1 2000
EARTH TECH / RALEIGH

North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

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

Division of Archives and History
Jeffrey J. Crow, Director

May 24, 2000

MEMORANDUM

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

FROM: David Brook
Deputy State Historic Preservation Officer

SUBJECT: Bridge No. 48 on SR 1318 over Hemphill Creek, B-3343, Haywood County, ER 00-9683

Thank you for your letter of April 18, 2000, concerning the above project.

We have conducted a search of our files and are aware of no structures of historical or architectural importance located within the planning area. However, since a comprehensive historical architectural inventory of has never been conducted, there may be structures of which we are unaware located within the planning area.

Two recorded archaeological sites are located within 200 meters of the existing bridge.

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

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

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

DB: scb

cc: B. Church
T. Padgett

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

Please note that in the Evaluation of Eligibility paragraph on page 13 of the report it is stated that "The property also does not possess sufficient architectural significance for eligibility under Criterion C." We believe that you meant to write Criterion A, considering that at the beginning of the same paragraph you state that is eligible for listing under Criterion C and Criteria Consideration A.

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 any questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919 733-4763.

Cc: N. Graf
M.P. Furr

Stacy Harris

North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

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

Division of Archives and History
Jeffrey J. Crow, Director

March 28, 2001

MEMORANDUM

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

From: David Brook PLL for David Brook
Deputy State Historic Preservation Officer

Re: Replace Bridge No. 48 on SR 1318 over Hemphill Creek,
TIP No. B-3343, Haywood County, ER 00-9779

Thank you for your letter of January 9, 2001, transmitting the survey report by Mattson, Alexander & Associates concerning the above project.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following properties are eligible for listing in the National Register of Historic Places:

Hemphill Methodist Church is eligible for listing in the National Register of Historic Places under Criterion C for architecture and meets Criteria Consideration A for religious properties as it is a well-preserved and rare-surviving example of turn-of-the-twentieth-century rural church architecture in Haywood County. We concur with the boundaries noted in figure 6 of the report.

Burgess Store is eligible for listing in the National Register of Historic Places under Criterion A for commerce as it is a tangible reminder of the roadside stores that once dotted the county and region but are now rare. We concur with the boundaries as noted in figure 8 of the report.

The following property is determined not eligible for listing in the National Register of Historic Places:

James Moody House

ADMINISTRATION
RESTORATION
PLANNING

Location
507 N. Blount St., Raleigh NC
515 N. Blount St., Raleigh NC
515 N. Blount St., Raleigh NC

Mailing Address
4617 Mail Service Center, Raleigh NC 27699-4617
4613 Mail Service Center, Raleigh NC 27699-4613
4618 Mail Service Center, Raleigh NC 27699-4618

Telephone/Fax
(919) 733-4763 • 733-8653
(919) 733-6547 • 715-4801
(919) 733-6545 • 715-4801

Kelly Harris

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

lichael F. Easley, Governor
isbeth C. Evans, Secretary
effrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources
David J. Olson, Director

January 29, 2002

MEMORANDUM

TO: William D. Gilmore, Manager
NCDOT, Division of Highways

FROM: David Brook *for David Brook*

SUBJECT: Bridge 48, B-3343, Haywood County, ER 02-7595

We have received the archaeological survey report for the above project from Mr. Thomas Padgett.

During the course of the survey, two previously recorded sites were revisited. 31HW198 was found to be located outside of the proposed Area of Potential Effect. 31HW204 has been severely disturbed by previous construction. The report authors have recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since the project will not involve significant archaeological resources.

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

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

cc: Matt Wilkerson, NCDOT

Federal Aid # **BRZ-1318(8)** *TIP* # **B-3343** *County*: **Haywood**

Properties within the area of potential effect for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Hemphill Methodist Church (DE) No effect for Alt. 2

Properties within the area of potential effect for which there is an effect. Indicate property status (NR or DE) and describe the effect.

Burgess Store (DE) - Adverse Effect for Alts 1 & 2
Hemphill Methodist Church (DE) - No Adverse Effect for Alt. 1

Reason(s) why the effect is not adverse (if applicable).

Hemphill Methodist Church (DE) - No Adverse Effect for Alt. 1 because slope work in the area will be minimized.

Initialed: NCDOT MPF FHWA JRLA HPO SDM

Federal Aid # BRZ-1318(8) *TIP* # B-3343 *County*: Haywood

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Replace Bridge No. 48 on SR 1318 over Hemphill Creek

On 7/16/2002, 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 and agreed

- [ ] There are no effects on the National Register-listed property/properties located within the project's area of potential effect and listed on the reverse.
- [x] There are no effects on the National Register-eligible property/properties located within the project's area of potential effect and listed on the reverse.
- [ ] There is an effect on the National Register-listed property/properties located within the project's area of potential effect. The property/properties and the effect(s) are listed on the reverse.
- [x] There is an effect on the National Register-eligible property/properties located within the project's area of potential effect. The property/properties and effect(s) are listed on the reverse.

Signed:

Mary Pope Furr — 7-16-2002
Representative, NCDOT — Date

[signature] — 7/16/02
FHWA, for the Division Administrator, or other Federal Agency — Date

[signature] — 7/16/02
Representative, HPO — Date

David Brook for — 7/16/02
State Historic Preservation Officer — Date

> *please contact me by E-mail or telephone at 828-271-4857.*
>
> *Steven Lund*
> *Regulatory Project Manager, NCDOT*
> *Projects*

Subject: Re: Group XX Bridge Replacements
Date: Tue, 16 May 2000 12:11:00 -0400
From: "Bill Gilmore" <bgilmore@dot.state.nc.us>
Organization: North Carolina Department of Transportation
To: Stacy Harris <stacyharris@dot.state.nc.us>
CC: "Lund, Steven W SAW" <Steven.W.Lund@saw02.usace.army.mil>
"Franklin, David SAW" <David.Franklin@saw02.usace.army.mil>

Stacy, I assume that Steve's note is in response to our scoping letters. Please confirm that this is your group and if there are any issues that I need to be involved with. Thanks.

"Lund, Steven W SAW" wrote:

> *---------- Forwarded by Steven W Lund/CESAW/saw02 on 05/12/2000*
> *09:51 AM ----------*
>
> *Steven W Lund*
> *05/10/2000 11:34 AM*
> *To: sharris@dot.state.nc.us@SMTP@Exchange*
> *cc:*
>
> *Subject: Group XX Bridge Replacements*
>
> *This is in response to your request of April 18, 2000 for our comments on environmental scoping for the following proposed bridge replacements:*
>
> *B-3419, Bridge No.46, SR 1223, Catawba River, Burke County*
> *B-3343. Bridge No.48, SR 1318, Hemphill Creek, Haywood County*
> *B-3310, Bridge No.145, SR 2173, Dillingham Creek, Buncombe County*
>
> *The Categorical Exclusion documents for these projects should completely address all impacts to waters and wetlands resulting from bridge replacement activities including construction of the new bridge, construction of any temporary detours, any temporary construction and access fills and demolition of the old bridge. This will eliminate the need for multiple permitting of one project site and the associated delays. We recommend detouring of traffic on existing routes during construction. If the site on the Catawba River is utilized by canoes and other boat traffic, any construction activities would have to allow for continued boat passage. Any temporary construction or access fills should be constructed of non-erodible material and removed in their entirety upon completion of the work. Demolition of the old structure should be accomplished using non-shattering methods.*
>
> *Some or all of these streams may have trout fisheries. As such you can expect a moratorium on all instream work to include the trout spawing season which may run from October through March depending on the species. We will defer to the NC Wildlife Resources Commission to determine the precise time period of any moratorium*
>
> *Because all of these sites are located in trout waters counties, a Pre-construction Notification (PCN) will be required for any and all nationwide permits requested.*
>
> *Thank you for this opportunity to comment. If you have any questions,*

COMMON NAME	SCIENTIFIC NAME	STATUS
Glade spurge	*Euphorbia purpurea*	FSC
Smoky Mountain manna grass	*Glyceria nubigena*	FSC
Small-whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC
Rugel's ragwort	*Rugelia nudicaulis*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Mountain catchfly	*Silene ovata*	FSC
Alabama least trillium	*Trillium pusillum* var. *I*	FSC
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sharpii*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC

KEY:

Status	Definition
Endangered	A taxon "in danger of extinction throughout all or a significant portion of its range."
Threatened	A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
FSC	A Federal species of concern--a species that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).
T(S/A)	Threatened due to similarity of appearance (e.g., American alligator)--a species that is threatened due to similarity of appearance with other rare species and is listed for its protection. These species are not biologically endangered or threatened and are not subject to Section 7 consultation.

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

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

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

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

HAYWOOD COUNTY

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

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

BURKE COUNTY

Critical Habitat Designation:

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

Vertebrates		
Bald eagle	*Haliaeetus leucocephalus*	Threatened
Alleghany woodrat	*Neotoma magister*	FSC
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Edmund's snaketail dragonfly	*Ophiogomphus edmundo*	FSC*
Pygmy snaketail dragonfly	*Ophiogomphus howei*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC

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

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

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

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

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

assigned each of these projects a separate log number; please reference these numbers in any future correspondence concerning these projects.

Sincerely,

Brian P. Cole
State Supervisor

Enclosure

cc:
Mr. Mark Davis, Mountain Region Coordinator, North Carolina Wildlife Resources Commission, 20830 Great Smoky Mtn. Expressway, Waynesville, NC 28786
Mr. Bob Johnson, U.S. Army Corps of Engineers, Asheville Regulatory Field Office, 151 Patton Avenue, Room 143, Asheville, NC 28801-5006
Mr. Roger Bryan, Division 13 Environmental Officer, North Carolina Department of Transportation, P.O. Box 3279, Asheville, NC 28802

of the federally threatened dwarf-flowered heartleaf (*Hexastylis naniflora*) in the immediate vicinity of Bridge No. 46. The plant occurs on the upland just to the north of the river. If this species occurs in the project area, additional consultation will be required. Additionally, there is a historic record for a species of Federal concern--the brook floater (*Alasmidonta varicosa*)--from a site nearby in the Catawba River. The project area for Bridge No. 46 should be surveyed for these species to ensure they are protected from impacts.

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

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

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

We appreciate the opportunity to provide these comments. If you have any questions or concerns, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. We have

B-3343

United States Department of the Interior

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

May 17, 2000

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

Dear Mr. Gilmore:

According to your letter of April 18, 2000 (received April 28, 2000), the North Carolina Department of Transportation is proposing the following three bridge replacement projects:

- B-3419; replacement of Bridge No. 46 on SR 1223 over the Catawba River, Burke County, North Carolina (our Log Number 4-2-00-180)
- B-3343; replacement of Bridge No. 48 on SR 1318 over Hemphill Creek, Haywood County (our Log Number 4-2-00-181)
- B-3310; replacement of Bridge No.145 on SR 2173 over Dillingham Creek, Buncombe County (our Log Number 4-2-00-182)

As requested, we have reviewed the proposed projects and are providing the following comments in accordance with the provisions of Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e). The legal responsibilities of a Federal agency or its designated non-Federal representative under Section 7 of the Act are on file with the Federal Highway Administration.

Enclosed is a list of species from Burke, Haywood, and Buncombe Counties that are on the Federal List of Endangered and Threatened Wildlife and Plants, as well as species of Federal concern. Although our records for Haywood and Buncombe Counties indicate no known locations of these species in the project areas, we recommend surveying each of the project areas for these species prior to any further planning or on-the-ground activities to ensure no adverse impacts occur to these species. Our records for Burke County indicate there is a known location

USDA

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05 Bland Rd.
ite 205
leigh, NC 27609

19) 873-2134

May 10, 2000

Ms. Stacy Harris, P. E.
Project Development & Environmental Analysis Branch
NC Department of Transportation
P. O. Box 25201
Raleigh, NC 27611-5201

Dear Ms. Harris:

Thank you for the opportunity to provide comments on the following:

1. B-3419, Burke County, North Carolina, Replace Bridge No. 46 on SR 1223 over the Catawba River;
2. B-3343, Haywood County, North Carolina, Replace Bridge No. 48 on SR 1318 OVER Hemphill Creek;
3. B-3310, Buncombe County, North Carolina, Replace Bridge No. 145 on SR 2173 over Dillingham Creek.

The Natural Resources Conservation Service does not have any comments at this time.

Sincerely,

Mary T. Kollstedt

Mary T. Kollstedt
State Conservationist

B-3343

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

June 5, 2000

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

Dear Mr. Gilmore:

GROUP XX BRIDGE REPLACEMENT PROJECTS, FRENCH BROAD RIVER WATERSHED, BUNCOMBE AND HAYWOOD COUNTIES, NORTH CAROLINA

TVA has reviewed the April 18, 2000 request for comments on the following proposed bridge replacements in western North Carolina:

- B-3310, SR 2173 over Dillingham Creek, Buncombe County
- B-3343, SR 1318 over Hemphill Creek, Haywood County

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

When Section 26a applications are filed, TVA may wish to review the categorical exclusion documents during its environmental review of the same actions. Therefore, the inclusion of information related to wetlands and potential mitigation, Floodplain Management Executive Order, National Historic Preservation Act compliance, and Endangered Species Act compliance would lower TVA's review costs and greatly facilitate TVA's eventual approval of the projects. Other issues to be discussed would vary according to project location and impacts but may include, as appropriate, state-listed species (biodiversity impacts) and visual impacts.

Please invite TVA to any interagency meetings, if any are found to be necessary. Please send a copy of the completed environmental documents to TVA.

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

Sincerely,

Jon M. Loney

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

SECTION 4(F) EVALUATION

Haywood County

SR 1318

Bridge No. 48 over Hemphill Creek

Federal Aid Project No. BRZ-1318(8)

State Project 8.2941301

WBS 33002.1.1

TIP Project No. B-3343

FINAL SECTION 4(F) EVALUATION

US DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

9/23/04
DATE

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

11/5/04
DATE

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

I. SECTION 4 (F) EVALUATION; BURGESS STORE AND HEMPHILL METHODIST CHURCH

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

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

Since it is anticipated that the proposed project will require the use of property from one or more National Register eligible historic resources, a Section 4(f) Evaluation is required.

A. Proposed Action

NCDOT proposes to replace Bridge No. 48, carrying SR 1318 (Hemphill Road) over Hemphill Creek, with a new structure just north of the existing bridge. The current sufficiency rating of the bridge is 32.3 out of a possible 100 for a new structure. Because of the structural deficiency and operational inadequacy of the existing bridge, the North Carolina Board of Transportation approved this project as part of the Federal Bridge Replacement Program. This project will replace a deteriorated and substandard bridge with a new structure that provides standard travel-ways and improves the safety of the route.

The existing bridge was constructed in 1971. The one-span superstructure consists of a timber floor on I-beams. The substructure consists of vertical, masonry abutments. The bridge is made up of one 36-foot (11-m) span, and has a clear roadway width of 24.5 feet (7.5 m).

Bridge No. 48 is located between the Burgess Store and the Hemphill Methodist Church. Both properties are eligible for listing in the National Register of Historic Places. The two studied alternatives, including the recommended alternative, require taking land from one or both of these resources. Therefore, the project must proceed within the requirements of Section 4(f) of the USDOT Act and Section 138 of the Highway Act, as amended.

B. Description of Section 4(f) Resources

Burgess Store

The Burgess Store is located in the project area on the north side of SR 1318 (Hemphill Road), west of Bridge No. 48 (see **Figure 2a or 2b** for resource location). The Burgess Store and the proposed project are located in the Hemphill Creek Community in Haywood County.

The Burgess Store was constructed ca. 1950, and is a well-preserved one-story, stone-veneered roadside store. It is a rectangular building with a gable-front, standing-seam, metal roof that projects slightly over the façade (**Figure 4c**). The front façade retains its original

wood-shuttered windows with concrete sills, wood-paneled center door, and metal signage. The interior is believed to retain the original concrete floor and walls, exposed chestnut rafters, and chestnut shelves and counters. Now used for general storage, the store remains in good condition.

Burgess Store is eligible for listing in the National Register of Historic Places under Criterion A for commerce as it is a tangible reminder of the roadside stores that once dotted the County and the region. The property is not considered eligible under any other criterion. The proposed National Register boundaries are defined by the current tax parcel that includes the store and can been found on **Figures 2a or 2b.** This parcel also contains the 1963 Burgess residence, which is a non-contributing resource. The boundary follows the existing right of way along SR 1318.

Hemphill Methodist Church

Hemphill Methodist Church is located south of Bridge No. 48, off SR 1315 (Pot Leg Road). Hemphill Methodist Church was constructed ca. 1900 and is a well-preserved one-story, weatherboard church in rural Haywood County. It has a simple, rectangular, gable-front form and features a shallow, pyramidal-roofed entry tower with paneled, double-leafed doors (**Figure 4c**). Capped by a standing-seam, metal roof, the church has original two-over-two sash windows on the side elevation, and a fieldstone foundation. A mid-twentieth-century, one-room addition extends from the rear elevation and has weatherboard siding, exposed rafters, and a concrete-block foundation.

Hemphill Methodist Church is considered eligible for listing in the National Register of Historic Places under Criterion C for architecture and meets Criteria Consideration A for religious properties as it is a well-preserved and rare-surviving example of turn-of-the-twentieth-century rural church architecture in Haywood County.

C. Alternatives

1. Build Alternatives

Two build alternatives were investigated for the replacement of the subject bridge.

Alternative 1 will construct a new bridge at the existing location while maintaining traffic on a temporary one-lane detour structure to the north (downstream) of the existing bridge. The new facility is designed with a 55 mph (88 kph) design speed and a proposed 65-foot (19.8-m) long and 37-foot (11.3-m) wide structure. The detour is designed with a 30 mph (48 kph) design speed. Detour traffic will be controlled with a temporary signal during construction. **Alternative 1** can be seen in **Figures 2a and 3a.**

Alternative 2 (preferred) will replace the bridge in two stages, just north of the existing alignment. Traffic will be maintained on one-lane of the staged bridge. The resulting bridge will be 65 feet (19.8 m) long and 37 feet (11.3 m) wide. This alternative is designed with a 40 mph (64 kph) design speed. This design speed is necessary to avoid the historic structures located in the project area. Detour traffic will be controlled with a temporary signal during construction. **Alternative 2** can be seen in **Figures 2b and 3b.**

2. Avoidance Alternatives

a) No-Build

The no-build alternative would not require new construction. The existing structure would remain and periodic repairs would be made in an attempt to maintain service. However, deterioration would eventually necessitate closure of the bridge and would thereby eliminate the traffic service provided by Hemphill Road in the project area. There are no alternative routes between Hemphill Road west of Bridge No. 48 and points east of Bridge No. 48 including US 276.

b) Rehabilitation

The existing bridge is structurally deficient with a sufficiency rating of 32.3 of a possible 100. Because of the bridge's poor condition, rehabilitating the existing structure is not feasible; many of the wood structural elements are decaying and beyond repair. The safe load-bearing capacity of the bridge has already been reduced due to the decay and will continue to be reduced with continued decay.

c) Relocation

Replacing the bridge using a **new alignment** to the south would minimize impacts to the Burgess Store, but result in permanent adverse impacts to the Hemphill Methodist Church. Relocating the bridge to a new location in order to avoid both historic resources would compromise the traffic service of Hemphill Road, while resulting in increased impacts to the human and natural environments. Area residential development would be impacted by a new location facility and the mountainous terrain would result in expensive, difficult construction. An extensive network of small feeder streams would be impacted by a relocation of this route, compromising the quality and scenic beauty of the streams as well as impacting the flora and fauna that inhabit the area, including trout.

D. Impact on the 4(f) Property

The two build alternatives studied to replace Bride No. 48 will have 'adverse effect' on the proposed historic store site. Alternative 1 will have 'no adverse effect' on the proposed historic church site. Both alternatives require acquisition of right of way and construction within the Burgess Store eligible boundaries. Alternative descriptions including impacts associated with each alternative are listed below.

Alternative 1

- Use of approximately 714 square feet (66 square meters) of property for permanent right of way within the Burgess Store eligible boundaries including the SR 1318 shoulder and the graveled property between the SR 1318 and the store.
- Use of approximately 548 square feet (51 square meters) of property for permanent right of way within the Hemphill Church eligible boundaries. This area includes Hemphill Creek, which runs inside the western property boundary, and could potentially include a large hemlock tree located in front of the church.

- Use of 1.33 acres (0.53 ha) of maintained landscape for permanent right of way (impacts to potentially historic sites are included in this area).
- Impacts to approximately 75 linear feet (22.9 m) of Hemphill Creek and 120 linear feet (36.6 m) of an un-named tributary to the north of SR 1318 (Hemphill Road).

Alternative 2 (preferred)

- Use of approximately 1249 square feet (116 square meters) of property for permanent right of way within the Burgess Store eligible boundaries including the SR 1318 shoulder and the graveled property between the SR 1318 and the store.
- Use of no property for permanent right of way within the Hemphill Church eligible boundaries.
- Use of 1.17 acres (0.47 ha) of maintained landscape for permanent right of way (Burgess Store impacts are included in this area).
- Impacts to approximately 75 linear feet (22.9 m) of Hemphill Creek and 120 linear feet (36.6 m) of an un-named tributary to the north of SR 1318 (Hemphill Road).

Alternative 2 replaces the bridge in two stages, just north of the existing alignment. The resulting bridge will be 65 feet (19.8 m) long and 37 feet (11.3 m) wide. The proposed project will maintain the existing grade and provide additional site distance to travelers using Pot Leg Road, through 12 feet (3.6 m) of additional deck width to the south. This alternative is designed with a 40 miles per hour (64 kph) design speed. This design speed is necessary to avoid and/or minimize impacts to the historic structures located in the project area. Traffic will be maintained on one lane of the staged bridge. Traffic will be controlled with a temporary signal during construction. **Alternative 2** can be seen in **Figure 2b**. **Alternative 2** minimizes impacts to the human, natural, and built environments at minimal cost.

Section 4(f) Property	Alternative 1	Alternative 2
Burgess Store	714 sq. ft. (66 sq. m.)	1249 sq. ft. (116 sq. m.)
Hemphill Methodist Church	548 sq. ft. (51 sq. m.)	0 sq. ft. (0 sq. m.)
Total from Section 4(f) Properties	1262 sq. ft. (117 sq. m.)	1249 sq. ft. (116 sq. m.)

E. Measures to Minimize Harm

The alignment of the proposed alternatives has been designed such that impacts to the Burgess Store have been minimized while avoiding the Hemphill Church. Through coordination between the NCDOT and the HPO, the following measures have been developed to minimize harm to the National Register eligible resource: prior to initiation of work, NCDOT shall photographically record the Burgess Store and its surroundings for curation at the North Carolina Division of Archives and History/State Historic Preservation Office.

F. Coordination

The proposed project has been coordinated with the Federal Highway Administration and North Carolina State Historic Preservation Officer.

One citizens' informational workshop was conducted on April 8, 2003 at the Jonathan Valley Elementary School. Comments concerning the proposed project were considered in the planning process.

The North Carolina State Historic Preservation Office (HPO) was contacted during the study process. A survey of historic architectural resources was conducted in the area of potential effects of the project, in accordance with Section 106 of the Historic Preservation Act. The letter documenting SHPO concurrence with the eligibility of the Hemphill Methodist Church and Burgess Store is included in the **Appendix**.

A finding of adverse effect has been determined for the Burgess Store. The SHPO concurrence form is included in the **Appendix.**

In accordance with Section 106 of the National Preservation Act, since the alternatives have an adverse effect on the Burgess Store, NCDOT has entered into a Memorandum of Agreement (MOA) with the Federal Highway Administration (FHWA), State Historic Preservation Office (HPO), and Advisory Council on Historic Preservation (ACHP). The FHWA, HPO, and ACHP have reviewed and accepted the MOA, found under **Memorandum Of Agreement.**

The Department of the Interior, Office of Environmental Policy and Compliance have concurred that there are no prudent and feasible alternatives to the proposed project. The comment letter is included in the **Appendix.**

G. Basis for Conclusion

There are unique problems or unusual factors involved in the use of alternatives that avoid this property and the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes (23 CFR 771.135(a)(2)).

Avoidance alternatives including 'no-build,' rehabilitation, and relocation, were determined not feasible for several reasons.

- **No-Build**: the existing structure would deterioration and eventually necessitate closure and thereby eliminate the traffic service provided by Hemphill Road in the project area. There are no alternative routes between Hemphill Road west of Bridge No. 48 and points east of Bridge No. 48 including US 276.
- **Rehabilitation**: Because of the bridge's poor condition (sufficiency rating of 32.3 of a possible 100), rehabilitating the existing structure is not feasible; many of the wood structural elements are decaying and beyond repair. The safe load-bearing capacity of the bridge has already been reduced due to the decay and will continue to be reduced with continued decay.

- **Relocation**: Relocating the bridge to a new location in order to avoid both historic resources would compromise the traffic service of Hemphill Road, while resulting in increased impacts to the human and natural environments. Area residential development would be impacted by a new location facility and the mountainous terrain would result in expensive, difficult construction. An extensive network of small feeder streams would be impacted by a relocation of this route, compromising the quality and scenic beauty of the streams as well as impacting the flora and fauna that inhabit the area, including trout.

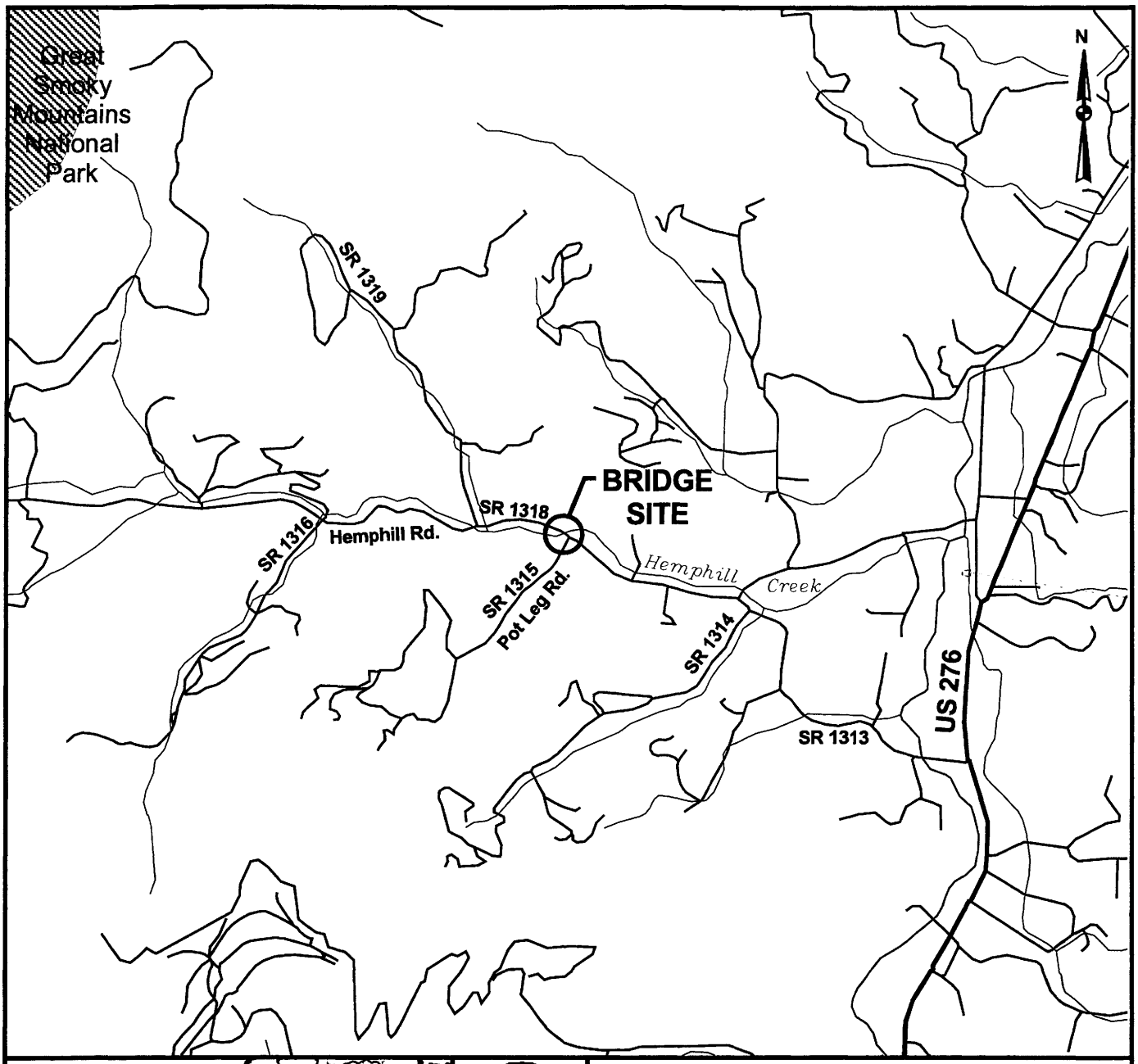
Alternative 1 was determined not feasible due to the use of property from both the Burgess Store and Hemphill Church eligible boundaries. **Alternative 1** would require approximately 548 square feet (51 square meters) of property for permanent right of way within the Hemphill Church eligible boundaries. This area includes Hemphill Creek, which runs inside the western property boundary, and could potentially include a large hemlock tree located in front of the church. Use of **Alternative 2** would limit the impacts to one of the two resources (Burgess Store).

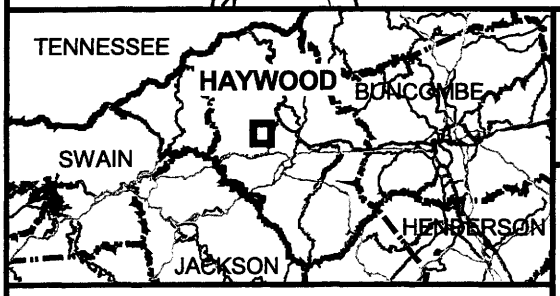
H. Conclusion

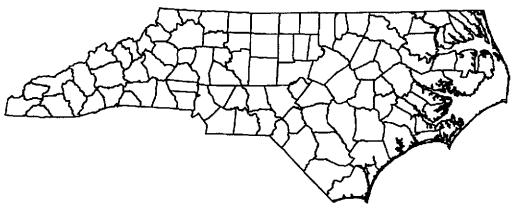
Alternative 2 has been determined the preferred alternative for the replacement of Bridge No. 48, replacing the bridge in two stages, just north of the existing alignment. **Alternative 2** can be seen in **Figure 2b**. Project impacts will be in the form of right of way acquisition. This alternative minimizes impacts to the Hemphill Church resulting in no right of way impacts, while resulting in 1249 sq. ft. (116 sq. m.) of impact to the Burgess Store historic boundary.

Based upon the above considerations, there is no feasible and prudent alternative to the use of land from the Burgess Store historic boundary and the proposed action includes all possible planning to minimize harm to the Burgess Store resulting from such use.

FIGURES







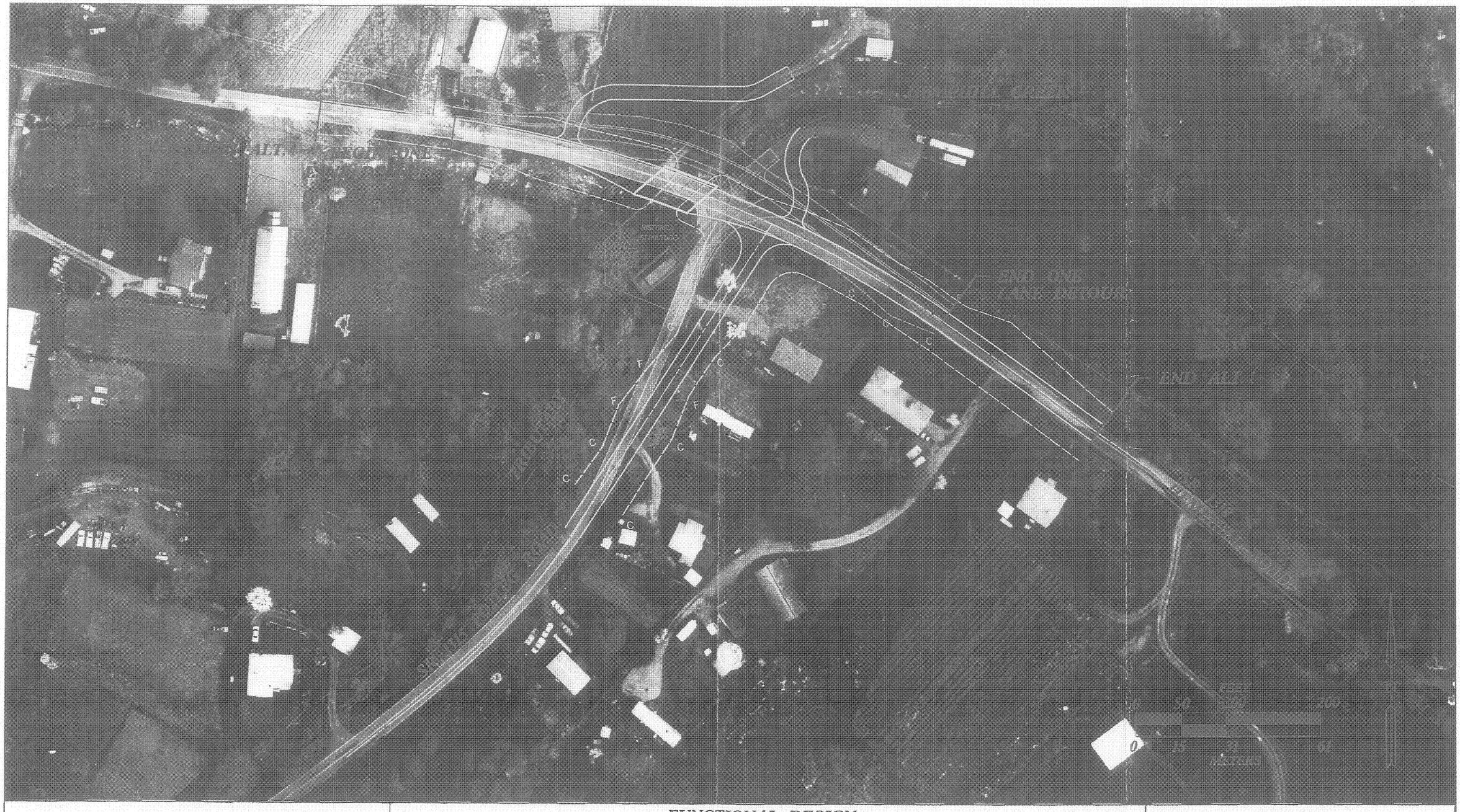
North Carolina - Department of Transportation
Division of Highways
Project Development and Environmental Analysis Branch

FIGURE 1
VICINITY MAP

REPLACEMENT OF BRIDGE NUMBER 48
ON SR 1318 OVER HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

0.5 0 0.5 1 Miles

0.5 0 0.5 1 1.5 Kilometers



North Carolina Department of
Transportation
Division of Highways
Project Development & Environmental
Analysis Branch

FUNCTIONAL DESIGN
LEGEND

Alt. 1, Centerline	Detour for Alt. 1, Edge of Pavement
Alt. 1, Edge of Pavement	Detour for Alt. 1, Construction Limits
Alt. 1, Construction Limits	Historical Property Boundary

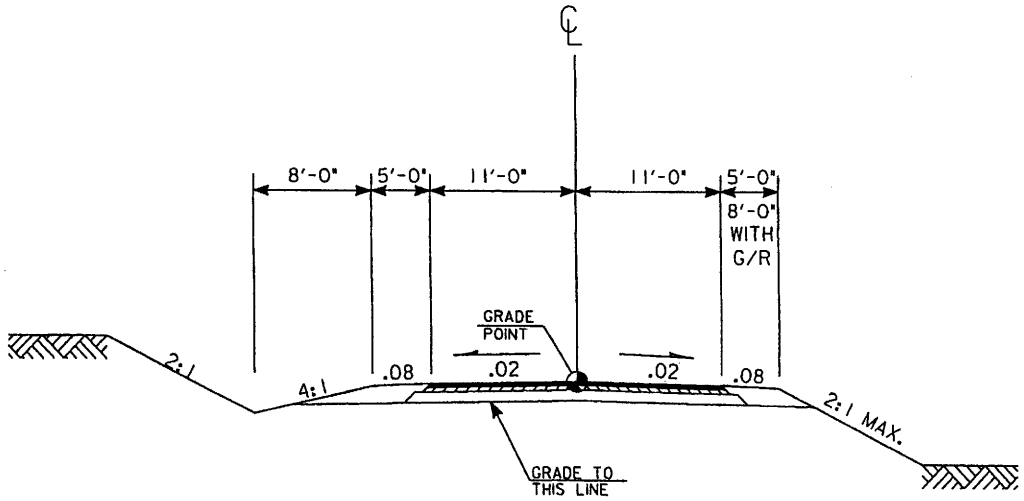
FIGURE 2a
ALTERNATE 1 WITH ONE LN. DET.
REPLACEMENT OF BRIDGE NO. 48
ON SR 1318 OVER
HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

North Carolina Department of Transportation
Division of Highways
Project Development & Environmental Analysis Branch

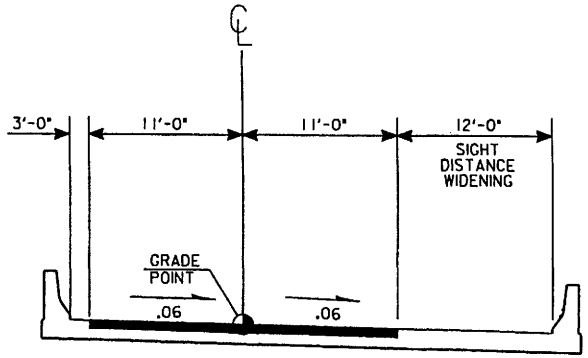
FUNCTIONAL DESIGN LEGEND

- Alt. 2 – Stage 1, Centerline
- Alt. 2 – Stage 1, Edge of Pavement
- Alt. 2 – Stage 1, Construction Limits
- Alt. 2 – Stage 2, Centerline
- Alt. 2 – Stage 2, Edge of Pavement
- Alt. 2 – Stage 2, Construction Limits
- Historical Property Boundary

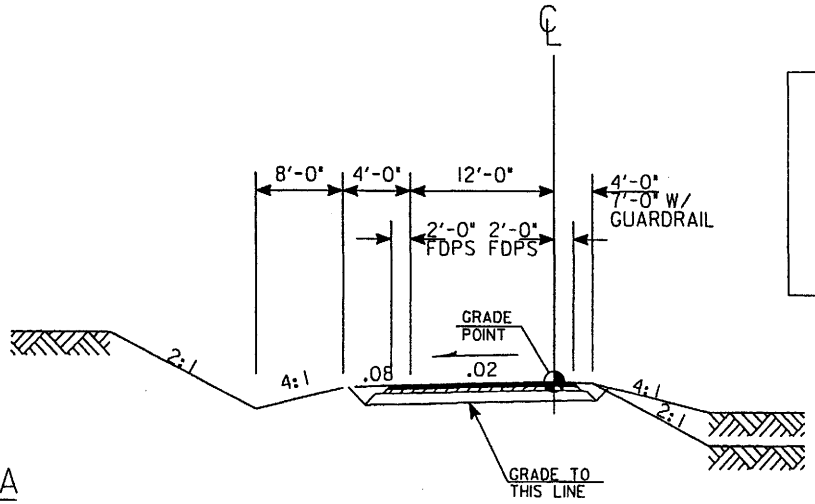
FIGURE 2b
ALTERNATIVE 2, STAGES 1 AND 2
REPLACEMENT OF BRIDGE NO. 48
ON SR 1318 OVER
HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343



TYPICAL PERMANENT ROADWAY APPROACH SECTION



TYPICAL PERMANENT SECTION ON STRUCTURE



TYPICAL TEMPORARY ROADWAY APPROACH SECTION FOR ONE LANE DETOUR

ONE LANE DETOUR IS FOR THE MAINTENANCE OF TRAFFIC ONLY

NO PROVISION FOR THE PASSING OF A STALLED VEHICLE IS INCLUDED

TRAFFIC DATA

ADT 1998	600
ADT 2025	1000
DUAL	2%
TTST	1%

FUNCTIONAL CLASSIFICATION: LOCAL

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

HAYWOOD COUNTY

BRIDGE NO. 48 ON SR 1318 OVER HEMPHILL CREEK

TIP B-3343

FIGURE 3A

ALTERNATIVE 1 TYPICAL SECTION

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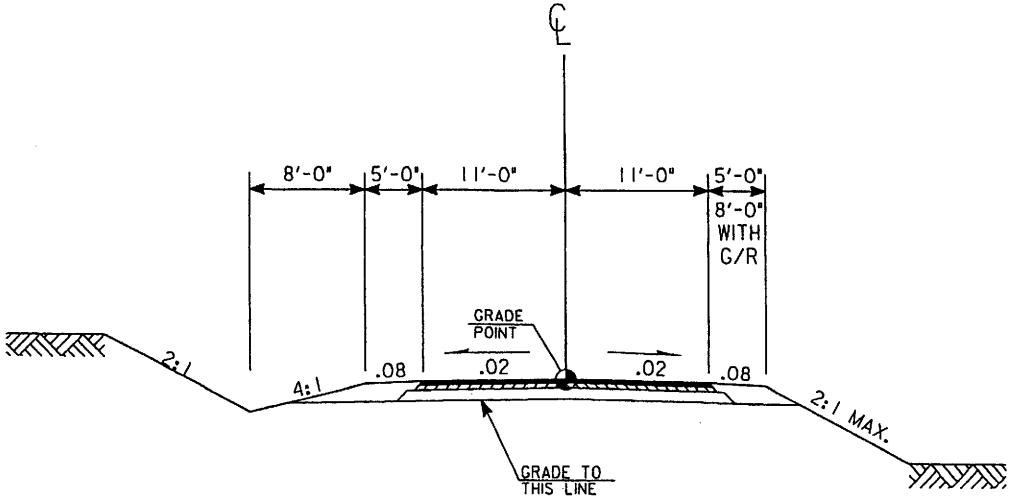
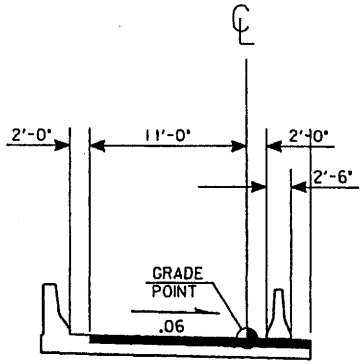
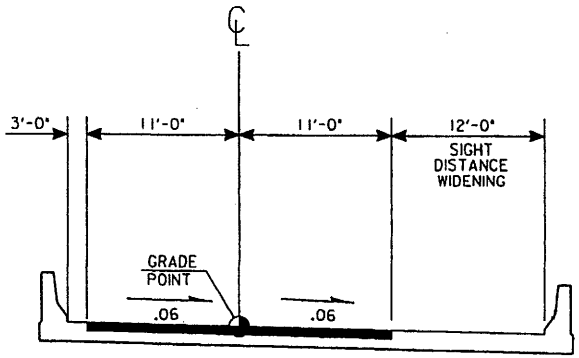


TYPICAL ROADWAY APPROACH SECTION



STAGE 1
TYPICAL SECTION ON STRUCTURE



ULTIMATE
TYPICAL SECTION ON STRUCTURE

TRAFFIC DATA

ADT 1998	600
ADT 2025	1000
DUAL	2%
TTST	1%

FUNCTIONAL CLASSIFICATION: LOCAL

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

HAYWOOD COUNTY

BRIDGE NO. 48 ON SR 1318
OVER HEMPHILL CREEK

TIP B-3343

FIGURE 3B

ALTERNATIVE 2 TYPICAL SECTION

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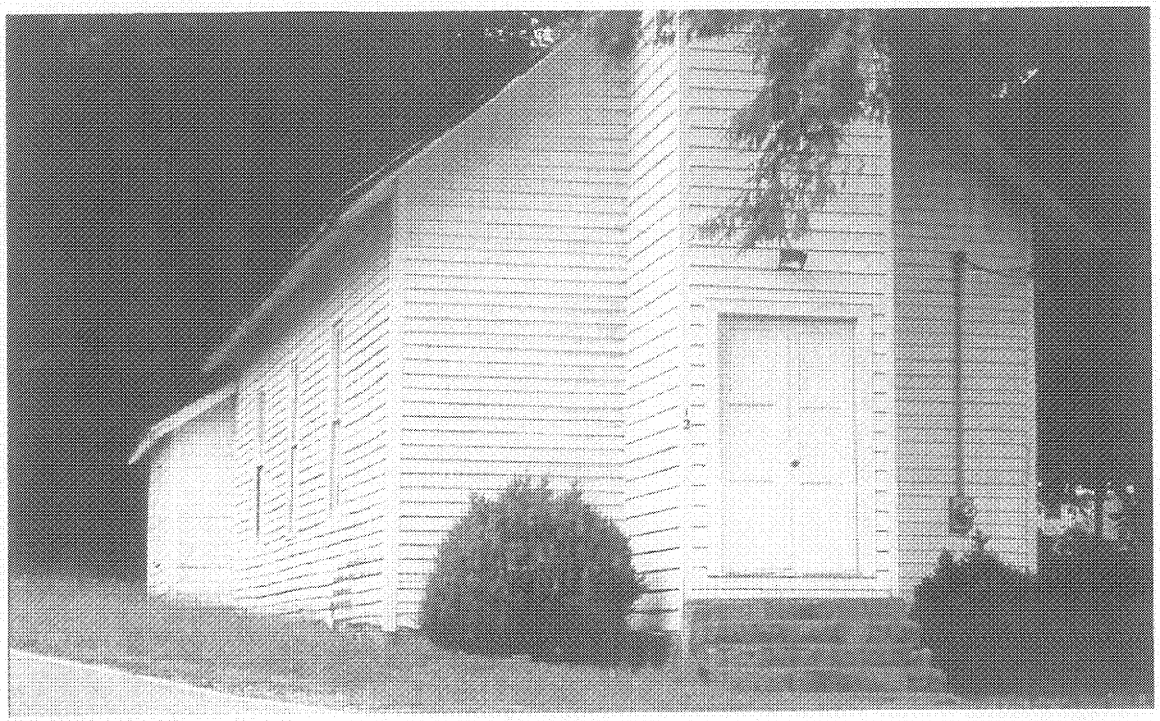
Burgess Store



Hemphill Church

North Carolina – Department of Transportation

Division of Highways

Project Development and
Environmental Analysis Branch

FIGURE 4c
PHOTOGRAPHS

REPLACEMENT OF BRIDGE NUMBER 48
ON SR 1318 OVER HEMPHILL CREEK
HAYWOOD COUNTY
TIP NO. B-3343

MEMORANDUM OF AGREEMENT

B-3343

North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

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

Division of Archives and History
Jeffrey J. Crow, Director

May 24, 2000

MEMORANDUM

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

FROM: David Brook
Deputy State Historic Preservation Officer

SUBJECT: Bridge No. 48 on SR 1318 over Hemphill Creek, B-3343, Haywood County, ER 00-9683

Thank you for your letter of April 18, 2000, concerning the above project.

We have conducted a search of our files and are aware of no structures of historical or architectural importance located within the planning area. However, since a comprehensive historical architectural inventory of has never been conducted, there may be structures of which we are unaware located within the planning area.

Two recorded archaeological sites are located within 200 meters of the existing bridge.

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

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

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

DB: scb

cc: B. Church
T. Padgett

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

Stacy Harris

North Carolina Department of Cultural Resources

State Historic Preservation Office
David L. S. Brook, Administrator

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

Division of Archives and History
Jeffrey J. Crow, Director

March 28, 2001

MEMORANDUM

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

From: David Brook PLE for David Brook
Deputy State Historic Preservation Officer

Re: Replace Bridge No. 48 on SR 1318 over Hemphill Creek, TIP No. B-3343, Haywood County, ER 00-9779

Thank you for your letter of January 9, 2001, transmitting the survey report by Mattson, Alexander & Associates concerning the above project.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following properties are eligible for listing in the National Register of Historic Places:

Hemphill Methodist Church is eligible for listing in the National Register of Historic Places under Criterion C for architecture and meets Criteria Consideration A for religious properties as it is a well-preserved and rare-surviving example of turn-of-the-twentieth-century rural church architecture in Haywood County. We concur with the boundaries noted in figure 6 of the report.

Burgess Store is eligible for listing in the National Register of Historic Places under Criterion A for commerce as it is a tangible reminder of the roadside stores that once dotted the county and region but are now rare. We concur with the boundaries as noted in figure 8 of the report.

The following property is determined not eligible for listing in the National Register of Historic Places:

James Moody House

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

Xxxxx Xxxxx

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

ichael F. Easley, Governor
sbeth C. Evans, Secretary
ffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources
David J. Olson, Director

January 29, 2002

MEMORANDUM

TO: William D. Gilmore, Manager
NCDOT, Division of Highways

FROM: David Brook [signature]

SUBJECT: Bridge 48, B-3343, Haywood County, ER 02-7595

We have received the archaeological survey report for the above project from Mr. Thomas Padgett.

During the course of the survey, two previously recorded sites were revisited. 31HW198 was found to be located outside of the proposed Area of Potential Effect. 31HW204 has been severely disturbed by previous construction. The report authors have recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since the project will not involve significant archaeological resources.

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

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

cc: Matt Wilkerson, NCDOT

Federal Aid # **BRZ-1318(8)** *TIP #* **B-3343** *County*: **Haywood**

Properties within the area of potential effect for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Hemphill Methodist Church (DE) No effect for Alt. 2

Properties within the area of potential effect for which there is an effect. Indicate property status (NR or DE) and describe the effect.

Burgess Store (DE) - Adverse Effect for Alts 1 & 2
Hemphill Methodist Church (DE) - No Adverse Effect for Alt. 1

Reason(s) why the effect is not adverse (if applicable).

Hemphill Methodist Church (DE) - No Adverse Effect for Alt. 1 because slope work in the area ~~is~~ will be minimized.

Initialed: NCDOT MPF FHWA RLA HPO SDM

Federal Aid # **BRZ-1318(8)** *TIP* # **B-3343** *County*: **Haywood**

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Replace Bridge No. 48 on SR 1318 over Hemphill Creek

On 7/16/2002, 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 and agreed

- [ ] There are no effects on the National Register-listed property/properties located within the project's area of potential effect and listed on the reverse.
- [x] There are no effects on the National Register-eligible property/properties located within the project's area of potential effect and listed on the reverse.
- [ ] There is an effect on the National Register-listed property/properties located within the project's area of potential effect. The property/properties and the effect(s) are listed on the reverse.
- [x] There is an effect on the National Register-eligible property/properties located within the project's area of potential effect. The property/properties and effect(s) are listed on the reverse.

Signed:

Mary Pope Furr — 7-16-2002
Representative, NCDOT — Date

RWHA — 7/16/02
FHWA, for the Division Administrator, or other Federal Agency — Date

Representative, HPO — 7/16/02 — Date

David Brook for — 7/16/02
State Historic Preservation Officer — Date

United States Department of the Interior
OFFICE OF THE SECRETARY
Washington, DC 20240

TAKE PRIDE IN AMERICA

ER 04/302

SEP 16 2004

Mr. John F. Sullivan III, P.E.
Division Administrator
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

The Department of the Interior has reviewed the Draft Section 4(f) Evaluation for **Replacement of Bridge No. 48 on SR-1318 over Hemphill Creek**, Haywood County, North Carolina.

We concur that there are no prudent and feasible alternatives to the proposed project if project objectives are to be met. We also agree with the measures to minimize harm to the Burgess Store and Hemphill Methodist Church, if they are consistent with the fully executed Memorandum of Agreement for the preservation of cultural resources as signed by the State Historic Preservation Officer on July 13, 2003.

The Department has no objection to Section 4(f) approval of this project by the Department of Transportation.

We appreciate the opportunity to provide these comments.

Sincerely,

Willie R. Taylor

Willie R. Taylor
Director, Office of Environmental Policy
and Compliance

cc:
Gregory J. Thorpe, Ph.D.
Environmental Management Director
Project Development and Environmental
Analysis Branch
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

APPENDIX

APPENDIX A

Historic Structures and Landscape Recordation Plan
For the Replacement of Bridge No. 48 on SR 1318 over Hemphill Creek
Haywood County, North Carolina

Photographic Requirements

Selected photographic views of Burgess Store as a whole, and views of the structure and its settings, including:

- Overall views of the structure (elevations and oblique views)
- Overall views of the project area, showing the relationship of the structure to its setting

Photographic Format

- Color slides (all views)
- 35 mm or larger black and white negatives (all views)
- Two Black and white contact sheets (all views)
- All processing to be done to archival standards
- All photographs and negatives to be labeled according to Division of Archives and History standards

Copies and Curation

One (1) set of all photographic documentation will be deposited with the North Carolina Division of Archives and History/State Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection.

accordance with 36 CFR Section 800.7(c)(4) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all the actions under this agreement that are not the subject of the dispute will remain unchanged.

Execution of this agreement by FHWA and the North Carolina SHPO, its subsequent filing with the Advisory Council on Historic Preservation, and implementation of its terms evidence that FHWA has afforded the Council an opportunity to comment on the replacement of Bridge No. 48 on SR 1318 over Hemphill Creek and its effects on the Burgess Store, and that FHWA has taken into account the effects of the undertaking on the historic property.

AGREE:

11/11/03

FEDERAL HIGHWAY ADMINISTRATION DATE

8/13/03

NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER DATE

CONCUR:

7/21/03

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DATE

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL HIGHWAY ADMINISTRATION
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
THE REPLACEMENT OF BRIDGE NO. 48
ON SR 1318 OVER HEMPHILL CREEK
HAYWOOD COUNTY, NORTH CAROLINA

WHEREAS, the Federal Highway Administration (FHWA) has determined that the replacement of Bridge No. 48 on SR 1318 over Hemphill Creek, Haywood County, North Carolina (the undertaking) will have an effect upon the Burgess Store, a property determined eligible for listing in the National Register of Historic Places, and has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the North Carolina Department of Transportation (NCDOT) has participated in the consultation and been invited to concur in this Memorandum of Agreement;

NOW, THEREFORE, FHWA and the North Carolina SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take in to account the effect of the undertaking on the historic properties.

STIPULATIONS

FHWA will ensure that the following measures are carried out:

I. Recordation: Prior to the initiation of work, NCDOT shall record the Burgess Store and its surroundings in accordance with the attached Historic Structures and Landscape Recordation Plan (Appendix A).

II. Dispute Resolution: Should the North Carolina SHPO object within thirty (30) days to any plans or documentation provided for review pursuant to this agreement, FHWA shall consult with the North Carolina SHPO to resolve the objection. If FHWA or the North Carolina SHPO determines that the objection cannot be resolved, FHWA shall forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (Council). Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

A. Provide FHWA with recommendations which FHWA will take into account in reaching a final decision regarding the dispute, or

B. Notify FHWA that it will comment pursuant to 36 CFR Section 800.7(c)) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by FHWA in

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

FHWA - NC DIVISION			
RECD	JUL 24 2003		
DIV ADMIN			
ASST DIV ADMIN			
SECRETARY			
FIN MGR			FIN SPEC
COMP SPEC			FIN ASST
BRIDGE			ASST BRIDGE SECRETARY
RLTY OFC			CIV RGTS SPEC
T D ENG			
TO & S - A			TO & S - B
P & PD ENG			
PROG ASST		✓	ENV SPEC
PL - A			PL - B
PL - C			AIR QLTY SPEC
OPS ENG			
ADMIN ASST			AAE / TR
A - 1			A - 2
A - 3			A - 4
ENG COORD			P & M ENG
FILE			TRASH

LYNDO TIPPETT

July 21, 2003

RECEIVED
JUL 25 2003
HISTORIC PRESERVATION OFFICE

Mr. John Sullivan
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, North Carolina 27601

Ref: ER 00-9683

Dear Mr. Sullivan:

RE: Memorandum of Agreement, Replace Bridge No. 48 on SR 1318 over Hemphill Creek, Haywood County, North Carolina, TIP No. B-3343, State Project No. 8.2941301, Federal Aid No. BRZ-1318(8)

The above-referenced project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's regulations for compliance codified at 36 CFR Part 800. Enclosed is the Memorandum of Agreement (MOA) required for submitting a signed MOA to the Advisory Council.

After consultation with the North Carolina State Historic Preservation Office, it was determined that the subject project would have an adverse effect on the Burgess Store, a property eligible for listing in the National Register of Historic Places. Subsequently, a MOA has been drafted to mitigate the effects of the proposed undertaking on the store. Please review and sign the MOA and forward it to the State Historic Preservation Officer for acceptance.

Please submit the signed MOA, to the Advisory Council for filing pursuant to 36 CFR Part 800.6(b)(1). If you have any questions concerning the accompanying agreement, please contact Mary Pope Furr, Historic Architecture Section, at (919) 715-1620.

Sincerely,

Carl B. Goode, Jr., P.E., Manager
Office of Human Environment

CBG/mpf
Attachments
cc: John Wadsworth, P.E., Project Engineer

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
OFFICE OF HUMAN ENVIRONMENT

TELEPHONE: 919-715-1500
FAX: 919-715-1522

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING
2728 CAPITAL BOULEVARD, SUITE 168
RALEIGH, NC 27604

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

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources

August 12, 2003

John F. Sullivan
Division Administrator
Federal Highway Administration
310 New Bern Avenue
Raleigh, NC 27601

Re: MOA for the replacement of Bridge # 48 on SR 1318 over Hemphill Creek, B-3343, Haywood County, ER00-9683

Dear Mr. Sullivan:

We are in receipt of the Memorandum of Agreement for the above referenced undertaking. I have added my signature and am forwarding the agreement to you to sign and forward to the Advisory Council on Historic Preservation.

We look forward to receiving the documentation of the Burgess Store from the North Carolina Department of Transportation.

Thank you for your time and consideration. If you have questions concerning this matter, please contact Renee Gledhill-Earley at 733-4763.

Sincerely,

Jeffrey J. Crow
State Historic Preservation Officer

Enclosure

cc: John Wadsworth, NCDOT
Mary Pope Furr, NCDOT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601
November 13, 2003

IN REPLY REFER TO
HO-NC

Mr. Don Klima, Director
Office of Planning and Review
Advisory Council on Historic Preservation
The Old Post Office Building
1100 Pennsylvania Ave., N.W. No. 809
Washington, D.C. 20004

Subject: Memorandum of Agreement, Replacement of Bridge No. 48 on SR 1318 over Hemphill Creek, Haywood County, North Carolina, TIP No. B-3343, State Project No. 8.2941301, Federal Aid No. BRZ-1318(8)

Dear Mr. Klima:

As required by 36 CFR 800.6(b)(1) and previous correspondence between our offices, we are filing the attached Memorandum of Agreement (MOA) that was developed in consultation with the North Carolina State Historic Preservation Officer for the subject project. It is our understanding that the filing of this MOA with the Council completes our compliance responsibilities under Section 106 of the National Historic Preservation Act. Questions concerning this submittal may be directed to Clarence Coleman, Area Engineer, of this office at (919) 856-4350, extension 104.

Sincerely yours,

Clarence W. Coleman Jr.

For John F. Sullivan, III
Division Administrator

Attachment

cc: Mr. John Wadsworth, PE, NCDOT
Mr. David Brook, SHPO
Mr. Carl B. Goode, PE, NCDOT