STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

January 24, 2007

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

ATTENTION: Mr. David Baker
NCDOT Coordinator

Dear Sir:

SUBJECT: **Nationwide Permit 13 Application** for the replacement of Bridge No. 4 over Brasstown Creek on SR 1104 (Pine Log Rd.) in Clay County. Federal Project No. BRZ-1104(11), State Project No. 8.2920401, WBS Element 33715.1.1, Division 14, T.I.P. No. B-4466.

Please see the enclosed Pre-Construction Notification (PCN), Wildlife Resources Commission letter, permit drawings and design plans for the above referenced project. A Programmatic Categorical Exclusion was completed for this project on December 14, 2005 and distributed shortly thereafter. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace the 120-foot, four-span Bridge No. 4 with a 162-foot, two-span box beam bridge over Brasstown Creek. The existing bridge will be replaced in place and traffic will be detoured off-site during construction. There will be 38 linear feet of permanent impacts to Brasstown Creek from bank stabilization.

IMPACTS TO WATERS OF THE UNITED STATES

General Description:
The single water resource impacted for project B-4466 is Brasstown Creek. Brasstown Creek is located in the Hiwassee River Basin (Division of Water Quality (DWQ) subbasin 04-05-01) and is approximately 65 feet wide and 2.5 feet deep within the project area. The

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

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

WEBSITE: WWW.NCDOT.ORG

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

DWQ Index number for this section of Brasstown Creek is 1-42 and the Hydrological Cataloguing Unit is 06020002. The DWQ classifies Brasstown Creek as "WS-IV". Brasstown Creek is not listed as a 303(d) water. There are no 303(d) waters within a mile downstream of the project area. No High Quality Waters (HQW), Water Supplies (WS-I or WSII), or Outstanding Resource Waters (ORW) occur within one mile of the project study area. There are no jurisdictional wetlands within the project area.

Permanent Impacts:
There will be 38 linear feet of permanent impacts to Brasstown Creek as a result of bank stabilization with riprap at the termini of two roadside ditches on the north side of the bridge.

Temporary Impacts:
There will be no temporary impacts to Brasstown Creek as a result of this project.

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

Schedule:
The project schedule calls for a July 15, 2008 let date and a review date of May 27, 2008. The date of availability for construction is on August 26, 2008.

Bridge Demolition:
Bridge No. 4 consists of a timber and steel superstructure supported by a timber substructure with concrete sills. Bridge demolition will occur by removing the paved surface prior to removal of the bridge structure. The remainder of the timber components will be removed without dropping them into Brasstown Creek. Consequently, there will be no temporary fill resulting from bridge demolition.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of November 5, 2007, the USFWS lists two federally protected species for Clay County (Table 1). While potential habitat for green pitcher plant exists within the project area, no individuals of this species were found during a May 17, 2004 survey. As a result, this project will have no effect on the green pitcher plant. Although a biological conclusion for the bog turtle is not required, no habitat for the bog turtle exists within the project area.

Table 1. Federally Protected Species for Clay County

Common Name	Scientific Name	Status	Survey Notes	Biological Conclusion
Bog turtle	*Clemmys muhlenbergii*	T(S/A)	Not Required	N/A
Green pitcher plant	*Sarracenia oreophila*	E	Habitat Present	No Effect

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 new bridge will be longer than the existing bridge, spanning Brasstown Creek.
- Traffic will be detoured off-site during construction. This eliminates the need for a temporary on-site detour.
- A temporary work bridge will be utilized during construction to eliminate in-stream activities.
- A preformed scour hole will be installed at the west end of the project to reduce sediment load into Brasstown Creek from stormwater runoff.
- Water will not be directly discharged into Brasstown Creek via deck drains.

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

Compensatory Mitigation:
NCDOT proposes no mitigation for this project as all impacts to Brasstown Creek are from bank stabilization, and not considered a "loss of waters of the U.S.".

MORATORIA

In a letter dated May 19, 2005, the NC Wildlife Resources Commission (WRC) requested a moratorium for sicklefin redhorse. However, this species is not afforded federal protection in Waters of the US in NC. Additionally, the inwater construction phase, limited only to bank stabilization, will not significantly affect the resident fish population, including any sicklefin redhorse. Imposing a moratorium for this species could result in increased construction costs and a longer overall construction period, resulting in a longer sustained effect on Brasstown Creek. Based on these reasons, the NCDOT does not believe this moratorium is warranted and does not propose to adhere to it.

In the May 19, 2005 letter from the WRC, Design Standards in Sensitive Watersheds were also requested. However, according to 15A NCAC 04B .0124, Design Standards in Sensitive Watersheds are only required in WRC trout waters, HQWs, ORWs, WS-I or WS-II waters. Therefore, NCDOT does not believe these design standards are warranted for this project and do not propose to adhere to them.

REGULATORY APPROVALS

Section 404 Permit:
It is anticipated that the permanent impacts relating to bank stabilization will be authorized under Section 404 Nationwide Permit 13 (Bank Stabilization). We are, therefore, requesting the issuance of a Nationwide Permit 13.

Section 401 Permit:
We anticipate 401 General Certification number 3689 will apply to this project. The NCDOT will adhere to all general conditions of the Water Quality Certification and is not requesting written concurrence from the Division of Water Quality. Therefore, in accordance with 15A NCAC 2H .0501(a) we are providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their records.

Comments from the North Carolina Wildlife Resources Commission (NCWRC) will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachment, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

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

Sincerely,

E. L. Lupe

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

cc:
W/attachment
- Mr. Brian Wrenn, NCDWQ (2 Copies)
- Ms. 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, DEO
- 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
- Mr. Greg Blakeney, 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: NW 13

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
   Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
   E-mail Address: ekcheely@dot.state.nc.us

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

III. Project Information

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

1. Name of project: Bridge No. 4 over Brasstown Creek on SR 1104 (Pine Log Rd.)

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4466

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

4. Location
   County: Clay Nearest Town: Ogden
   Subdivision name (include phase/lot number): N/A
   Directions to site (include road numbers/names, landmarks, etc.):

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): 34°59'58.56" °N -83°55'37.77" °W

6. Property size (acres): N/A

7. Name of nearest receiving body of water: Hiwassee River

8. River Basin: Hiwassee
   (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 land uses surrounding and within the project area are comprised of agriculture, forests and rural residential areas.

10. Describe the overall project in detail, including the type of equipment to be used:
    Standard construction equipment will be used (backhoes, bulldozers, cranes and/or other heavy machinery)

11. Explain the purpose of the proposed work: The purpose of the project is to replace a functionally obsolete structure (sufficiency rating 46.1 out of 100) to obtain 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.

1. Provide a written description of the proposed impacts: Temporary: No temporary impacts. Permanent: 38 linear feet of permanent impacts to Brasstown Creek due to bank stabilization with riprap at the termini of two roadside ditches.

2. 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)
No Wetlands					
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: N/A

4. 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)
1	Brasstown Creek	Permanent	Perennial	65	38	0.004
Total Permanent Stream Impact (by length and acreage)					38	0.004

5. 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)
No open water impacts				
Total Open Water Impact (acres)				

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

Stream Impact (acres):	0.004 (permanent)
Wetland Impact (acres):	0
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0.004 (permanent)
Total Stream Impact:	38 linear feet (permanent)

7. 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.
N/A

8. 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. Traffic will be detoured off-site during construction and the new bridge will span Brasstown Creek. A temporary workbridge will be utilized to minimize in-stream activities. A preformed scour hole will be installed at the west end of the project to reduce sediment load into Brasstown Creek from stormwater runoff. No deck drains will be used and NCDOT's Best Management Practices will be followed.

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.
   No mitigation is proposed for this project as all the impacts to Brasstown Creek are from bank stabilization, and not considered a "loss of waters of the U.S.".

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): 0
   Amount of buffer mitigation requested (square feet): 0
   Amount of Riparian wetland mitigation requested (acres): 0
   Amount of Non-riparian wetland mitigation requested (acres): 0
   Amount of Coastal wetland mitigation requested (acres): 0

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. Impervious surfaces will not significantly increase as a result of this project. There will be no deck drains installed.

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:
The new bridge will be constructed in the same location as the old bridge.

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 1-22-08

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

North Carolina Wildlife Resources Commission

Richard B. Hamilton, Executive Director

TO: William T. Goodwin, Jr., PE, Unit Head
Project Development and Environmental Analysis, NCDOT

FROM: Marla Chambers, Western NCDOT Coordinator
Habitat Conservation Program, NCWRC

Marla Chambers

DATE: May 19, 2005

SUBJECT: Scoping review of NCDOT's proposed bridge replacement projects: B-3606, B-3802, B-3803, B-3804, B-4446, B-3624, B-3819, B-4466,B-4469, B-4518, B-4545, B-4552, B-4573, B-3492, B-4631, B4644, B-3911, B-4646, B-4649, B-4651, and B-4675 in Ashe, Buncombe, Caldwell, Clay, Cleveland, Gaston, Henderson, Iredell, Lincoln, McDowell, Rutherford, Stanly, Surry, Union, and Wilkes Counties.

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

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

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

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

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

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 stream underneath the bridge.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. Tall fescue should not be used in riparian areas. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed. In addition, we would like to encourage NCDOT to routinely use pipes (culverts) in approach fills along the floodplains to spread out flood flows and drain the floodplains in a more natural manner, which should reduce impacts to stream channels and reduce flooding upstream of the road crossing.

Project specific comments:

1. B-3606, Ashe Co., Bridge No. 70 over Big Horse Creek on SR 1366. The project area was visited on June 2, 2004. Big Horse Creek is classified as C Tr + and is Hatchery Supported Designated Public Mountain Trout Waters. The Kanawha minnow (*Phenacobius teretulus*), Federal Species of Concern (FSC) and state Special Concern (SC); Kanawha darter (*Etheostoma kanawhae*), state Significantly Rare (SR); the tonguetied minnow (*Exoglossum laurae*), state SR; and several rare insect species have been observed in Big Horse Creek. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. The bridge should be replaced with another spanning structure.

2. B-3802, Ashe Co., Bridge No. 229 over West Fork Pine Swamp Creek on SR 1169. The project site was visited on June 2, 2004. West Fork Pine Swamp Creek is Class C Trout + and has reproducing trout populations in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. The bridge should be replaced with another spanning structure.

3. B-3803, Ashe Co., Bridge No. 334 over South Fork New River on SR 1169. The project site was visited on June 2, 2004. South Fork New River is classified as WS-IV HQW and supports a smallmouth bass population. A small tributary exists on the upstream side of the bridge. A moratorium prohibiting in-stream work is recommended from May 1 to July 15 to protect the egg & fry stages of smallmouth bass. The Kanawha minnow (*Phenacobius teretulus*), FSC and state SC; sharpnose darter (*Percina oxyrhynchus*), state SC; tonguetied minnow (*Exoglossum laurae*), state SR; and Kanawha darter (*Etheostoma kanawhae*), state SR; are listed fish species known from the project vicinity. Mussel species, green floater (*Lasmigona subviridis*), FSC and state Endangered (E); seep mudalia (*Leptoxis dilatata*), state Threatened (T); spike (*Elliptio dilatata*), state SC; and crayfish on the NC Watch List, New River crayfish (*Cambarus chasmodactylus*) and *Orconectes cristavarius* (no common

name), also occur in the South Fork New River system in this vicinity and downstream. Virginia spiraea (*Spiraea virginiana*), a federal T and state E plant, has also been found in the vicinity. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. The bridge should be replaced with another spanning structure at a grade sufficient to allow wildlife and canoe passage beneath. We recommend that NCDOT incorporate a canoe access area into their plans for this project for safe public access. Unsuccessful attempts have been made to incorporate public access into recent bridge replacement projects on the South Fork New River in the vicinity. NCDOT has indicated this project as having potential for meeting this need.

4. B-3804, Ashe Co., Bridge No. 296 over North Fork New River on SR 1351 (Campbell Rd.). The project site was visited on June 2, 2004. North Fork New River is Class C + waters. While some trout exist in this section of the river, the main gamefish in the area is smallmouth bass. A moratorium prohibiting in-stream work is recommended from May 1 to July 15 to protect the egg & fry stages of smallmouth bass. Kanawha minnow (*Phenacobius teretulus*), FSC and state SC ; Kanawha darter, (*Etheostoma kanawhae*), state SR; tonguetied minnow (*Exoglossum laurae*), SR; and crayfish on the NC Watch List, New River crayfish, (*Cambarus chasmodactylus*); and *Orconectes cristavarius* (no common name), occur in the North Fork New River within the project area. Sediment and erosion controls for sensitive watersheds should apply. The bridge should be replaced with another spanning structure at a grade sufficient to allow wildlife and canoe/boat passage beneath. We recommend that NCDOT incorporate a parking and launch area into their plans for this project for safe public access.

5. B-4446, Buncombe Co., Bridge No. 227 over Reems Creek on SR 2105. The project site was visited on June 3, 2004. Reems Creek, Class C Trout waters, is Hatchery Supported Designated Public Mountain Trout Water, however, limited, if any, trout reproduction is expected in the project area. Therefore, we do not anticipate a work moratorium for the project. Blotched chub (*Erimystax insignis*), FSC and SR, occurs in Reems Creek. Sediment impacts from the project should be minimized. The bridge should be replaced with another spanning structure. If practicable, a small pull-off area would provide the public safer access to the fishery.

6. B-3624, Caldwell Co., Bridge No. 190 over Johns River on SR 1328. Johns River, Class C waters, supports a diverse aquatic community including healthy populations of brook floater (*Alasmidonta varicosa*), FSC and state E; notched rainbow (*Villosa constricta*), state SC; eastern creekshell (*Villosa delumbis*), state SR; and Santee chub (*Cyprinella zanema*), state SR, in the project vicinity. Immediately prior to construction, mussels should be moved from the immediate project area (where in-stream impacts are anticipated) and relocated to suitable habitat at least 100 m upstream. Sediment and erosion control measures should strictly adhere to the design standards for sensitive watersheds. This is a popular site for launching canoes and small boats. The bridge should be replaced with another spanning structure at a grade sufficient to allow wildlife and canoe/boat passage beneath. A spanning structure may reduce or eliminate the need for mussel relocation. We recommend that NCDOT incorporate an improved parking and launch area into their plans for this project for safe public access.

7. B-3819, Caldwell Co., Bridge No. 184 over Johns River on SR 1356. Johns River, Class C waters, supports a diverse aquatic community including healthy populations of brook floater (*Alasmidonta varicosa*), FSC and state E; notched rainbow (*Villosa constricta*), state SC; eastern creekshell (*Villosa delumbis*), state SR; and Santee chub (*Cyprinella zanema*), state SR, in the project vicinity. Immediately prior to construction, mussels should be moved from the immediate project area (where in-stream impacts are anticipated) and relocated to suitable habitat at least 100 m upstream. Sediment and erosion control measures should strictly adhere to the design standards for sensitive watersheds. The bridge should be replaced with another spanning structure at a grade sufficient to allow wildlife and canoe/boat passage beneath. A spanning structure may reduce or eliminate the need for mussel relocation.

8. B-4466, Clay Co., Bridge No. 4 over Brasstown Creek on SR 1104. The project site was visited on May 6, 2005. Stream restoration work was completed in 2000 on Brasstown Creek, Class WS-IV waters, through the Hiwassee River Watershed Coalition. A cross vein structure is located about 70 feet downstream. The sicklefin redhorse (*Moxostoma sp.*), FSC and state SR (Proposed Threatened), is likely to occur in Brasstown Creek within the project area. Rainbow (*Villosa iris*), SC is also present in Brasstown Creek. A moratorium prohibiting in-stream work is recommended from April 1 to June 15 to protect the egg & fry stages of sicklefin redhorse. The following have been observed in the Hiwassee River, at and downstream of the confluence: Tennessee clubshell (*Pleurobema oviforme*), FSC and state E; blotched chub (*Erimystax insignis*), FSC and state SR; mountain creekshell (*Villosa vanuxemensis*), state T; rainbow (*Villosa iris*), state SC; wavyrayed lampmussel (*Lampsilis fasciola*), state SC; and spike (*Elliptio dilatata*), state SC. Sediment and erosion controls for sensitive watersheds should apply. The project should be consistent with the stream restoration project, in that it is designed to accommodate flood flows to prevent scour, deposition or stream bank destabilization, and native vegetation should be used for bank stabilization as much as practicable.

9. B-4469, Cleveland Co., Bridge No. 219 over Brushy Creek on SR 1350. Brushy Creek is Class C waters. No special concerns are indicated at this time. Standard recommendations should apply.

10. B-4518, Gaston Co., Bridge No. 110 over Beaverdam Creek on SR 1620. Beaverdam Creek, Class WS-IV waters, supports a redbreast sunfish fishery. A moratorium prohibiting in-stream work is recommended from May 1 to July 15 to protect the egg & fry stages of redbreast sunfish.

11. B-4545, Henderson Co., Bridge No. 72 over Mud Creek on SR 1137 (Crail Farm Rd.). The project site was visited on June 3, 2004. Mud Creek is Class C waters and on the 303(d) list of impaired waters. Efforts should be made to prevent further degradation of the stream and avoid impacts to the tributary approximately 30 feet downstream of the existing bridge, as well as other waters in the project study area. Twelve surface waters and three wetlands are in the study area. NCDOT indicated surveys for Appalachian elktoe (*Alasmidonta raveneliana*), federal and state E, and oyster mussel (*Epioblasma capsaeformis*), federal E, will be conducted at least one year prior to the construction let date. Slippershell (*Alasmidonta viridis*), state E; creeper (*Strophitus undulatus*), state T; and blotched chub

(*Erimystax insignis*), FSC and state SR; have been recently collected in the French Broad River near the confluence of Mud Creek. Sediment impacts from the project should be minimized. The bridge should be replaced with another spanning structure.

12. B-4552, Iredell Co., Bridge No. 100 over Buffalo Shoals Creek on SR 1526 (New Sterling Rd.). Buffalo Shoals Creek is Class WS-IV waters. A mussel survey should be conducted. Standard recommendations should apply.

13. B-4573, Linclon Co., Bridge No. 183 over Lippard Creek on SR 1346. Lippard Creek is Class C waters. No special concerns are indicated at this time. Standard recommendations should apply.

14. B-3492, McDowell Co., Bridge No. 56 over Muddy Creek on SR 1763. Muddy Creek, Class C waters, has a watershed restoration program underway to reduce the sediment load in the Catawba River from Muddy Creek. The notched rainbow (*Villosa constricta*), state SC, and the creeper (*Strophitus undulatus*), state T, have been observed in the Catawba River near the mouth of Muddy Creek. Sediment impacts from the project should be minimized.

15. B-4631, Rutherford Co., Bridge No. 526 over West Branch Mountain Creek on SR 1347 (Parris Rd.). The project site was visited on June 4, 2004. West Branch Mountain Creek is Class C waters at the project and classified WS-IV downstream. Surveys should be conducted for the Indiana bat (*Myotis sodalis*), federal and state E. Standard recommendations should apply.

16. B-4644, Stanly Co., Bridge No. 57 over Hardy Creek on SR 1934. The project site was visited on May 19, 2005. Hardy Creek, Class C waters, is inhabited by the creeper (*Strophitus undulatus*), state T, at the project site. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. A mussel survey should be conducted. Additional measures, such as mussel relocation, may be necessary to protect the creeper; coordinate project with NCWRC. The bridge should be replaced with another spanning structure.

17. B-3911, Surry Co., Bridge No. 38 over Saddle Mountain Creek on SR 1330. Saddle Mountain Creek, classified B Tr ORW, supports brown and rainbow trout in the project area. It joins the Mitchell River, also classified B Tr ORW, which is inhabited by the brook floater (*Alasmidonta varicosa*), FSC and state T, a distance downstream. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. The bridge should be replaced with another spanning structure.

18. B-4646, Surry Co., Bridge No. 132 over Toms Creek on SR 2024. Toms Creek is Class C waters and has a highly diverse fish assemblage. No special concerns are indicated at this time. Standard recommendations should apply.

19. B-4649, Union Co., Bridge No. 377 over Waxhaw Creek on SR 1103. Waxhaw Creek, Class C waters, is designated critical habitat for the Carolina heelsplitter (*Lasmigona decorata*), federal and state Endangered. A mussel survey and careful coordination with the USFWS and NCWRC are necessary to avoid and minimize impacts to this imperiled species. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. Turbidity curtains may be appropriate for any in-stream work and bridge demolition. The bridge should be replaced with another spanning structure.

20. B-4651, Union Co., Bridge No. 251 over South Fork Crooked Creek on SR 1508. South Fork Crooked Creek, Class C water and on the 303(d) list of impaired waters, is considered Significant Aquatic Habitat in the project area by the North Carolina Natural Heritage Program. Listed species found in South Fork Crooked Creek include Carolina creekshell (*Villosa vaughaniana*), FSC and state E; Savannah lilliput (*Toxolasma pullus*), FSC and state E; and Carolina darter (*Etheostoma collis collis*), FSC and state SC. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds. The bridge should be replaced with another spanning structure.

21. B-4675, Wilkes Co., Bridge No. 34 over Rocky Creek on SR 1001. Rocky Creek is Class C waters and may support smallmouth bass. No special concerns are indicated at this time, however further investigation may be warranted. Standard recommendations should apply.

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

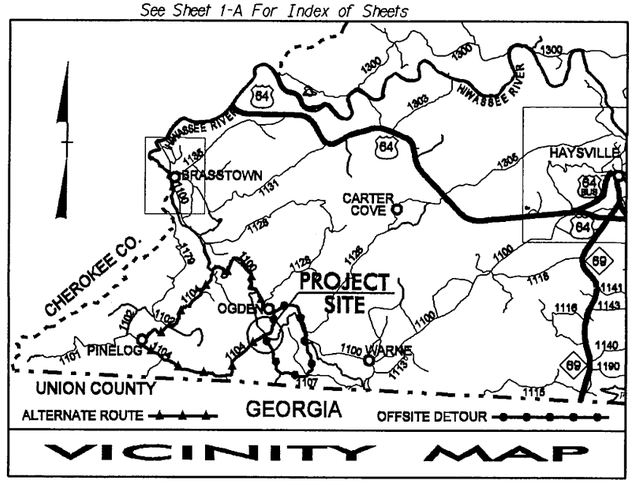
If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (704) 485-2384. Thank you for the opportunity to review and comment on this project.

cc: Brian Wrenn, NCDWQ
Marella Buncick, USFWS
Sarah McRae, NCNHP

09/08/

TIP PROJECT: B-4466

CONTRACT: C201875



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLAY COUNTY

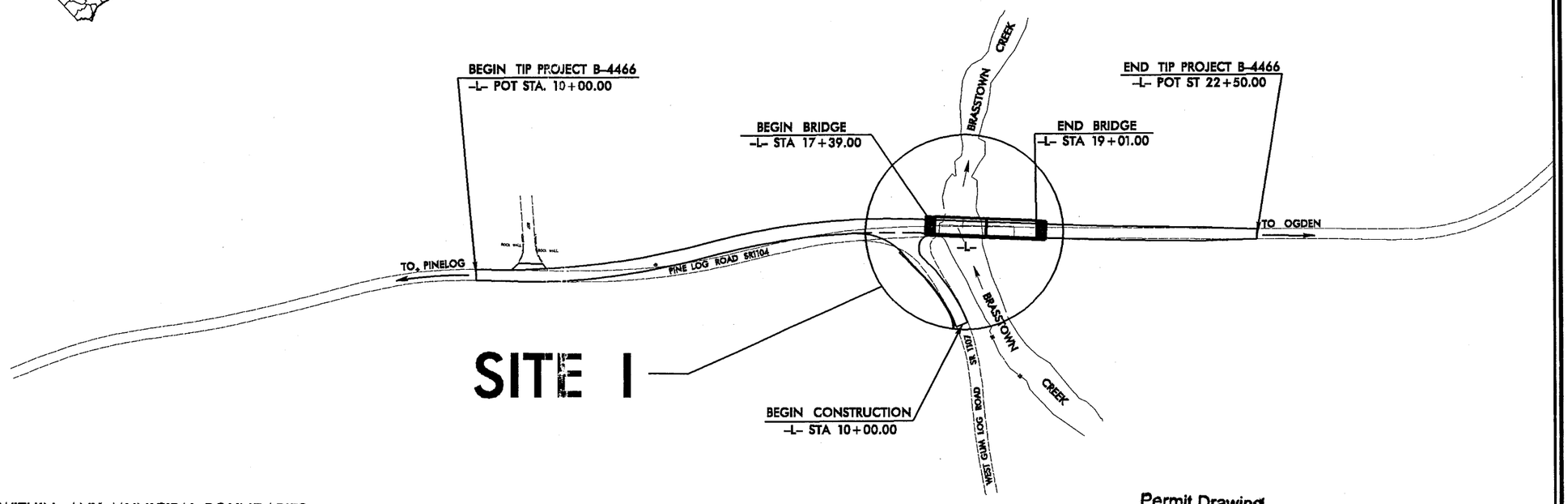
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4466	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33715.1.1	BRZ-1104(11)	PE
33715.2.1	BRZ-1104(11)	ROW /UTIL.

LOCATION: BRIDGE 4 OVER BRASSTOWN CREEK ON SR 1104 (PINE LOG ROAD)

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

WETLAND PERMIT



NAD 83/95

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

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

Permit Drawing Sheet 1 of 7

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2004 = 400
ADT 2030 = 800
DHV = 10 %
D = 60 %
T = 3 % *
V = 55 MPH
* TTST 1 DUAL 2
RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4466 = 0.206 MI.

LENGTH STRUCTURE TIP PROJECT B-4466 = 0.031 MI.

TOTAL LENGTH OF TIP PROJECT B-4466 = 0.237 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 20, 2007

LETTING DATE: JULY 15, 2008

JASON MOORE, PE
PROJECT ENGINEER

BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

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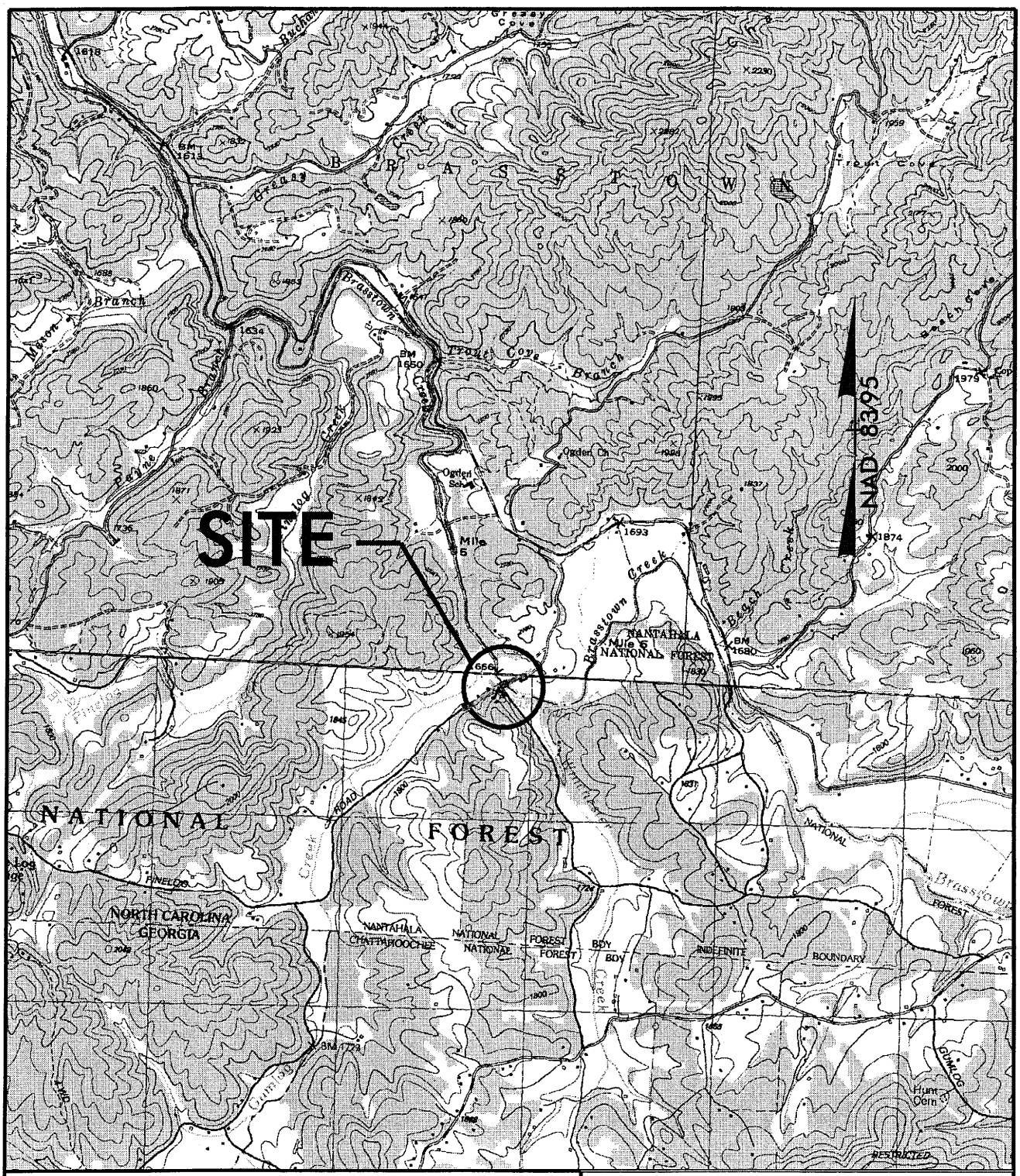


VICINITY MAP

NCDOT

DIVISION OF HIGHWAYS

CLAY COUNTY

PROJECT: 33715.1.1 (B-4466)

REPLACE BRG#4 OVER BRASSTOWN CREEK ON SR 1104

Permit Drawing

SHEET Sheet 2 **OF** of 7

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	17+50 - 18+00-L-	Riprap bank stabilization	0.000	0.000	0.000	0.000	0.000	0.004	0.000	38	0	0
TOTALS:								<0.01	0.00	38	0	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CLAY COUNTY
WBS - 33715.1.1 (B-4466)

SHEET 1/22/2008

ATN Revised 3/31/05

Permit Drawing
Sheet 3 of 7

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
2	LOIS A. BELL	379 PINE LOG RD. WARNE, N.C. 28909
3	ANDERSON D. BELL	380 PINE LOG RD. WARNE, N.C. 28909

NCDOT

DIVISION OF HIGHWAYS

CLAY COUNTY

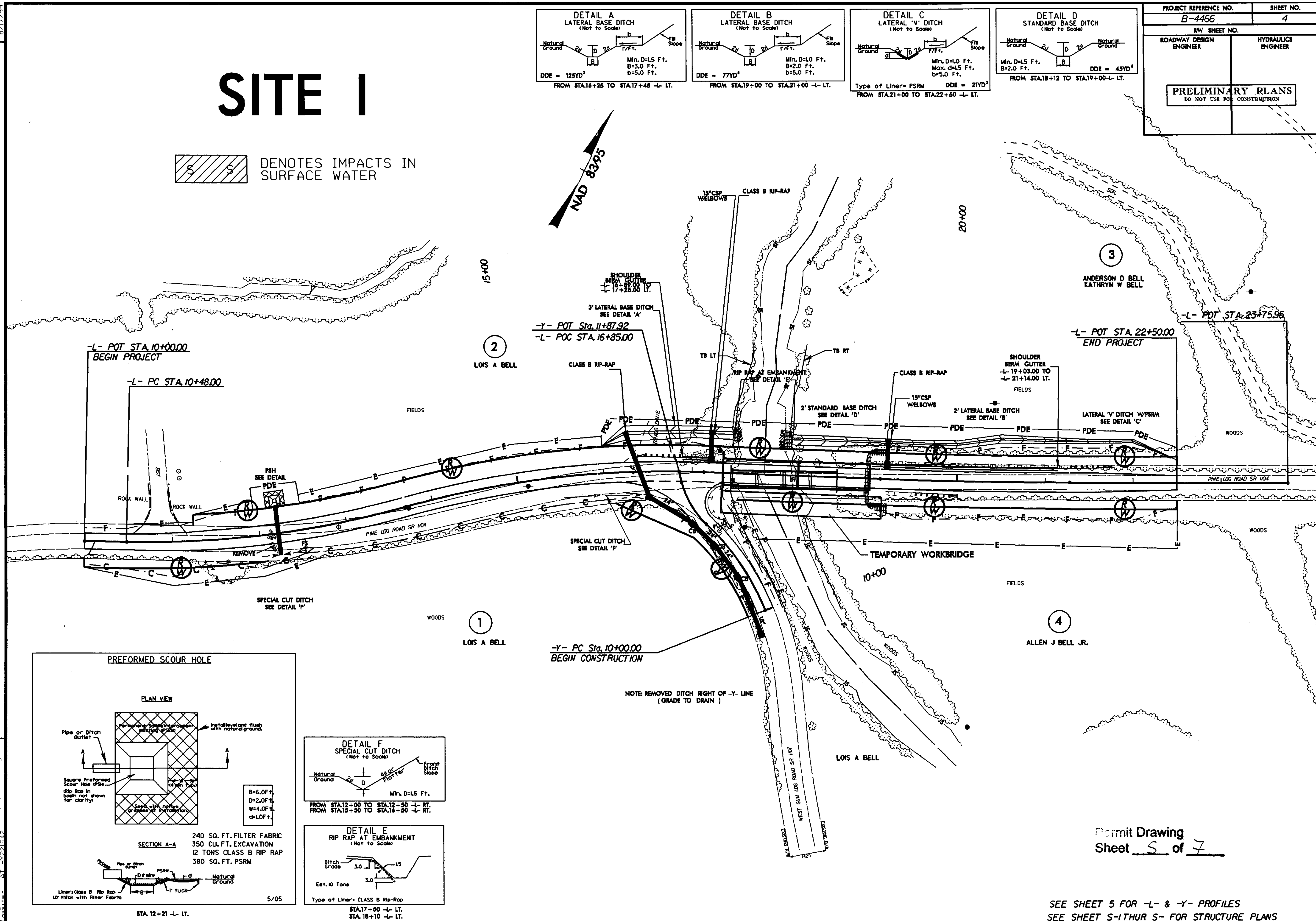
PROJECT: 33715.1.1 (B-4466)

REPLACE BRG#4 OVER BRASSTOWN CREEK ON SR 1104

Permit Drawing

Sheet 4 of 7

SHEET OF



REVISIONS
R/W Rev.:TCE Expanded on Parcel 4 to Give Additional Room for the Movement of Construction Equipment. BCK 10-10-07

8/17/99

11-OCT-2007 10:35
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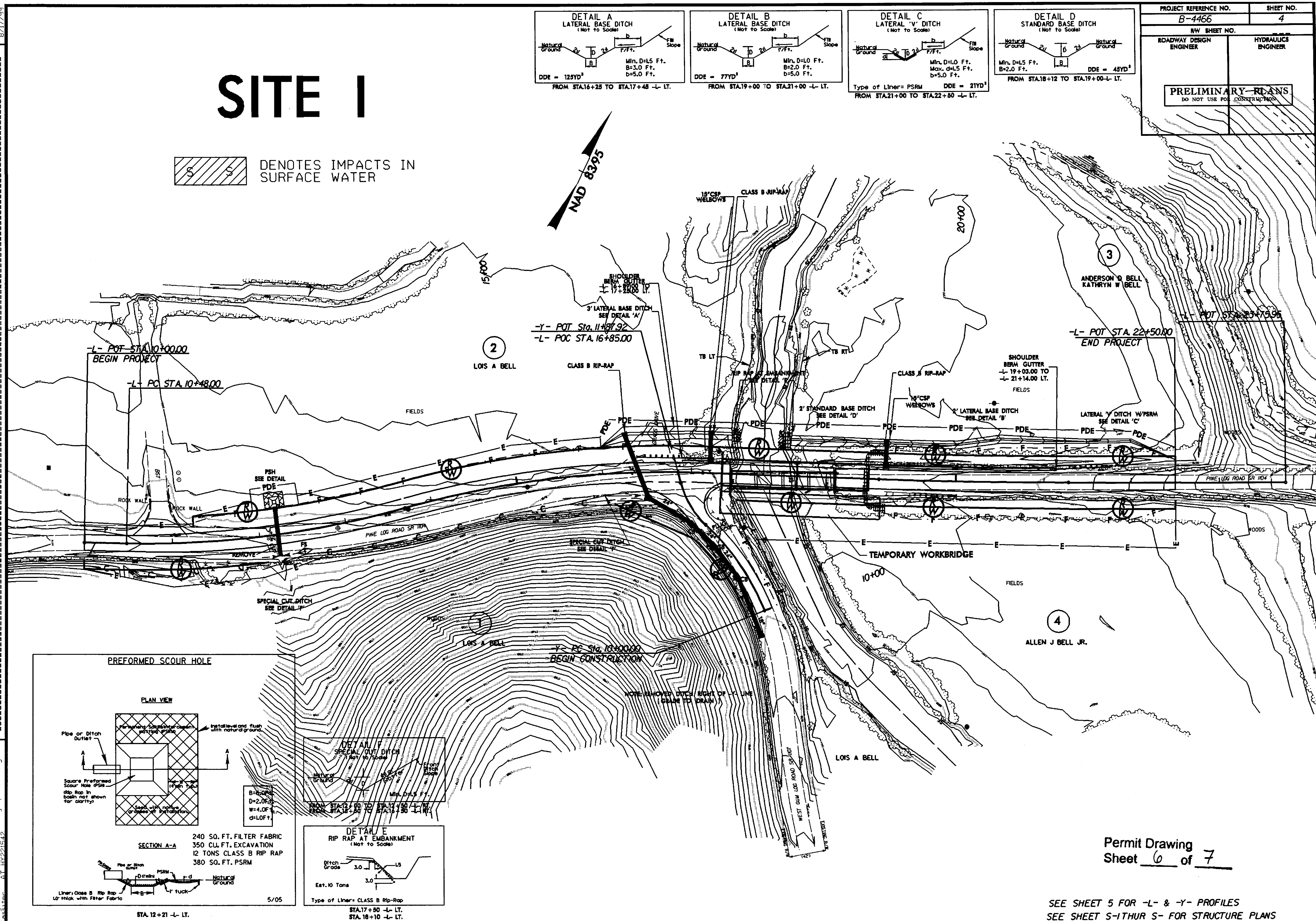

8/17/99

REVISIONS

R/W Rev: TCE Expanded on Parcel 4 to Give Additional Room for the Movement of Construction Equipment. BCK 10-10-07

11-OCT-2007 10:35
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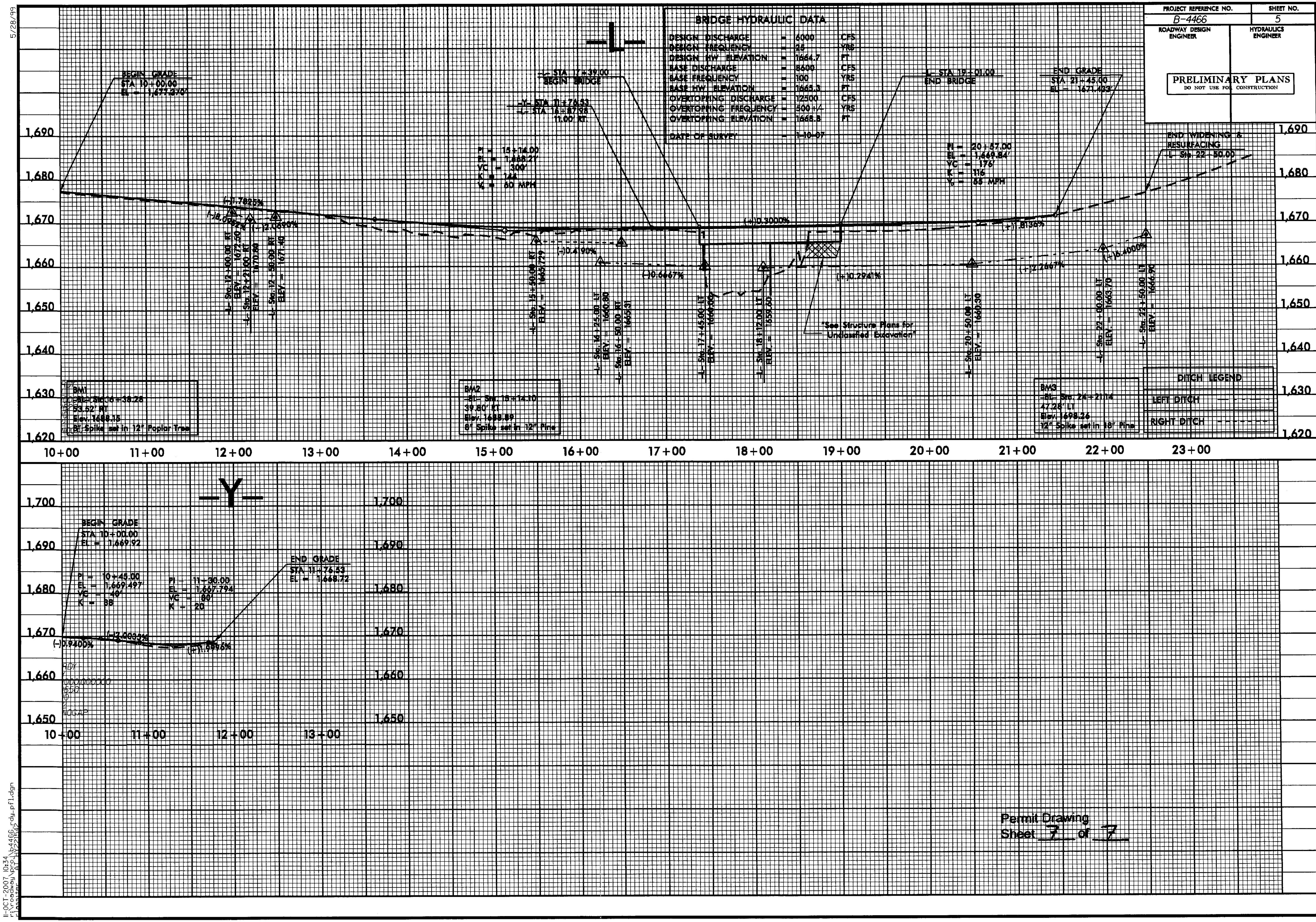

PROJECT REFERENCE NO.
B-4466
SHEET NO.
5
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
-L-
BEGIN GRADE
STA 10+00.00
-L- STA 17+39.00
BEGIN BRIDGE
-Y- STA 11+76.53
PI = 15+14.00
EL = 1,668.21'
VC = 300'
K = 144
V = 60 MPH
-L- STA 19+01.00
END BRIDGE
PI = 20+57.00
EL = 1,669.84'
VC = 175'
K = 116
V = 55 MPH
END GRADE
STA 21+45.00
END WIDENING & RESURFACING
-L- Sta. 22+50.00
(+)0.3000%
(-)0.6667%
(+)0.2941%
"See Structure Plans for Unclassified Excavation"
BM1
Elev. 1688.15
8" Spike set in 12" Poplar Tree
BM2
-BL- Sta. 15+14.10
39.80' RT
Elev. 1688.89
8" Spike set in 12" Pine
BM3
47.28' LT
Elev. 1698.26
12" Spike set in 18" Pine
DITCH LEGEND
LEFT DITCH
RIGHT DITCH
1,690
1,680
1,670
1,660
1,650
1,640
1,630
1,620
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
-Y-
BEGIN GRADE
STA 10+00.00
EL = 1,669.92
PI = 10+45.00
EL = 1,669.497'
VC = 40'
K = 38
PI = 11+30.00
EL = 1,667.794'
VC = 80'
K = 20
END GRADE
STA 11+76.53
EL = 1,668.72
(-)0.9400%
1,700
Permit Drawing
Sheet 7 of 7
5/28/99

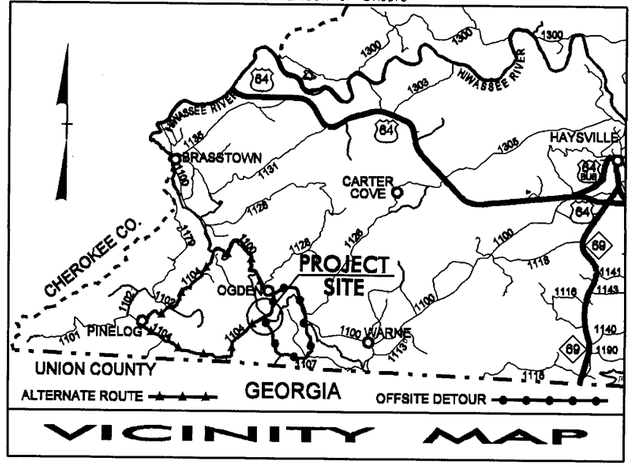
BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	6000	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1664.7	FT
BASE DISCHARGE	=	8600	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1665.3	FT
OVERTOPPING DISCHARGE	=	12500	CFS
OVERTOPPING FREQUENCY	=	500+/-	YRS
OVERTOPPING ELEVATION	=	1668.8	FT
DATE OF SURVEY	=	1-10-07	

09/08/99

TIP PROJECT: B-4466

CONTRACT: C201875



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLAY COUNTY

RECEIVED
OCT 12 2007
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4466	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33715.1.1	BRZ-1104(11)	PE
33715.2.1	BRZ-1104(11)	ROW /UTIL.

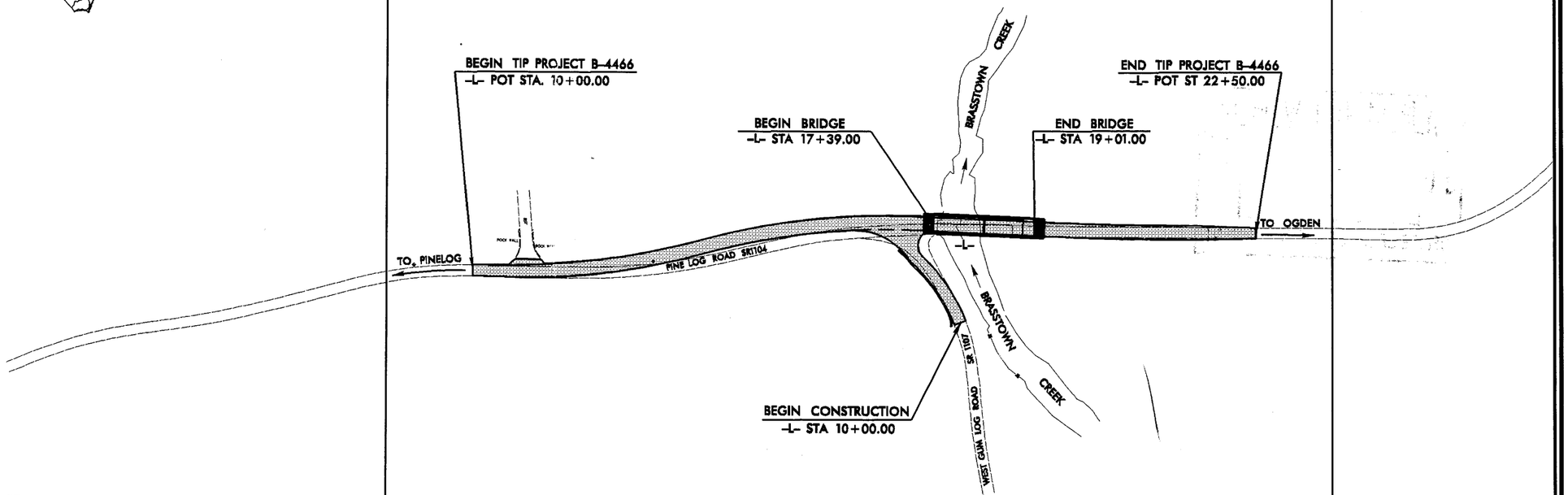
Attn.
G. Beaman
Schubert

LOCATION: BRIDGE 4 OVER BRASSTOWN CREEK ON SR 1104 (PINE LOG ROAD)

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

NAD 83/95

4



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2004 = 400
ADT 2030 = 800
DHV = 10 %
D = 60 %
T = 3 % *
V = 55 MPH
* TTST 1 DUAL 2
RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4466 = 0.206 MI.

LENGTH STRUCTURE TIP PROJECT B-4466 = 0.031 MI.

TOTAL LENGTH OF TIP PROJECT B-4466 = 0.237 MI.

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 20, 2007

LETTING DATE: JULY 15, 2008

JASON MOORE, PE
PROJECT ENGINEER

BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

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6/2/99

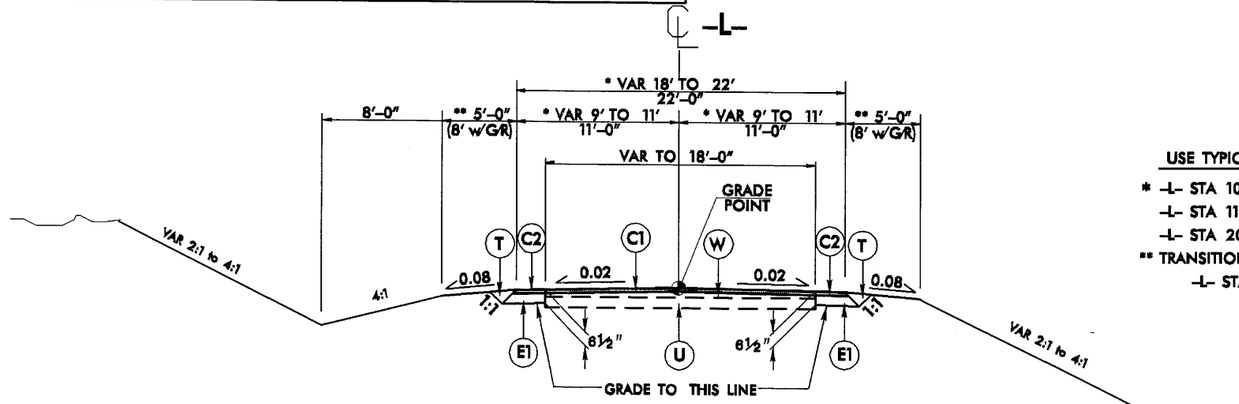
PROJECT REFERENCE NO.	SHEET NO.
B-4466	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C2	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R	2'-6" CONCRETE CURB & GUTTER
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	T	EARTH MATERIAL.
C4	PROP. APPROX. 4.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF THREE LAYERS	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAILS ON SHEET 2-A)
E2	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.		

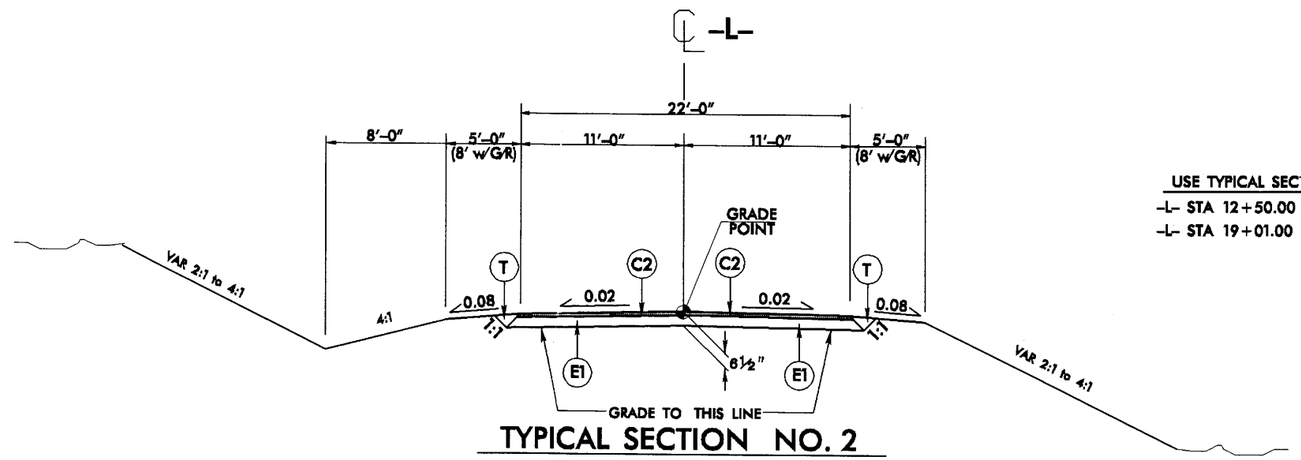
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO.1

* –L– STA 10+00.00 TO –L– STA 11+50.00
–L– STA 11+50.00 TO –L– STA 12+50.00
–L– STA 20+50.00 TO –L– STA 21+45.00
** TRANSITION SHOULDER FROM EXIST. TO PROPOSED
–L– STA 10+25 RT. TO –L– STA 11+50 LT./RT.



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO.2

–L– STA 12+50.00 TO –L– STA 17+39.00 (BEGIN BRIDGE)
–L– STA 19+01.00 (END BRIDGE) TO –L– STA 20+50.00

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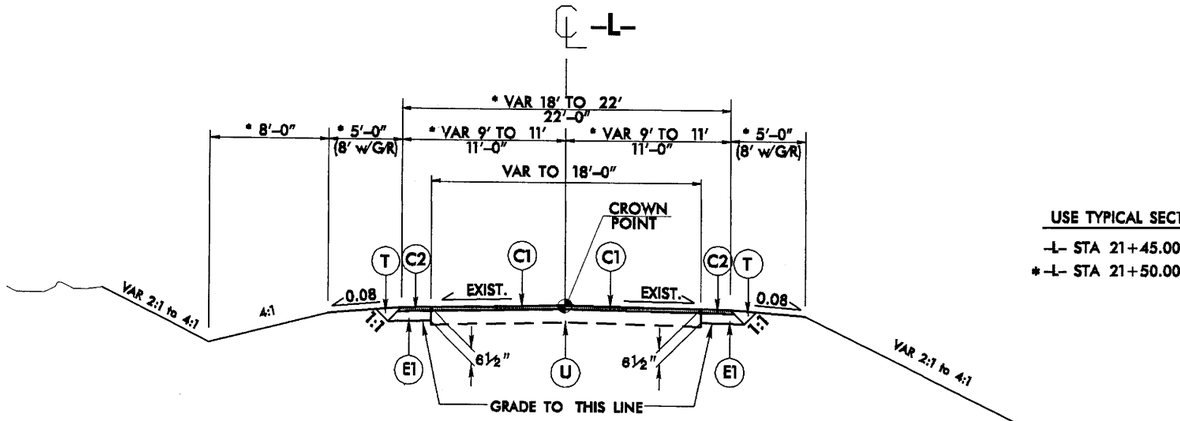


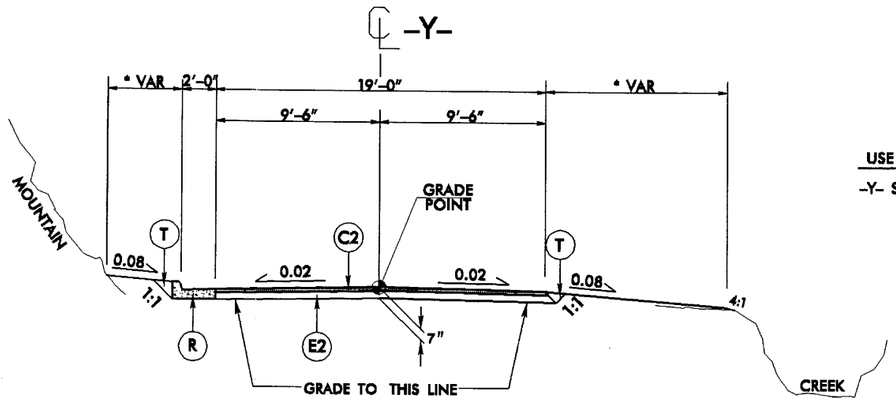
TYPICAL SECTION NO. 3

*TRANSITION PAVEMENT, SHOULDERS AND DITCHES FROM PROPOSED TO EXISTING.

USE TYPICAL SECTION NO.3

-L- STA 21+45.00 TO -L- STA 21+50.00

*-L- STA 21+50.00 TO -L- STA 22+50.00



TYPICAL SECTION NO. 4

* SEE CROSS SECTIONS.

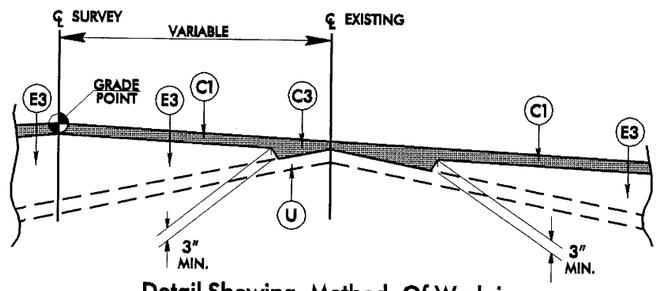
USE TYPICAL SECTION NO.4

-Y- STA 10+00.00 TO -Y- STA 11+76.53

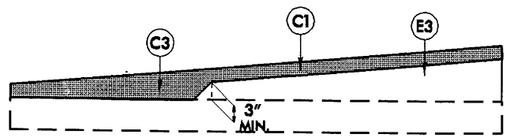
PROJECT REFERENCE NO.	SHEET NO.
B-4466	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

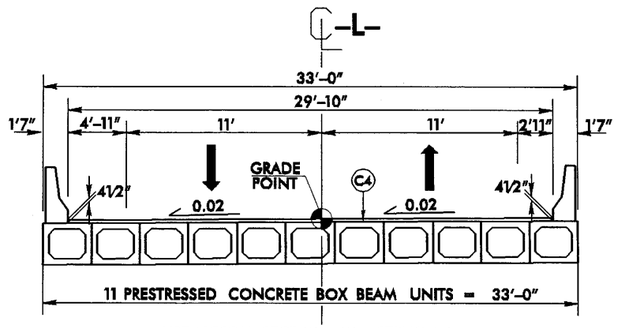
C1	1¼" TYPE SF9.5A
C2	2½" TYPE SF 9.5A
C3	VAR. DEPTH S9.5X
C4	4½" TYPE SF 9.5A
E1	4" TYPE B25.0B
E2	4½" TYPE B25.0B
E3	VAR. DEPTH B25.0B
R	2'-6" CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



Detail Showing Method Of Wedging



Wedging Detail For Resurfacing



USE TYPICAL SECTION ON STRUCTURE

-L- STA 17+39.00 TO -L- STA 19+01.00

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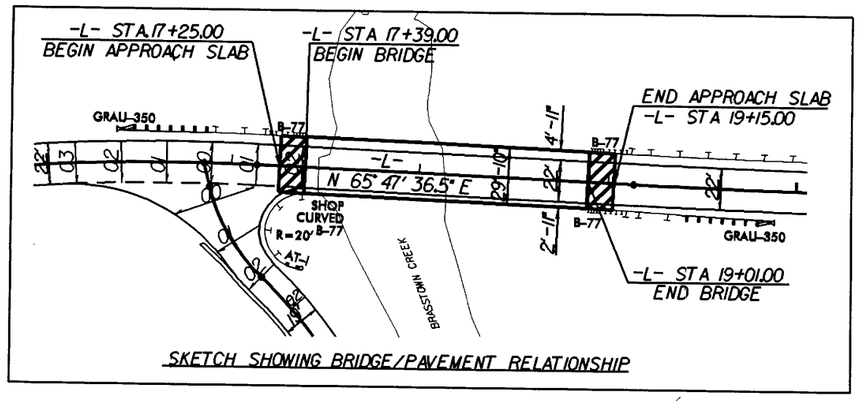
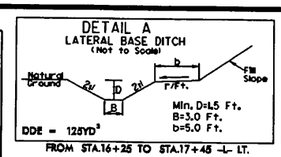
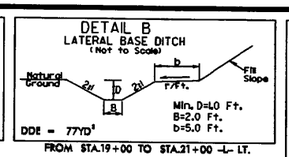
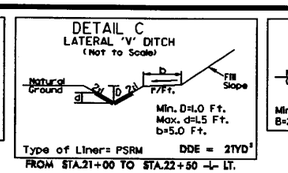
REVISIONS

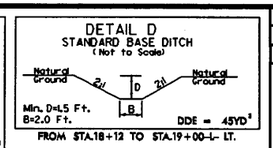
R/W Rev.TCE Expanded on Parcel 4 to Give Additional Room for the Movement of Construction Equipment. BCK 10-10-07







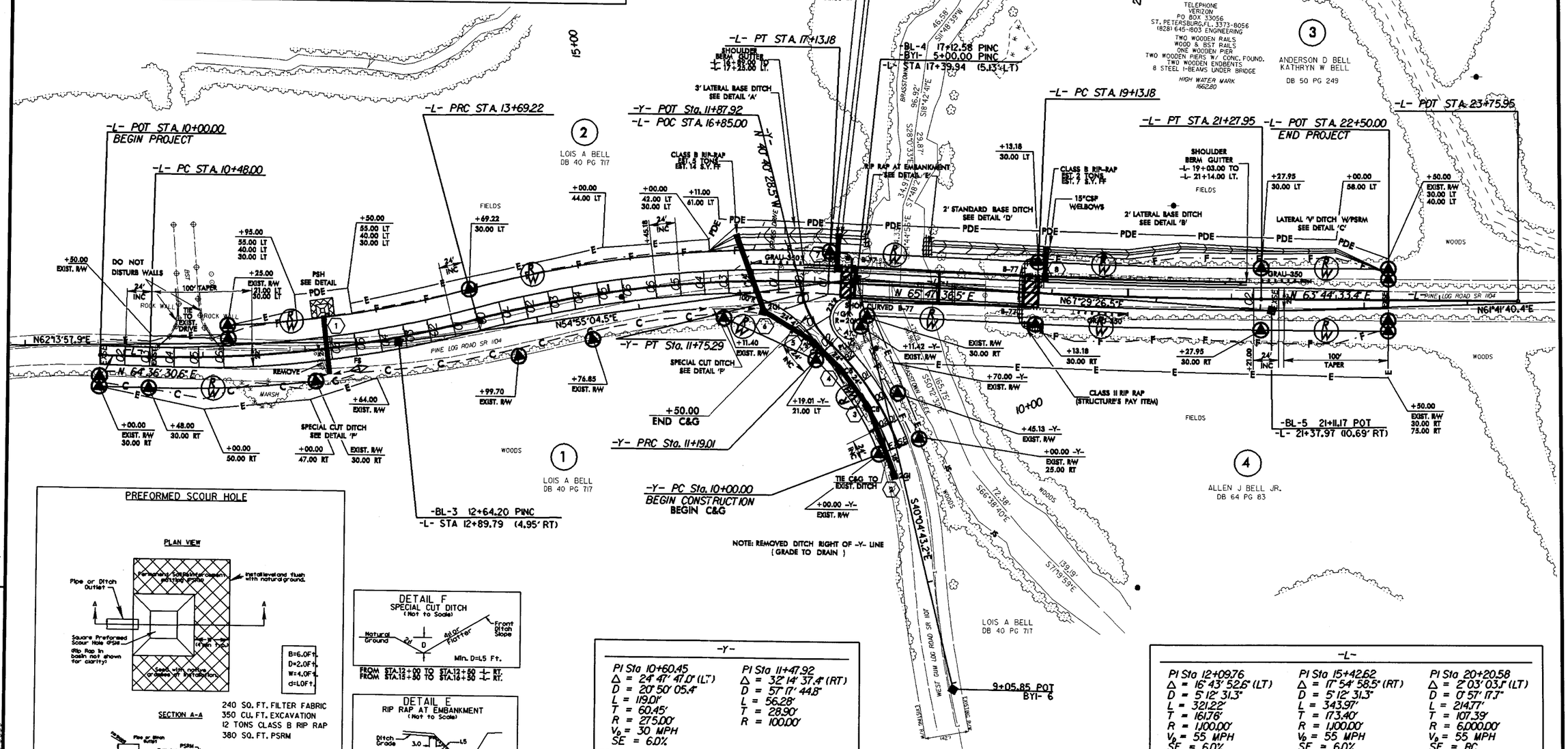




PROJECT REFERENCE NO.	SHEET NO.
B-4466	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83'95



-Y-	
PI Sta 10+60.45	PI Sta 11+47.92
Δ = 24° 41' 41.0" (LT.)	Δ = 32° 14' 37.4" (RT)
D = 20° 50' 05.4"	D = 57° 17' 44.8"
L = 119.01'	L = 56.28'
T = 60.45'	T = 28.90'
R = 275.00'	R = 100.00'
V_0 = 30 MPH	
SE = 6.0%	

-L-		
PI Sta 12+09.76	PI Sta 15+42.62	PI Sta 20+20.58
Δ = 16° 43' 52.6" (LT)	Δ = 17° 54' 58.5" (RT)	Δ = 2° 03' 03.1" (LT)
D = 5° 12' 31.3"	D = 5° 12' 31.3"	D = 0° 57' 17.7"
L = 321.22'	L = 343.97'	L = 214.77'
T = 161.76'	T = 173.40'	T = 107.39'
R = 1,100.00'	R = 1,100.00'	R = 6,000.00'
V_0 = 55 MPH	V_0 = 55 MPH	V_0 = 55 MPH
SE = 6.0%	SE = 6.0%	SE = RC

SEE SHEET 5 FOR -L- & -Y- PROFILES
SEE SHEET S-1THUR S- FOR STRUCTURE PLANS

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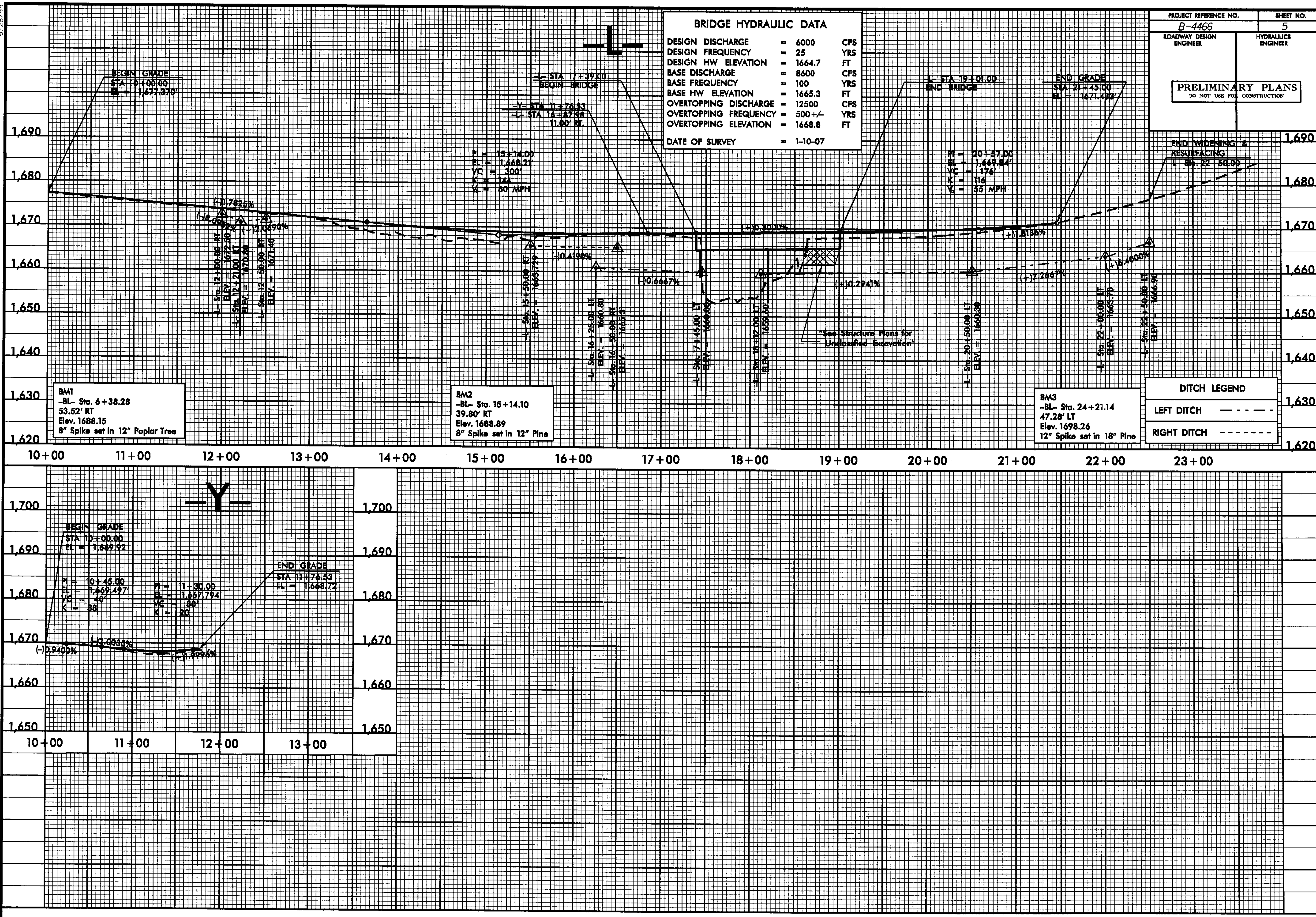
PROJECT REFERENCE NO.	SHEET NO.
B-4466	5

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99



BRIDGE HYDRAULIC DATA			
DESIGN DISCHARGE	=	6000	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1664.7	FT
BASE DISCHARGE	=	8600	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1665.3	FT
OVERTOPPING DISCHARGE	=	12500	CFS
OVERTOPPING FREQUENCY	=	500+/-	YRS
OVERTOPPING ELEVATION	=	1668.8	FT
DATE OF SURVEY	=	1-10-07	

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CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	**B-4466**
State Project No.	**8.2920401**
W.B.S. No.	**33715.1.1**
Federal Project No.	**BRZ-1104(11)**

A. Project Description:

The purpose of this project is to replace Bridge No. 4 on SR 1104 (Pine Log Road) over Brasstown Creek in Clay County (see Figure 1). The replacement structure will be a bridge approximately 142 feet long providing a minimum 28 feet clear deck width. The new structure will be constructed at approximately the same location and elevation as the existing bridge. The bridge will include two 11-foot lanes with a minimum of 3-foot offsets to the face of the bridge rail. Due to the close proximity of the SR 1107 intersection to the west end of the bridge, a small retaining wall will be required under the west end of the proposed bridge.

Approach work will consist of resurfacing and tying into the existing alignment for approximately 630 feet to the west of the existing bridge and approximately 260 feet to the east of the existing bridge. The approaches will be widened to include a 22-foot pavement width providing two 11-foot lanes. Four-foot grass shoulders will be provided on each side (7-foot shoulders where guardrail is warranted). The roadway will be designed as a Rural Local Route with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1 and Section D for the studied detour route).

B. Purpose and Need:

NCDOT Bridge Maintenance Unit records indicate Bridge No. 4 has a sufficiency rating of 46.1 out of a possible 100 and a deck geometry appraisal of 3 out of a possible 9. Therefore, based on Federal Highway Administration (FHWA) standards, the structure is considered functionally obsolete making the bridge eligible for the FHWA's Highway Bridge Replacement and Rehabilitation Program. The replacement of this inadequate structure will result in safer traffic operations.

Bridge No. 4, constructed in 1952, consists of a timber and steel superstructure supported by a timber substructure with concrete sills. Timber structures have a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few members are damaged or prematurely deteriorated. However, past a certain degree of deterioration, timber structures become impractical to maintain and upon eligibility are programmed for replacement. Bridge No. 4 is approaching the end of its useful life.

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).

   a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
   b. Widening roadway and shoulders without adding through lanes
   c. Modernizing gore treatments
   d. Constructing lane improvements (merge, auxiliary, and turn lanes)
   e. Adding shoulder drains
   f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
   g. Providing driveway pipes
   h. Performing minor bridge widening (less than one through lane)
   i. Slide Stabilization
   j. Structural BMP's for water quality improvement

2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.

   a. Installing ramp metering devices
   b. Installing lights
   c. Adding or upgrading guardrail
   d. Installing safety barriers including Jersey type barriers and pier protection
   e. Installing or replacing impact attenuators
   f. Upgrading medians including adding or upgrading median barriers
   g. Improving intersections including relocation and/or realignment
   h. Making minor roadway realignment
   i. Channelizing traffic
   j. Performing clear zone safety improvements including removing hazards and flattening slopes
   k. Implementing traffic aid systems, signals, and motorist aid
   l. Installing bridge safety hardware including bridge rail retrofit

3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.

   a. Rehabilitating, reconstructing, or replacing bridge approach slabs
   b. Rehabilitating or replacing bridge decks
   c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
   (d.) Replacing a bridge (structure and/or fill)

4. Transportation corridor fringe parking facilities.

5. Construction of new truck weigh stations or rest areas.

6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.

7. Approvals for changes in access control.

8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.

9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.

10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.

11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.

12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.

13. Acquisition and construction of wetland, stream and endangered species mitigation sites.

14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

Estimated Costs:

Total Construction	$ 825,000
Right of Way	$ 47,000
Total	$ 872,000

Estimated Traffic:

Current	-	430 vpd
Year 2030	-	800 vpd
TTST	-	1%
Dual	-	2%

Accidents: Traffic Engineering has evaluated a recent three year period and found one accident occurring in the vicinity of the project. None were associated with the geometry of the bridge or its approach roadways.

Design Exceptions: There are no anticipated design exceptions for this project.

Bridge Demolition: Bridge No. 4 is constructed mainly of timber and steel with two concrete sills. Bridge demolition will occur by removing the paved surface prior to removal of the bridge structure. The remainder of the timber components will be removed without dropping them into Brasstown Creek. Consequently, there will be no temporary fill resulting from bridge demolition.

Alternatives Discussion:

No Build - No build would result in eventually closing the road which is unacceptable.

Rehabilitation – The bridge was constructed in 1952 and the timber materials within the bridge are reaching the end of their useful life. Rehabilitation would require replacing the timber components which would constitute effectively replacing the bridge.

Offsite Detour – Bridge 4 will be replaced on the existing alignment. Traffic will be detoured offsite (see Figure 1) during the construction period. NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project would include SR 1107, SR 1110 and SR 1100. The detour for the average road user would result in less than 5.0 minutes additional travel time (2.4 miles additional travel). However, due to the proximity of the SR 1107 intersection to the bridge; a longer detour using SR 1100 may need to be used during part of the construction period, (4.1 miles additional travel). In view of the lower impacts to environment and property, project cost savings and no major opposition, an offsite detour is recommended. NCDOT Division 14 concurs in these recommendations.

Onsite Detour – An onsite detour was not evaluated due to the presence of an acceptable offsite detour.

Staged Construction – Staged construction was not considered because of the availability of an acceptable offsite detour.

Phased Construction – Phased construction was not considered because of the availability of an acceptable offsite detour.

New Alignment – A new alignment to the west of the existing location was considered as an alternative due to the close proximity of the y-line intersection at the west end of the bridge. Due to higher cost and the Hiwassee River Watershed protection area surrounding the bridge, the new alignment is not the preferred alternative.

Other Agency Comments:

In a letter dated May 19, 2005, the N.C. Wildlife Resources Commission provided a request that a moratorium prohibiting in-stream work is recommended from April 1 to June 15 to protect the egg and fry stages of sicklefin redhorse. They also recommend that sediment and erosion controls for sensitive watersheds should apply.

The Hiwassee River Watershed Coalition, Inc. has a stream restoration project in Brasstown Creek at the project location. There is a boulder cross vane structure in the stream just below the bridge (see Figure 2) and trees have been planted in an area 50-feet wide on either side of the creek. Heavy equipment can not sit on the boulder structure and all precautions should be taken to prevent damage to the project. The Coalition's restoration coordinator should be informed of dates of planned construction.

The N.C. Division of Water Quality, the Army Corps of Engineers, and the U.S. Fish and Wildlife Service had no special concerns for this project.

Public Involvement:

A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions

ECOLOGICAL		YES	NO
(1)	Will the project have a substantial impact on any unique or important natural resource?		X
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?		X
(3)	Will the project affect anadromous fish?		X
(4)	If the project involves wetlands, is the amount of Permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	X	
(5)	Will the project require the use of U. S. Forest Service lands?		X
(6)	Will the quality of adjacent water resources be adversely Impacted by proposed construction activities?		X
(7)	Does the project involve waters classified as Outstanding Water Resources (OWR) and/or High Quality Waters (HQW)?		X
(8)	Will the project require fill in waters of the United States in any of the designated mountain trout counties?	X	
(9)	Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?		X

PERMITS AND COORDINATION		YES	NO
(10)	If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?		X
(11)	Does the project involve Coastal Barrier Resources Act Resources?		X
(12)	Will a U. S. Coast Guard permit be required?		X
(13)	Will the project result in the modification of any existing Regulatory floodway?		X

		YES	NO
(14)	Will the project require any stream relocations or channel Changes?		X
	SOCIAL, ECONOMIC, AND CULTURAL RESOURCES	**YES**	**NO**
(15)	Will the project induce substantial impacts to planned growth or land use for the area?		X
(16)	Will the project require the relocation of any family or Business?		X
(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?		X
(18)	If the project involves the acquisition of right of way, is the Amount of right of way acquisition considered minor?	X	
(19)	Will the project involve any changes in access control?		X
(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?		X
(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?		X
(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	X	
(23)	Is the project anticipated to cause an increase in traffic Volumes?		X
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	X	
(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	X	
(26)	Is there substantial controversy on social, economic, or Environmental grounds concerning the project?		X
(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	X	
(28)	Will the project have an "effect" on structures/properties Eligible for or listed on the National Register of Historic Places?		X

(29)	Will the project affect any archaeological remains which are Important to history or pre-history?		X
(30)	Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, Historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?		X
(31)	Will the project result in any conversion of assisted public Recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?		X
(32)	Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?		X

F. Additional Documentation Required for Unfavorable Responses in Part E

Question 8 - While Clay County is a designated "mountain trout" county, Brasstown Creek is not a trout stream as designated by the Division of Water Quality; nor has the N.C. Wildlife Resources Commission expressed trout concerns.

G. CE Approval

TIP Project No.	**B-4466**
State Project No.	**8.2920401**
W.B.S. No.	**33715.1.1**
Federal Project No.	**BRZ-1104(11)**

Project Description:

The purpose of this project is to replace Bridge No. 4 on SR 1104 (Pine Log Road) over Brasstown Creek in Clay County (see Figure 1). The replacement structure will be a bridge approximately 142 feet long providing a minimum 28 feet clear deck width. The new structure will be constructed at approximately the same location and elevation as the existing bridge. The bridge will include two 11-foot lanes with a minimum of 3-foot offsets to the face of the bridge rail. Due to the close proximity of the SR 1107 intersection to the west end of the bridge, a small retaining wall will be required under the west end of the proposed bridge.

Approach work will consist of resurfacing and tying into the existing alignment for approximately 630 feet to west of the existing bridge and approximately 260 feet to east of the existing bridge. The approaches will be widened to include a 22-foot pavement width providing two 11-foot lanes. Four-foot grass shoulders will be provided on each side (7-foot shoulders where guardrail is warranted). The roadway will be designed as a Rural Local Route with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1 and Section D for the studied detour route).

Categorical Exclusion Action Classification:

____ TYPE II(A)
X TYPE II(B)

Approved:

12/9/05 — Date
William T. Goodwin, Jr.
Project Planning Unit Head
Project Development & Environmental Analysis Branch

12/9/05 — Date
April Johnson
Project Planning Engineer
Project Development & Environmental Analysis Branch

For Type II(B) projects only:

12/14/05 — Date
for John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

PROJECT COMMITMENTS:

Clay County
Bridge No. 4 on SR 1104
Over Brasstown Creek
Federal Aid Project No. BRZ-1104 (11)
State Project No. 8.2920401
W.B.S. No. 33715.1.1
T.I.P. No. B-4466

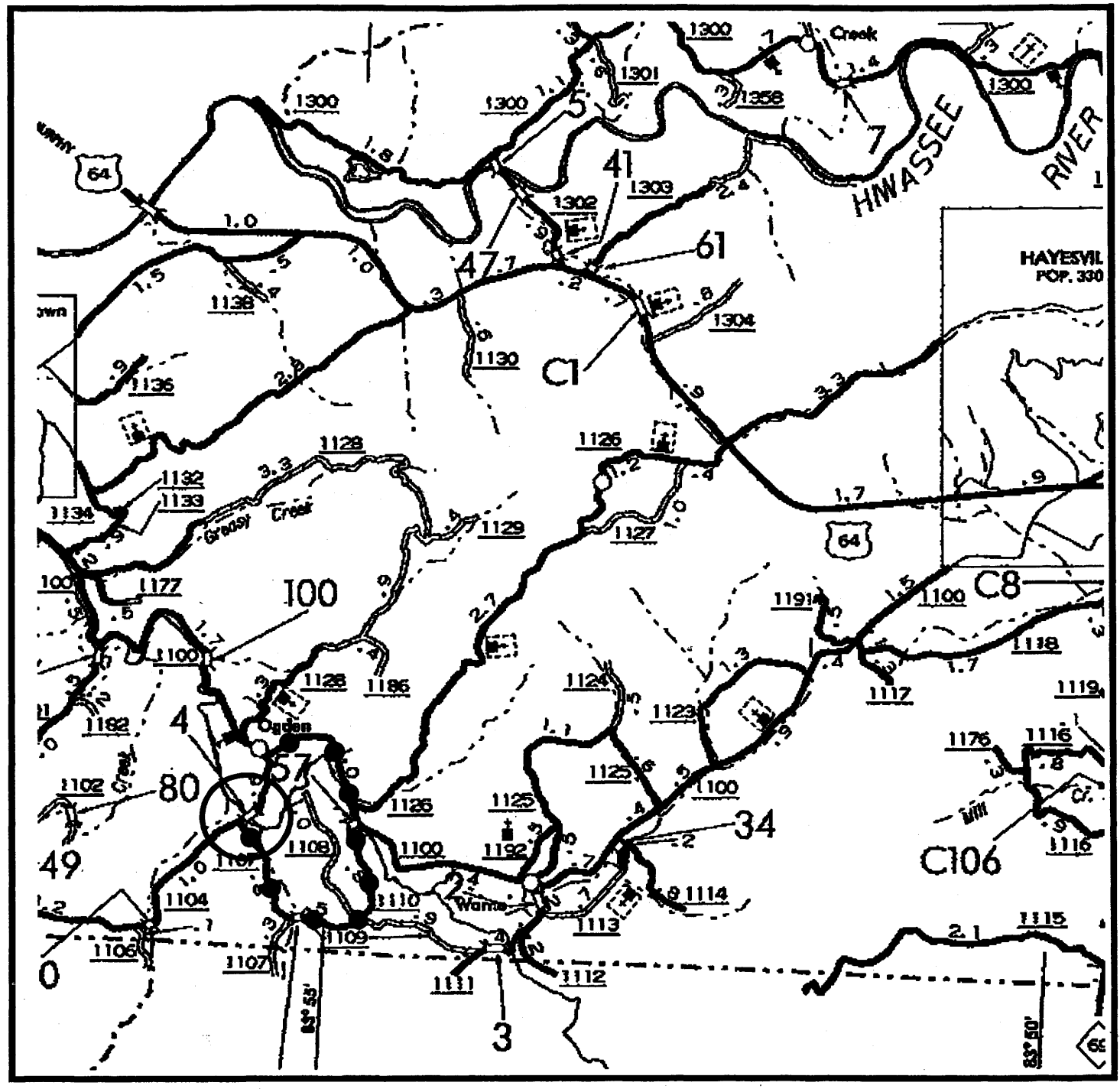
Hydraulics Unit, Roadside Environmental Unit, Division Fourteen Construction Office, Structure Design Unit, Natural Environment Unit

NCDOT will adhere to the Best Management Practices (BMPs) for "Bridge Demolition and Removal" during the removal of Bridge No. 4.

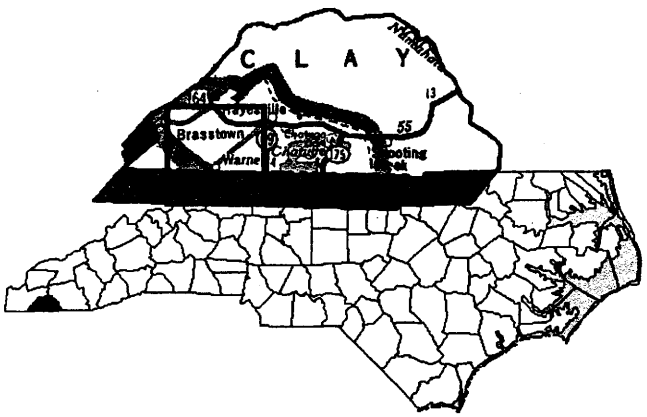
A Section 26a approval will be needed from the Tennessee Valley Authority.

NCWRC states a moratorium prohibiting in-stream work is recommended from April 1 to June 15 to protect egg and fry stages of sicklefin redhorse. Sediment and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds. This moratorium is not required by regulation; however if possible, it will be honored during project construction.

The Hiwassee River Watershed Coalition, Inc. has a stream restoration project in place in Brasstown Creek at the project location. There is a boulder cross vane structure in the stream just below the bridge and trees have been planted in an area 50-feet wide on either side of the creek. Heavy equipment can not sit on the boulder structure and all precautions should be taken to prevent damage to the project. The Coalition's restoration coordinator should be invited to the final field inspection and informed of dates of planned construction.



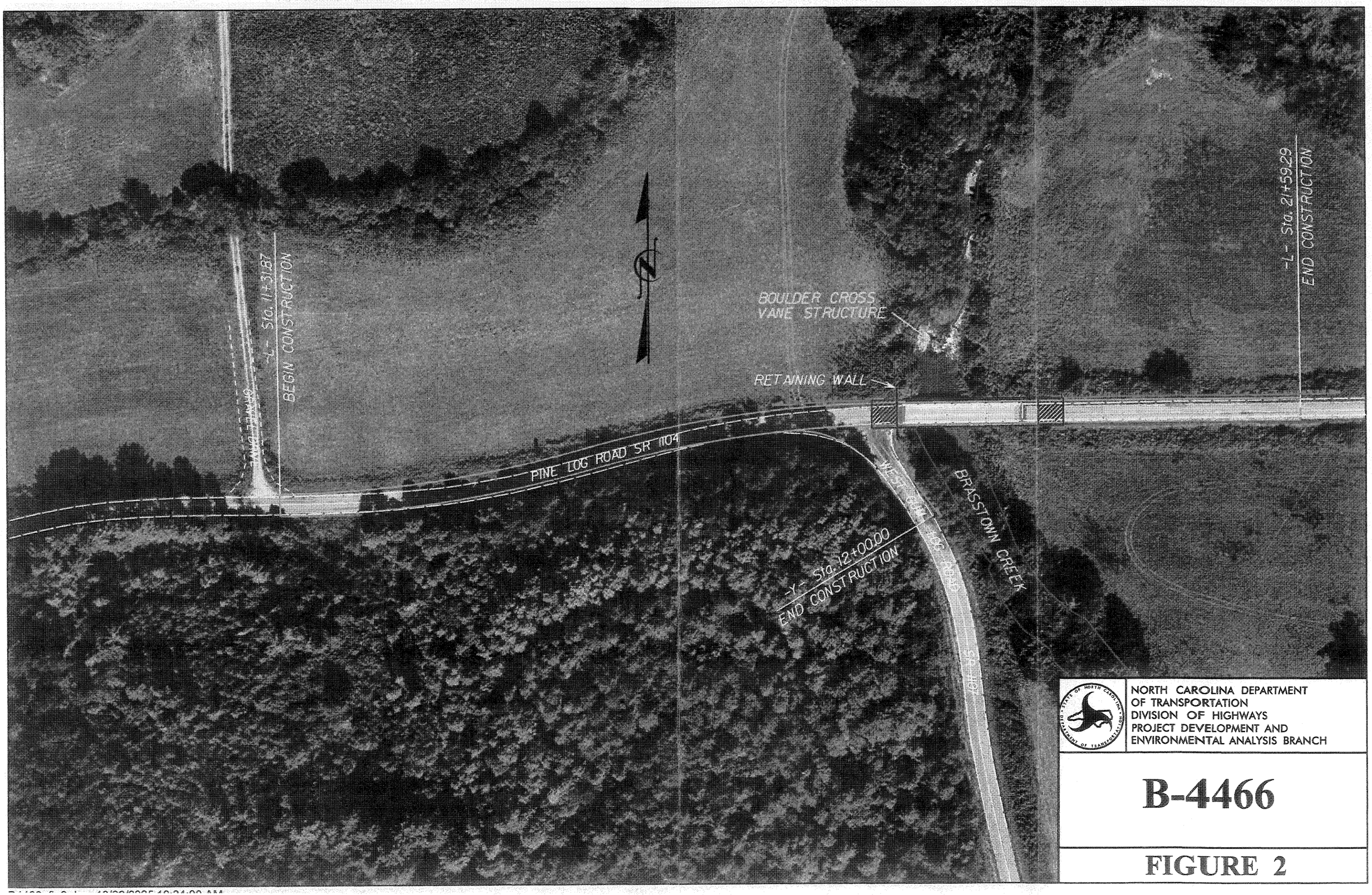
DETOUR



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

CLAY COUNTY
REPLACE BRIDGE NO. 4 ON SR 1104
OVER BRASSTOWN CREEK
B-4466

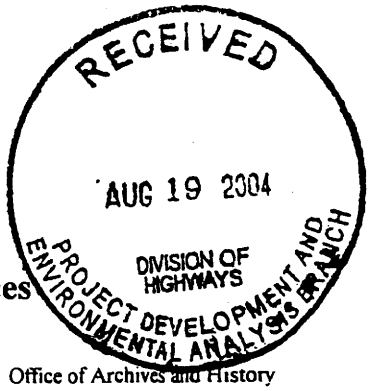
Figure 1



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

B-4466

FIGURE 2



North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

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

Office of Archives and History
Division of Historical Resources
David Brook, Director

August 12, 2004

MEMORANDUM

TO: Gregory Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: Peter B. Sandbeck PBS for Peter Sandbeck

SUBJECT: 2004 Bridge Projects, including B-3492, B-4408, B-4409, B-4410, B-4446, B-4466, B4469, B-4518, B-4545, B-4573, B-4631, B-4423, B-4424, B-4454, B-4520, B-4538, B-4540, B-4548, B-4549, B-4567, B-4578, B-4648, B-4664, B-4665, B-4504, B-4560, B-4587, B-4618, B-4644, B-4649, B-4651, B-4658, B-4671, B-3624, B-3819, B-3911, B-4404, B-4552, B-4613, B-4646, B-4675 B-3169, B-3606, B-3802, B-3803, B-3804, B-4523, B-4524, B-4525, B-4526, Multi-county, ER 04-1280-ER 04-1330

On July 28, 2004, Sarah McBride, our preservation specialist for transportation projects, met with the North Carolina Department of Transportation (NCDOT) staff for a meeting of the minds concerning the above projects. We reported on our available information on historic architectural and archaeological surveys and resources along with our recommendations. NCDOT provided project descriptions, area photographs, and aerial photographs at the meeting.

Based on our review of the photographs and the information discussed at the meeting, we have included our comments for each bridge project on a spreadsheet attached to this letter. These comments are provided for each project as proposed.

If an archaeological survey is requested on the spreadsheet, a separate memorandum from the Office of State Archaeology, explaining whether a general survey is required or if the survey is predicated upon an off-site detour or new location, is attached.

Having provided this information, we look forward to receipt of either a Categorical Exclusion or Environmental Assessment which indicates how NCDOT addressed our comments.

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.

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

	TIP	BRIDGE	COUNTY	DIVISION	BUILT	PDE	Architecture	Archaeology
ER04 1314	B-3492	580056	McDOWELL	13	1962	Hancock	Yes	No
ER04 1285	B-4408	030265	ANSON	10	1961	Hancock	No	No
ER04 1286	B-4409	030308	ANSON	10	1922	Hancock	No	No
ER04 1287	B-4410	030307	ANSON	10	1931	Hancock	Yes	No
ER04 1301	B-4446	100227	BUNCOMBE	13	1956	Hancock	No	No
ER04 1290	B-4466	210004	CLAY	14	1952	Hancock	No	No
ER04 1291	B-4469	220219	CLEVELAND	12	1952	Hancock	No	No
ER04 1288	B-4518	350110	GASTON	12	1962	Hancock	No	No
ER04 1307	B-4545	440072	HENDERSON	14	1963	Hancock	No	No
ER04 1300	B-4573	540183	LINCOLN	12	1965	Hancock	No	No
ER04 1306	B-4631	800526	RUTHERFORD	13	1970	Hancock	No	No
ER04 1379	B-4423	060067	BEAUFORT	2	1965	Capps	No	No
ER04 1330	B-4424	060068	BEAUFORT	2	1966	Capps	No	No
ER04 1302	B-4454	150043	CARTERET	2	1963	Capps	No	No
ER04 1292	B-4520	360032	GATES	1	1952	Capps	Yes	No
ER04 1280	B-4538	410025	HALIFAX	4	1965	Capps	No	No
ER04 1281	B-4540	410142	HALIFAX	4	1962	Capps	Yes	Yes
ER04 1358	B-4548	450002	HERTFORD	1	1960	Capps	No	Yes
ER04 1309	B-4549	450042	HERTFORD	1	1960	Capps	Yes	Yes
ER04 1299	B-4567	530069	LENOIR	2	1971	Capps	Yes	Yes
ER04 1298	B-4578	570008	MARTIN	1	1974	Capps	No	No
ER04 1325	B-4648	880017	TYRRELL	1	1977	Capps	No	No
ER04 1317	B-4664	920025	WARREN	5	1957	Capps	Yes	Yes
ER04 1318	B-4665	920036	WARREN	5	1955	Capps	No	Yes
ER04 1305	B-4504	320052	EDGECOMBE	4	1964	Johnson	No	Yes
ER04 1312	B-4560	500102	JOHNSTON	4	1956	Johnson	Yes	Yes
ER04 1297	B-4587	630082	NASH	4	1961	Johnson	No	Yes
ER04 1326	B-4618	770445	ROBESON	6	1955	Johnson	Yes	No
ER04 1284	B-4644	830057	STANLY	10	1961	Johnson	No	No
ER04 1324	B-4649	890377	UNION	10	1962	Johnson	No	No
ER04 1323	B-4651	890251	UNION	10	1957	Johnson	No	No
ER04 1315	B-4658	910345	WAKE	5	1960	Johnson	No	No
ER04 1313	B-4671	950035	WAYNE	4	1961	Johnson	No	Yes
ER04 1327	B-3624	130190	CALDWELL	11	1981	Pipkin	No	No
ER04 1328	B-3819	130184	CALDWELL	11	1962	Pipkin	No	No
ER04 1329	B-3911	850038	SURRY	11	1923	Pipkin	Yes	No
ER04 1286	B-4404	000102	ALAMANCE	7	1968	Pipkin	Yes	No
ER04 1310	B-4552	480100	IREDELL	12	1963	Pipkin	Yes	No
ER04 1295	B-4613	750415	RANDOLPH	8	1959	Pipkin	No	Yes
ER04 1294	B-4646	850132	SURRY	11	1962	Pipkin	Yes	No
ER04 1311	B-4675	960034	WILKES	11	1960	Pipkin	No	No
ER04 1293	B-3169	310158	DURHAM	5	1960	Williams	Yes	No
ER04 1303	B-3606	040070	ASHE	11	1963	Williams	Yes	No
ER04 1282	B-3802	040229	ASHE	11	1960	Williams	No	No
ER04 1304	B-3803	040334	ASHE	11	1966	Williams	Yes	No
ER04 1283	B-3804	040296	ASHE	11	1964	Williams	Yes	No
ER04 1319	B-4523	380164	GRANVILLE	5	1955	Williams	No	Yes
ER04 1320	B-4524	380193	GRANVILLE	5	1956	Williams	No	Yes
ER04 1321	B-4525	380133	GRANVILLE	5	1960	Williams	No	Yes
ER04 1322	B-4526	380200	GRANVILLE	5	1957	Williams	No	Yes

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

PBS:w

Attachments
1 Spreadsheet
16 Memos

cc: Matt Wilkerson, NCDOT
Mary Pope Furr