



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

November 3, 2009

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

ATTN: Mr. David Baker
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 23 & 33** for the proposed replacement of Bridge No. 70 over the Cheoah River on SR 1134 (Joyce Kilmer Road) in Graham County, Federal Aid Project No. BRZ-1134(1); Division 14; WBS Element 32998.1.2; TIP No. B-3335.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 70 over the Cheoah River on SR 1134 (Joyce Kilmer Road) in Graham County. There will be 0.32 acre of temporary surface water impacts, 0.03 acre of permanent wetland impacts, and 0.11 acre of temporary wetland impacts for the project. The existing bridge will be utilized as an onsite detour during construction of the new bridge. NCDOT proposes no mitigation due to minimal permanent impacts from the project.

Please see enclosed copies of the Pre-Construction Notification (PCN), Approved Jurisdictional Determination Form, Stormwater Management Plan, U.S. Fish and Wildlife Service Concurrence Letter, permit drawings and roadway plan sheets for the above-referenced project. The Categorical Exclusion (CE) was completed in January 2009 and was distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of June 15, 2010 and a review date of April 27, 2010, however; the Let Date may be advanced; if funding becomes available.

This Project is located in a trout county; therefore 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 Mr. Jeffrey Hemphill (919) 431-6674.

Sincerely,

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

W/attachment:

Mr. Brian Wrenn, NCDWQ (2 Copies)
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC
Dr. Charles Nicholson, 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. Joel 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. John Williams, P.E., PDEA Planning Engineer



Office Use Only:
 Corps action ID no. _____
 DWQ project no. _____
 Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information		
1. Processing		
1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23 33 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input type="checkbox"/> Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. Project Information		
2a. Name of project:	Replacment of Bridge 70 over the Cheoah River. on SR 1134	
2b. County:	Graham	
2c. Nearest municipality / town:	Robbinsville	
2d. Subdivision name:	<i>not applicable</i>	
2e. NCDOT only, T.I.P. or state project no:	B-3335	
3. Owner Information		
3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation	
3b. Deed Book and Page No.	<i>not applicable</i>	
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>	
3d. Street address:	1598 Mail Service Center	
3e. City, state, zip:	Raleigh, NC 27699-1598	
3f. Telephone no.:	(919) 431-6674	
3g. Fax no.:	(919) 431-2002	
3h. Email address:	jhemphill@ncdot.gov	

4. Applicant Information (if different from owner)	
4a. Applicant is:	<input type="checkbox"/> Agent <input type="checkbox"/> Other, specify:
4b. Name:	<i>not applicable</i>
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	<i>not applicable</i>
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.40347 (DD.DDDDDD) Longitude: - 83.87155 (-DD.DDDDDD)
1c. Property size:	4.7 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Cheoah River
2b. Water Quality Classification of nearest receiving water:	C:Tr
2c. River basin:	Little Tennessee
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Forested - rural residential	
3b. List the total estimated acreage of all existing wetlands on the property: 0.14	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 788	
3d. Explain the purpose of the proposed project: To replace a structurally deficient bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 161-foot bridge with a 210-foot, 3-span bridge on a new alignment 50 feet upstream utilizing the existing bridge as an onsite detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: A Corps rep visited the site On June 16, 2005 but a tearsheet was not issued to the consultant.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Earth Tech, Inc. Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. June 16, 2005	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

- Wetlands Streams - tributaries Buffers
 Open Waters Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
W1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill	Riparian	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.03
W2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Fill	Riparian	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.11
W3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
2g. Total wetland impacts					0.03 Permanent 0.11 Temporary

2h. Comments:

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
S1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Causeways	Cheoah River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	120	248
S2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
S3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
S4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
S5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
S6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts						0.32 Ac 248 Temp

3i. Comments:

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
4f. Total open water impacts				X Permanent X Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
5f. Total								

5g. Comments:

5h. Is a dam high hazard permit required?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?		<input type="checkbox"/> Neuse <input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Other: <input type="checkbox"/> Catawba <input type="checkbox"/> Randleman			
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
6i. Comments:					

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The existing bridge will be utilized as an onsite detour. NCDOT will implement the conditions of the USFWS Concurrence Letter issued July 11, 2008.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Stormwater runoff will be treated with natural vegetation as much as practical. In a letter dated June 30, 2005, the North Carolina Wildlife Resource Commission (NCWRC) stated that no moratoriums were being requested for this project and email correspondence with NCWRC from July 9, 2008 confirmed this assessment. The North Carolina Division of Water Quality (NCDWQ) has designated the Cheoah River as trout waters; therefore, Design Standards for Sensitive Watersheds will be implemented for this project. Temporary causeways will be staged and not cover greater than 50% of the river at any time.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ	<input type="checkbox"/> Corps
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	<input type="checkbox"/> Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ

6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation? Yes No

6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.

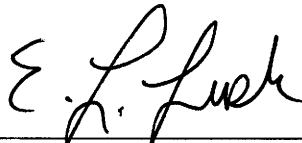
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				

6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).

6h. Comments:

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	NA %
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached SMP for Section E parts 2 - 4	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input type="checkbox"/> DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5b. Have all of the 401 Unit submittal requirements been met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.	
4. Sewage Disposal (DWQ Requirement)	
4a. 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. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input checked="" type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? See attached concurrence letter		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	11.3.09 08/20/09 Date

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

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

SECTION I: BACKGROUND INFORMATION

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

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION: TIP# B-4261 NCDOT

State: NC County/parish/borough: Graham City: Lake Santeetlah

Center coordinates of site (lat/long in degree decimal format): Lat. 35° N, Long. 83° W.

Universal Transverse Mercator:

Name of nearest waterbody: Cheoah River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Little Tennessee River

Name of watershed or Hydrologic Unit Code (HUC): 06010204

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 780 linear feet: width (ft) and/or acres.

Wetlands: 0.14 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

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

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

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

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

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

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

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

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

Project waters are **Pick List** river miles from RPW.

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

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

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

Identify flow route to TNW⁵:

Tributary stream order, if known: .

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

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

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

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

Tributary properties with respect to top of bank (estimate):

Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

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

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

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain:

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

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

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

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

⁷Ibid.

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

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

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

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

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

Surface flow is: **Pick List**

Characteristics:

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

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

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

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

Flow is from: **Pick List**.

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

(ii) **Chemical Characteristics:**

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

Identify specific pollutants, if known:

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

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

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

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

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

For each wetland, specify the following:

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

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

TNWs: linear feet width (ft), Or, acres.

Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: DWQ rating form greater than 30.

Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

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

Provide acreage estimates for jurisdictional wetlands in the review area: **0.47** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

7. **Impoundments of jurisdictional waters.⁹**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
 Demonstrate that water is isolated with a nexus to commerce (see E below).

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
 which are or could be used for industrial purposes by industries in interstate commerce.
 Interstate isolated waters. Explain: .
 Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

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

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name:
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

STORMWATER MANAGEMENT PLAN

B-3335, State Project 32998.1.1

Date:10/12/09

Graham County

Hydraulics Project Engineer: R.C. Henegar, PE

ROADWAY DESCRIPTION

This project involves replacing Bridge No. 70 over Cheoah River on SR 1134 (Santeetlah Rd.) in Graham County. The overall length of the project is 0.79 miles. The existing 18-foot paved road is a two-lane road with 2-foot grassed shoulders. The existing structure is a 160 ft. eight span bridge (8@20) with a clear roadway width of 18 feet. The project will be a two-lane section with 11 foot lanes and 2 foot grassed shoulders. The proposed bridge will be a 210 foot three span structure (3@70) with a clear roadway width of 27 feet

ENVIRONMENTAL DESCRIPTION

This project is located in the Little Tennessee Basin. There is one river crossing on this project, which has a C-Tr classification. This river is not on the 303(d) list. Wetlands will be impacted by the proposed project.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The proposed bridge is a three span structure reducing the number of bents in the river. There will be no deck drains on the proposed structure and the storm drainage is being discharged into grass lined ditches and as far away from the stream as practicable.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

July 11, 2008

Dr. Gregory J. Thorpe, Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: Endangered Species Concurrence, Proposed Replacement of Bridge No. 70 over the
Cheoah River on SR 1134 in Graham County, North Carolina, Federal Project
No. BRZ-1134(1), WBS Element No. 3298.1.2, T.I.P. No. B-3335

As requested by the North Carolina Department of Transportation (NCDOT), we have reviewed the mussel survey report for the federally endangered Appalachian elktoe (*Alasmidonta raveneliana*) with regard to the subject proposed bridge replacement. Information for this concurrence letter is based on a review of the survey results, alternatives analysis, and an on-site meeting held on May 8, 2008, with representatives from the NCDOT and our staff. The following comments are provided in accordance with the National Environmental Policy Act (42 U.S.C. 4332(2)(c)); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act); and the Migratory Bird Treaty Act (16 U.S.C. 703, et seq.) (MBTA).

The NCDOT proposes to construct a spanning structure that will replace Bridge No. 70. The preferred alternative is Alternative 3--replacement of the bridge on a new alignment approximately 50 feet upstream of the existing bridge--and is being carried forward into the final design. Traffic will be maintained on the existing bridge during construction. Alternative 3 would result in the lowest cost and would require the fewest number of bents in the Cheoah River and the least amount of environmental impacts.

Alcoa Power Generating Inc. installed a staff gage on Bridge No. 70 for the U.S. Fish and Wildlife Service, the North Carolina Wildlife Resources Commission, and the North Carolina Division of Water Resources (among others) to measure stream flow. Prior to demolition, the

NCDOT should make provisions for the reinstallation and calibration of the gage on the new structure.

Federally Listed Species – The listed species concurrence request we received was for the NCDOT’s determination that the subject project is not likely to adversely affect the Appalachian elktoe. It was determined that the project would have no effect on the Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*), Indiana bat (*Myotis sodalis*), rock gnome lichen (*Gymnoderma lineare*), or Virginia spiraea (*Spiraea virginiana*), all of which occur in Graham County.

The most recent survey for the Appalachian elktoe was conducted on May 7, 2008, during which a known location 0.5 mile downstream of the project area was verified as still occupied by the Appalachian elktoe. No mussels of any kind were observed in the stretch of the river 400 meters downstream and 100 meters upstream of the project area. To minimize potential impacts to the Appalachian elktoe and its designated critical habitat, the NCDOT will accomplish the following:

1. Design standards for sensitive watersheds will be used.
2. Provisions will be made in the new bridge design for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the river. This buffer should be large enough to alleviate any potential effects from the runoff of storm water and pollutants.
3. Best management practices for environmentally sensitive areas will be implemented to minimize and control sedimentation and erosion prior to any ground-disturbing activities. All erosion-control measures will be reviewed daily to ensure that sedimentation and erosion are being effectively controlled. If the planned devices are not functioning as intended, they will be replaced immediately with better devices. Temporary or permanent herbaceous vegetation will be planted on all bare soil within 15-days of ground-disturbing activities to provide long-term erosion control.
4. Sandbag cofferdams will be installed so that excavation and work areas will be isolated from the Cheoah River. Any seepage that inadvertently contacts live concrete will be pumped into cofferdams in an upland area in order to prevent water with high levels of pH from moving into surface waters.
5. Bridge materials will not be allowed to fall into the Cheoah River. Any materials that inadvertently fall into the creek will be immediately removed.
6. The project will be sequenced so that temporary cofferdams are only in place the minimal time needed, and only one cofferdam will be in place at a time.

7. All mechanized equipment operated near surface waters will be inspected and maintained regularly in order to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
8. No toxic materials, equipment, or construction debris/material will be stored, stockpiled, or otherwise left in the 100-year floodplain or other areas where in-stream contamination could occur due to flooding, runoff; or leaching.
9. Vegetation will be maintained wherever possible. The removal of vegetation should be minimized to the maximum extent possible.
10. All invasive legumes will be removed from the erosion-control plan. Specifically, crown vetch and Korean and Sericea lespedeza will not be used for erosion control. These nonnative lespedezas and crown vetch are aggressive invasive species that could choke out native vegetation. Furthermore, in general, when revegetating disturbed areas, we strongly recommend that only native plant species be used or, if an adequate seed source cannot be found, that noninvasive species (such as annual rye) be used until native plants can reestablish themselves. If kudzu is encountered during construction, it should be removed annually.

The U.S. Forest Service (USFS) has expressed interest in the NCDOT creating a parking area on the eastern approach to the existing bridge as a part of this project. We contacted Ms. Karen Compton of the USFS to obtain information about how the parking lot will be constructed and maintained and how impacts to federally listed species will be avoided. Ms. Compton indicated that she will work on making this information available. However, because this information is not yet available, additional consultation will be required for this portion of the project.

We are available to attend a preconstruction meeting to review and explain these conditions. If the above measures are implemented, we concur with the NCDOT's determination that the bridge construction and demolition may affect, but is not likely to adversely affect, the Appalachian elktoe. Therefore, we believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

Invasive Species – We are also concerned with the introduction and spread of invasive exotic species in association with the proposed project. Without active management, including the revegetation of disturbed areas with native species, project corridors will likely only be sources of (and corridors for) the movement of invasive exotic plant species. Exotic species are a major contributor to species depletion and extinction, second only to habitat loss. Exotics are a factor contributing to the endangered or threatened status of more than 40 percent of the animals and

plants on the *Federal List of Endangered and Threatened Wildlife and Plants*.¹ It is estimated that at least 4,000 exotic plant species and 2,300 exotic animal species are now established in the United States, costing more than \$130 billion a year to control.² Additionally, the U.S. Government has many programs and laws in place to combat invasive species (see www.invasivespecies.gov) and thus cannot spend money to counter these efforts. Specifically, Section 2(a)(3) of Executive Order 13112 - Invasive Species (February 3, 1999) directs federal agencies to “not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere.” Despite their short-term erosion-control benefits, many exotic species used in soil stabilization seed mixes are persistent once they are established, thereby preventing the reestablishment of native vegetation. Many of these exotics plants³ are also aggressive invaders of nearby natural areas, where they are capable of displacing already established native species. Therefore, we strongly recommend that only native plant species be used in association with all aspects of this project.

Additionally, because this site is within the Nantahala National Forest, avoiding invasive exotic species is particularly important. Tall fescue (including Kentucky 31 fescue) and *Sericea lespedeza* are listed as a category 1 exotic invasive plant species on the Regional Forester’s List and Ranking Structure—Invasive Exotic Plant Species of Management Concern for the U.S. Forest Service’s Southern Region. Category 1 exotic plant species are known to be invasive and persistent throughout all or most of their range within the Southern Region. They can spread into, and persist in, native plant communities and displace native plant species. Therefore, they pose a demonstrable threat to the integrity of the natural plant communities in the Southern Region. The use of category 1 species is prohibited on national forest land.

Migratory Birds – The MBTA (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds (including the bald eagle), their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. To avoid impacts to migratory birds, we recommend conducting a visual inspection of the bridge and any other migratory bird nesting habitat within the project area during the migratory bird nesting season from March through September. If migratory birds are discovered nesting in the project impact area, including on the existing bridge, the NCDOT should avoid impacting the nests during the migratory bird nesting season (March through September). If birds are discovered nesting on the bridge during years prior to the proposed construction date, the NCDOT, in consultation with us, should develop measures to discourage birds from establishing nests on the bridge by means that will not result in the take of the birds or eggs, or the NCDOT should avoid construction and demolition activities during the nesting period.

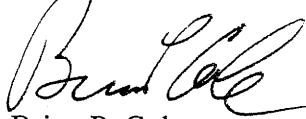
¹Wilcove, D. S., D. Rothstein, J. Dubow, A. Phillips, and E. Losos. 1998. Quantifying threats to imperiled species in the United States. *BioScience* 48:607-615.

²Pimentel, D., L. Lach, R. Zuniga, and D. Morrison. 2000. Environmental and economic costs of nonindigenous species in the United States. *BioScience* 50:53-65.

³Lists of invasive exotic plants can be found at <http://www.tneppc.org/> and <http://www.invasive.org/eastern/srs/> on the Internet.

If you have questions about these comments, please contact Mr. Troy Wilson of our staff at 828/258-3939, Ext. 226. In any future correspondence concerning this project, please reference our Log Number 4-2-05-226.

Sincerely,



Brian P. Cole
Field Supervisor

cc:

- Mr. Dave Baker, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006
- Ms. Marla J. Chambers, Western NCDOT Permit Coordinator, North Carolina Wildlife Resources Commission, 12275 Swift Road, Oakboro, NC 28129
- Ms. Karen M. Lynch, Project Development and Environmental Analysis Branch, North Carolina Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598
- Mr. Brian Wrenn, North Carolina Division of Water Quality, Central Office, 2321 Crabtree Blvd., Suite 250, Raleigh, NC 27604
- Ms. Christy Wright, North Carolina Division of Water Quality, Central Office, 2321 Crabtree Blvd., Suite 250, Raleigh, NC 27604

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

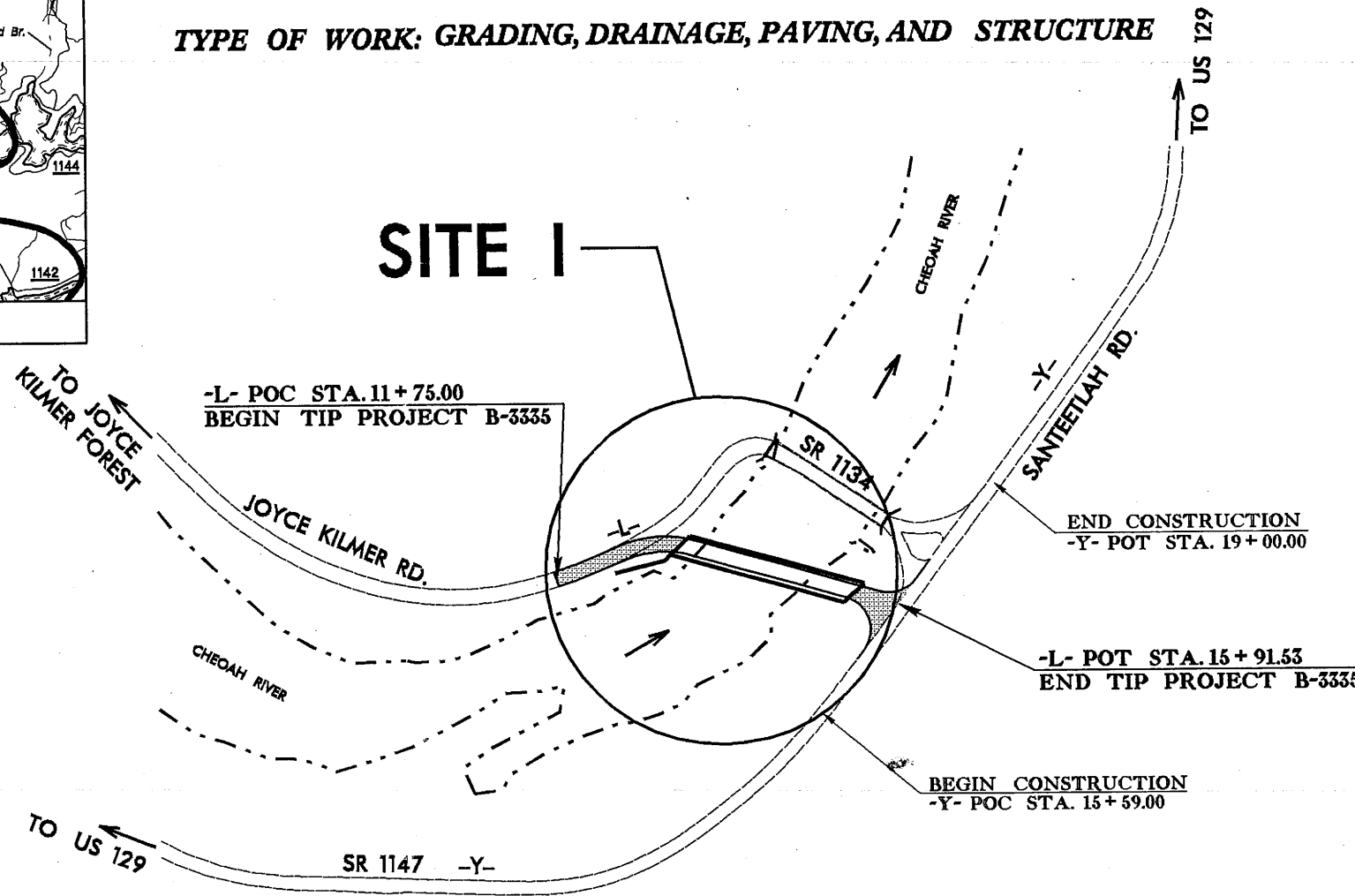
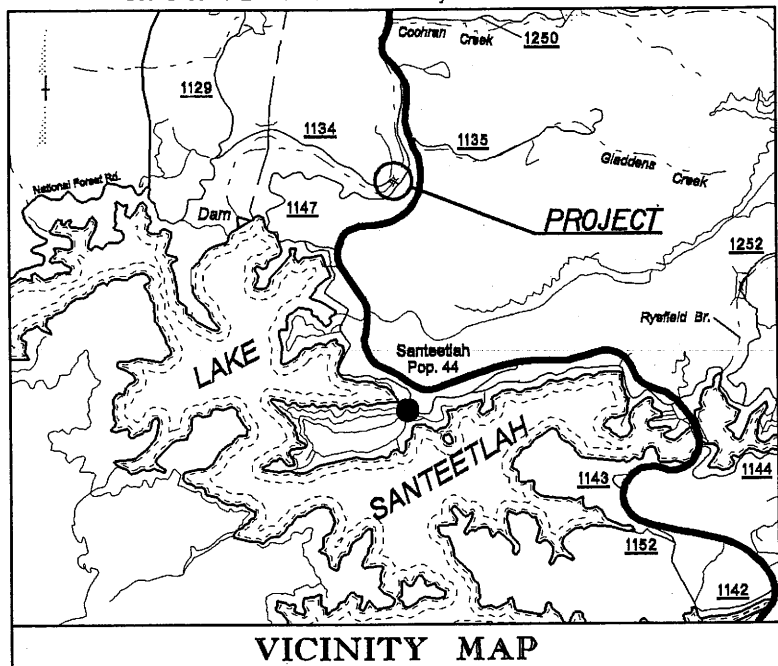
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

LOCATION: BRIDGE NO. 70 OVER CHEOAH RIVER ON SR 1134
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3335	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32998.1.2	BRZ-1134(1)	PE	
32998.3.1	BRZ-1134(2)	ROW & UTIL.	

TIP PROJECT: B-3335

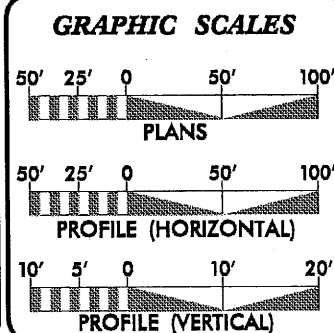


NAD 83/95

NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2010 =	175
ADT 2030 =	250
DHV =	20 %
D =	65 %
T =	3 % *
V =	20 MPH
FUNC CLASS =	LOCAL
* TTST 1 %	DUAL 2 %

WETLAND PERMIT

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 10, 2009

LETTING DATE:
JUNE 15, 2010

ROGER THOMAS, PE
PROJECT ENGINEER

MICHAEL LITTLE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

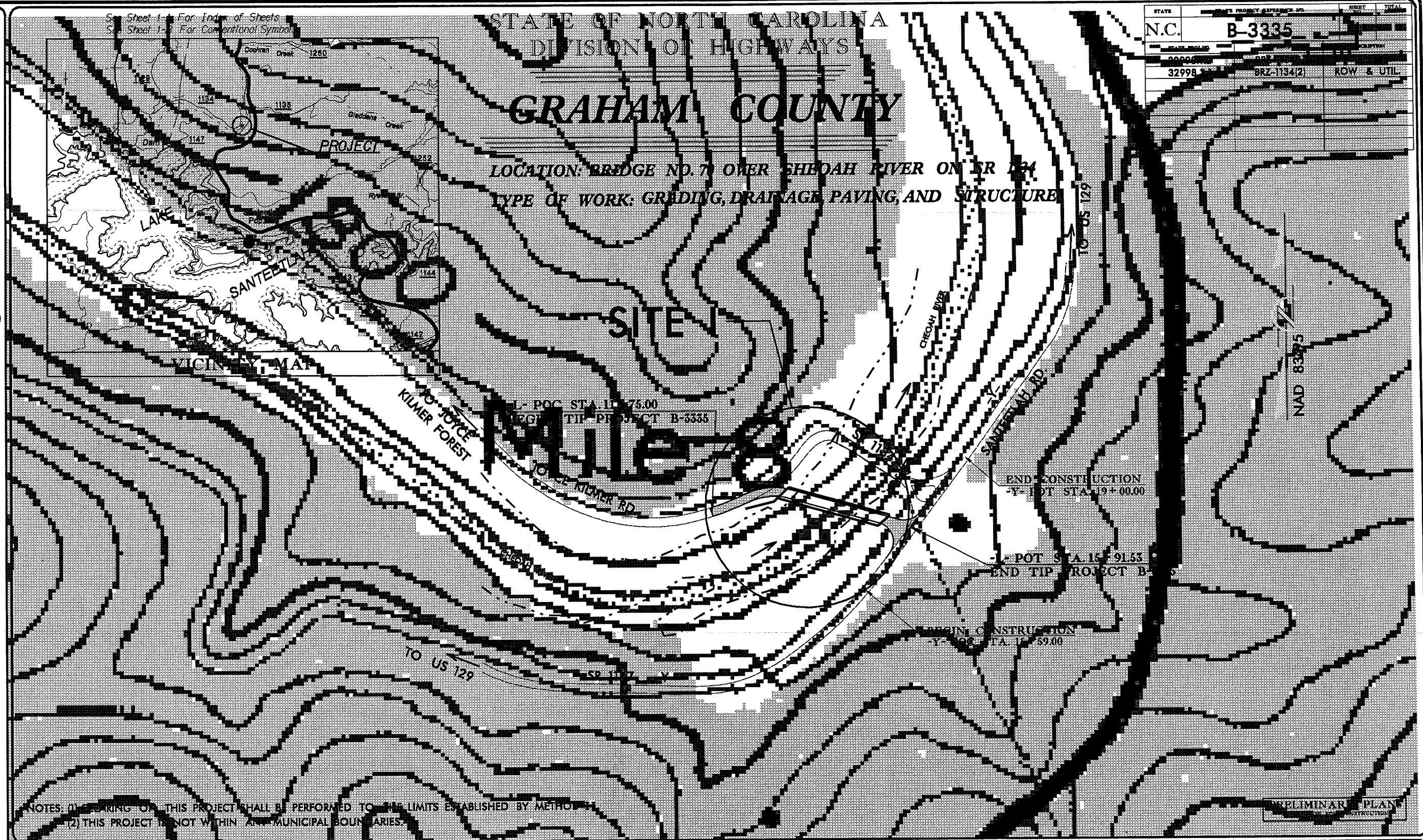
**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER P.E.

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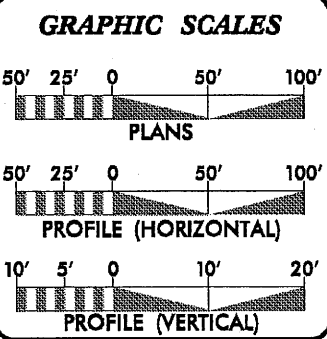
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CONTRACT: TIP PROJECT: B-3335



STATE	PROJECT NUMBER	SHEET	TOTAL
N.C.	B-3335		
DATE	DATE	DATE	DATE
32998	BRZ-1134(2)	ROW & UTIL.	

NOTES: (1) GRADING OF THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD
 (2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.



DESIGN DATA

ADT 2010	=	175
ADT 2030	=	250
DHV	=	20 %
D	=	65 %
T	=	3 % *
V	=	20 MPH
FUNC CLASS	=	LOCAL
* TTST 1 %	DUAL 2 %	

WETLAND PERMIT

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 JUNE 10, 2009

LETTING DATE:
 JUNE 15, 2010


HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

**DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA**

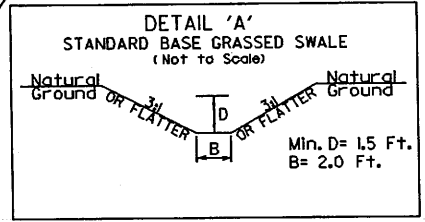


STATE HIGHWAY DESIGN ENGINEER P.E.

PROJECT REFERENCE NO. B-3335	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

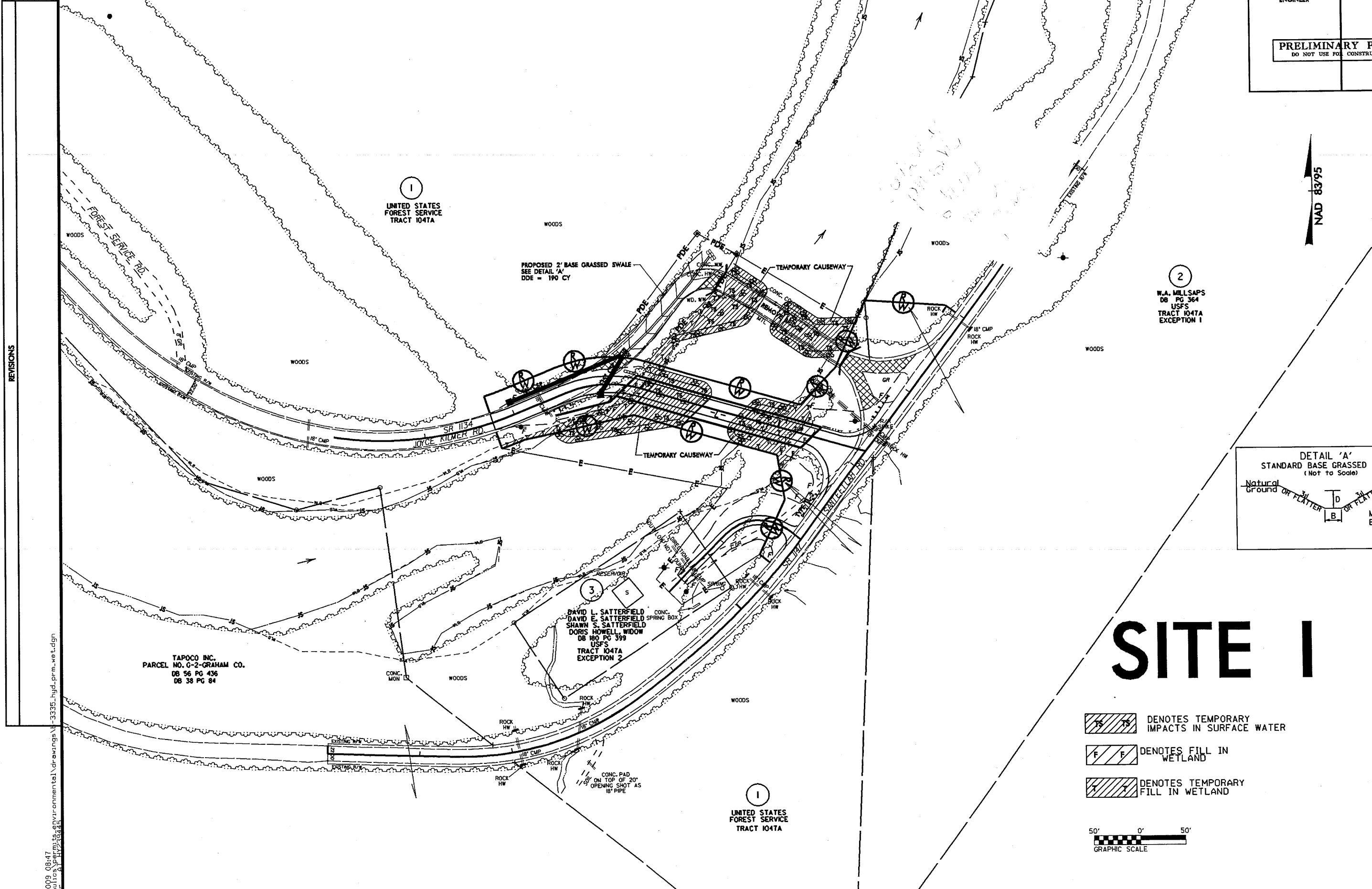
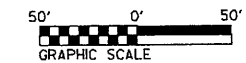
NAD 83/95

2
W.A. MILLSAPS
DB PG 364
USFS
TRACT 1047A
EXCEPTION 1



SITE I

- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND



REVISIONS

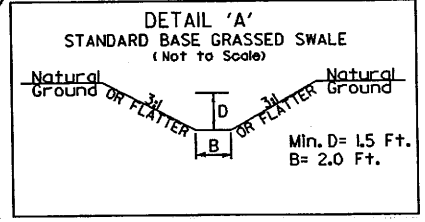
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PROJECT REFERENCE NO. B-3335		SHEET NO. 4	
HW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

REVISIONS

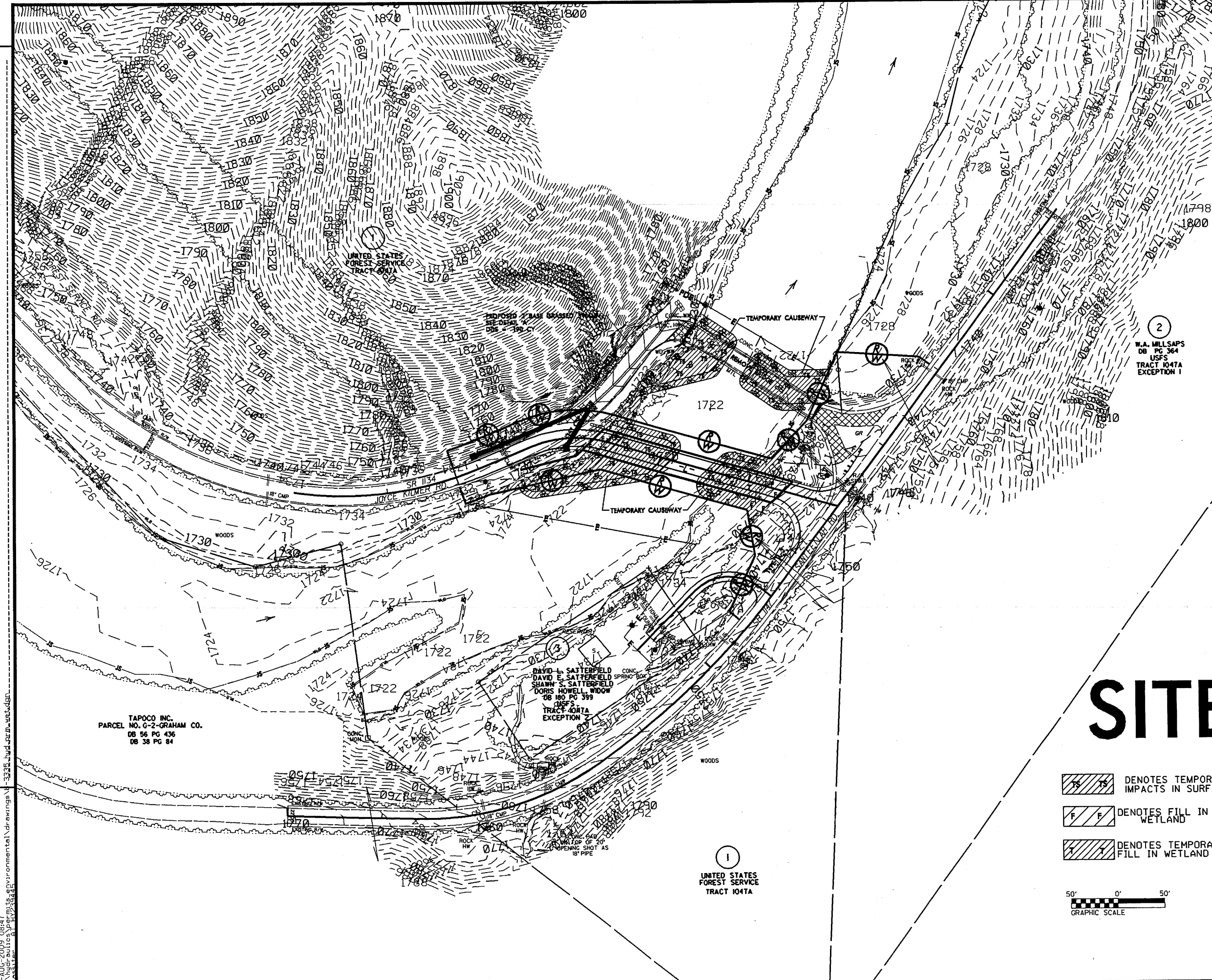
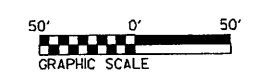
NAD 83/95

2
W.A. MILLSAPS
DB PG 364
USFS
TRACT 1047A
EXCEPTION 1



SITE I

- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
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- DENOTES TEMPORARY FILL IN WETLAND



17-AUG-2009 08:47
C:\hyd-audio\perm\environmental\drawings\17-3335_hud_perm_wst.dgn

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS							
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)			
1	13+25-15+40-L-	3@70' ;24" CORED SLAB	0.03	0.11											
		CAUSEWAY									0.32			248	
TOTALS:			0.03	0.11							0.32			248	

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

 GRAHAM COUNTY
 WBS -32998.1.2 (B-3335)

 SHEET 8/17/2009

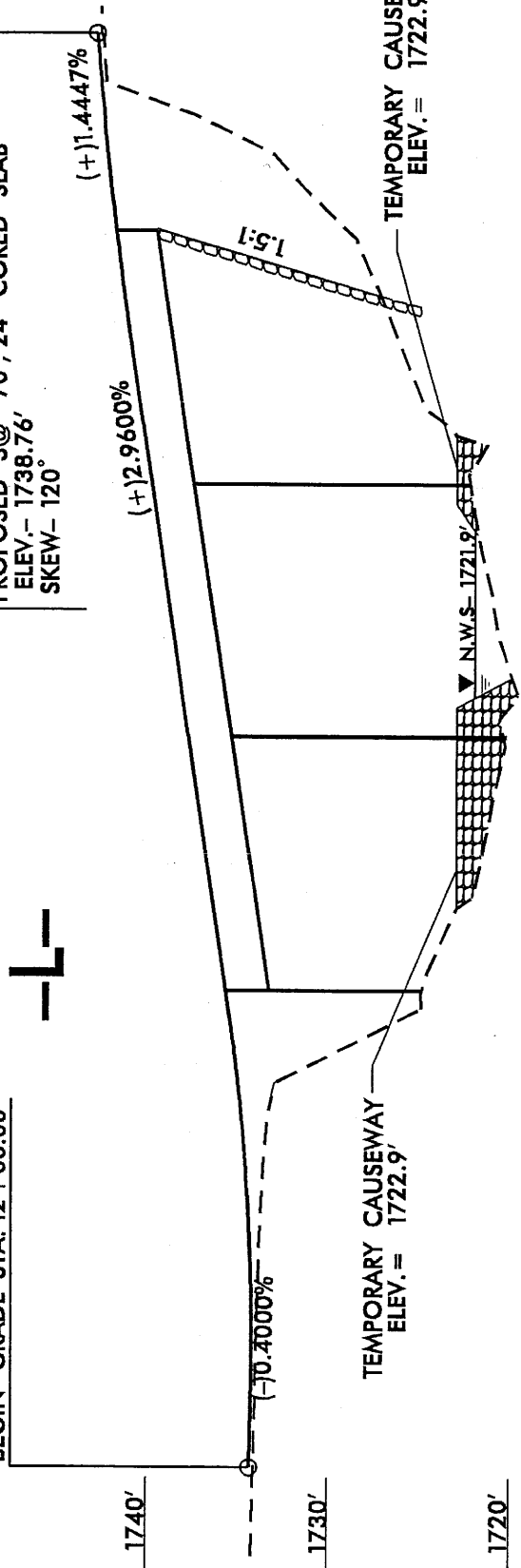
NOTE: STRUCTURES STATED TOTAL IN-STREAM AND WETLAND IMPACTS FOR NEW BRIDGE ARE LESS THAN 0.01 ACRE

ATN Revised 3/31/05

END GRADE
-L- STA. 15 + 91.53
EL = 1,742.79

STA. 14 + 34 -L-
PROPOSED 3 @ 70'; 24" CORED SLAB
ELEV. = 1738.76'
SKEW = 120°

BEGIN GRADE STA. 12 + 00.00



TEMPORARY CAUSEWAY
ELEV. = 1722.9'

TEMPORARY CAUSEWAY
ELEV. = 1722.9'

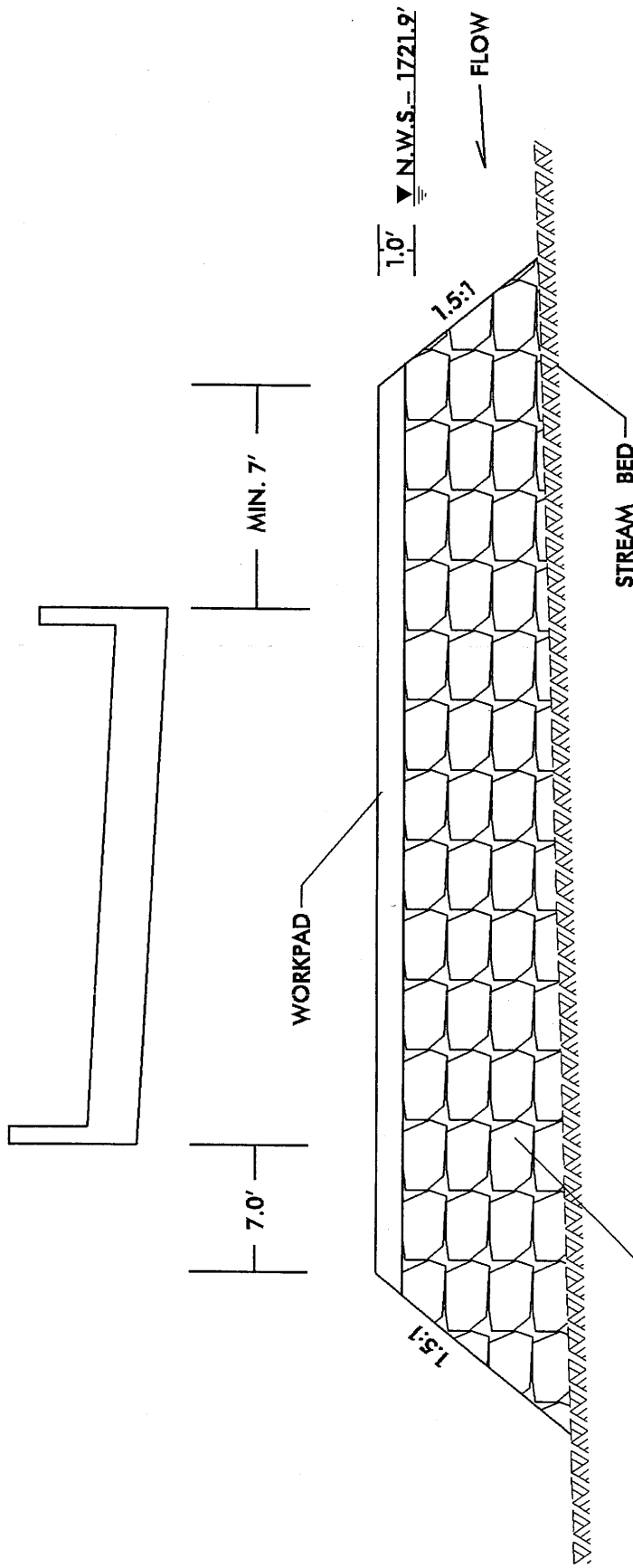
N.W.S. 1721.9'

CAUSEWAY PROFILE

NCDOT

DIVISION OF HIGHWAYS
GRAHAM COUNTY
PROJECT: 32998.1.2 (B-3335)
RELPAGE BRG #70 OVER
CHEOAH RIVER ON SR 1134





QUANTITIES OF ESTIMATES

VOLUME OF CLASS II RIP RAP - 1970 cu. yds.

AREA OF CLASS II RIP RAP - 0.32 Acres

CAUSEWAY DETAIL

(NOT TO SCALE)

NCDOT

DIVISION OF HIGHWAYS

GRAHAM COUNTY

PROJECT: 32998.1.2 (B-3335)

REPLACE BRG #70 OVER

CHEOAH RIVER ON SR 1134

SHEET

OF

8 / 17 / 09

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	US FOREST SERVICE	ROUTE 1 BOX 16A ROBBINSVILLE NC 28771

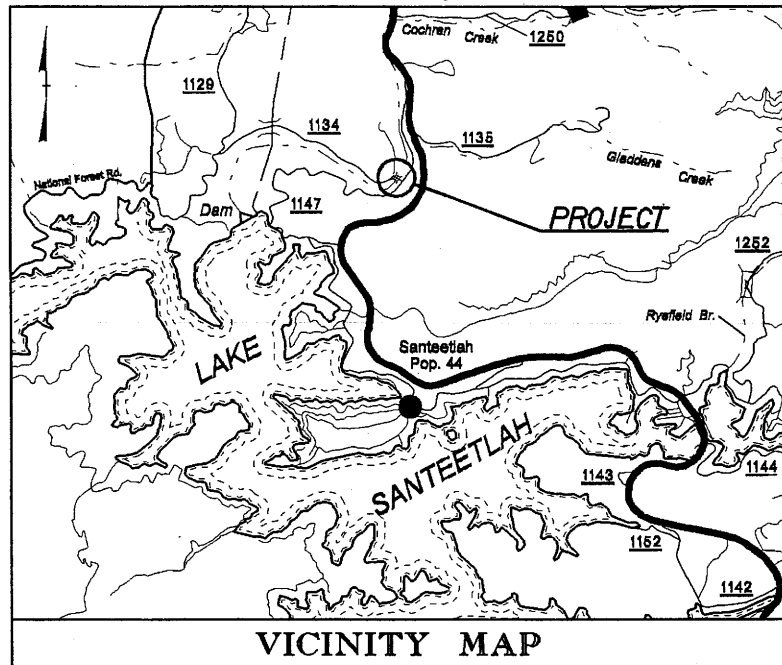
NCDOT

DIVISION OF HIGHWAYS
GRAHAM COUNTY

PROJECT: 32998.1.2 (B-3335)

REPLACE BRG #70 OVER
CHEOAH RIVER ON SR 1134

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

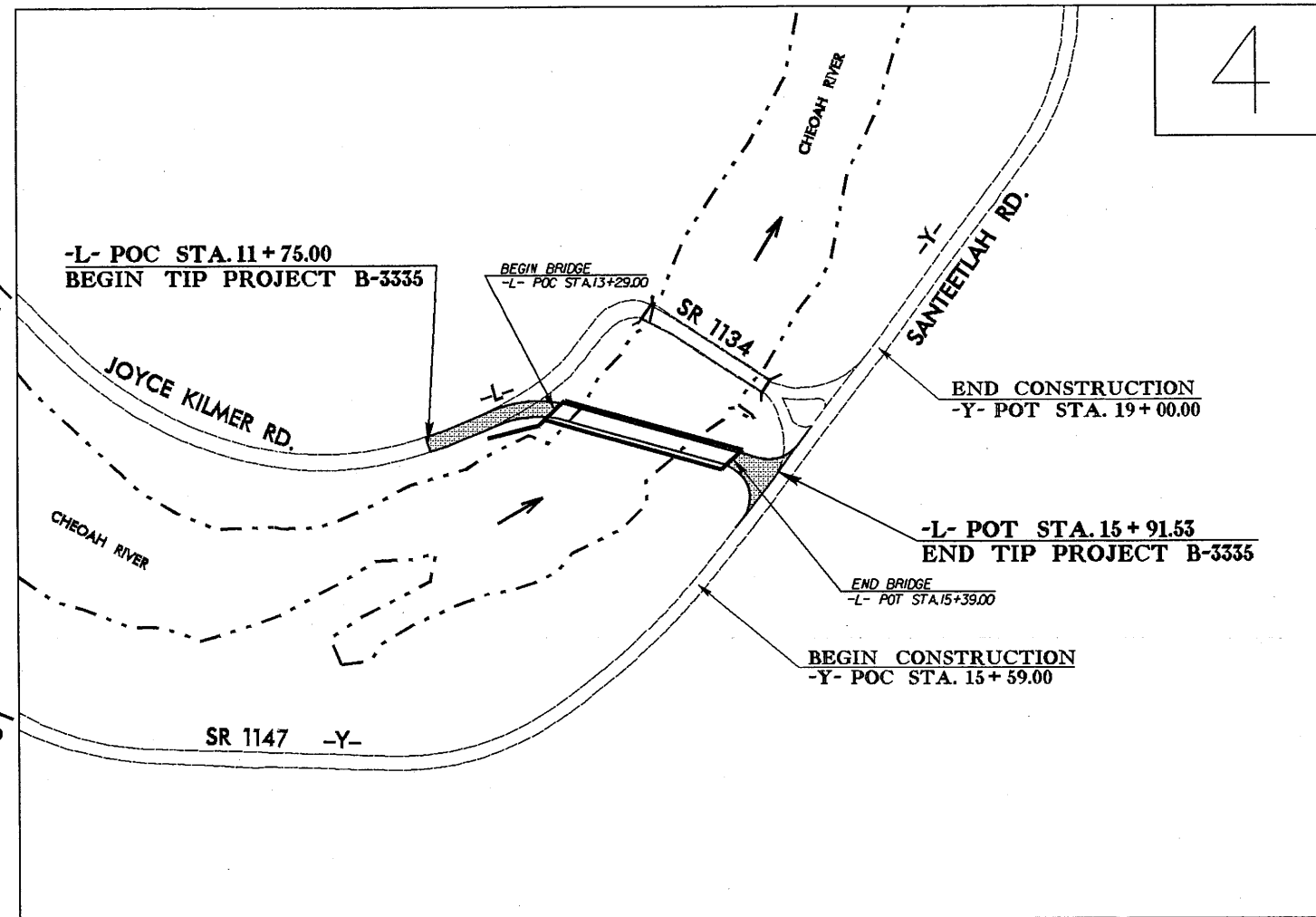
LOCATION: BRIDGE NO. 70 OVER CHEOAH RIVER ON SR 1134

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3335	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32998.1.2	BRZ-1134(1)	PE	
32998.3.1	BRZ-1134(2)	ROW & UTIL.	

TIP PROJECT: B-3335

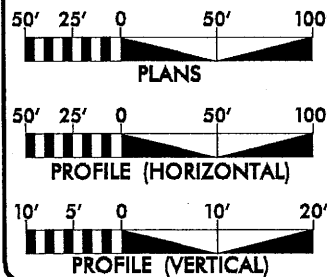
CONTRACT: C202428



NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 175
ADT 2030 = 250
DHV = 20 %
D = 65 %
T = 3 %
V = 20 MPH
FUNC CLASS = LOCAL
* TTST 1 % DUAL 2 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3335 = 0.039 MI.
LENGTH STRUCTURE TIP PROJECT B-3335 = 0.040 MI.
TOTAL LENGTH OF TIP PROJECT B-3335 = 0.079 MI.

Prepared In the Office of:
DIVISION OF HIGHWAYS

1000 Birch Ridge Dr.
Raleigh, NC 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 10, 2009

LETTING DATE:
JUNE 15, 2010

ROGER THOMAS, PE
PROJECT ENGINEER

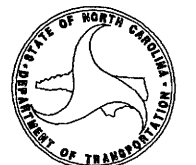
MICHAEL LITTLE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.
STATE HIGHWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

3/15/06

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for boundaries and property: State Line, County Line, Township Line, City Line, Reservation Line, Property Line, Existing Iron Pin, Property Corner, Property Monument, Parcel/Sequence Number, Existing Fence Line, Proposed Woven Wire Fence, Proposed Chain Link Fence, Proposed Barbed Wire Fence, Existing Wetland Boundary, Proposed Wetland Boundary, Existing Endangered Animal Boundary, Existing Endangered Plant Boundary.

BUILDINGS AND OTHER CULTURE:

Table listing symbols for buildings and other culture: Gas Pump Vent or UG Tank Cap, Sign, Well, Small Mine, Foundation, Area Outline, Cemetery, Building, School, Church, Dam.

HYDROLOGY:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Wetland, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for right of way: Baseline Control Point, Existing Right of Way Marker, Existing Right of Way Line, Proposed Right of Way Line, Proposed Right of Way Line with Iron Pin and Cap Marker, Proposed Right of Way Line with Concrete or Granite Marker, Existing Control of Access, Proposed Control of Access, Existing Easement Line, Proposed Temporary Construction Easement, Proposed Temporary Drainage Easement, Proposed Permanent Drainage Easement, Proposed Permanent Utility Easement, Proposed Temporary Utility Easement, Proposed Permanent Easement with Iron Pin and Cap Marker.

ROADS AND RELATED FEATURES:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Proposed Wheel Chair Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for existing structures: MAJOR: Bridge, Tunnel or Box Culvert, Bridge Wing Wall, Head Wall and End Wall; MINOR: Head and End Wall, Pipe Culvert, Footbridge, Drainage Box: Catch Basin, DI or JB, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

Table listing symbols for utilities: POWER: Existing Power Pole, Proposed Power Pole, Existing Joint Use Pole, Proposed Joint Use Pole, Power Manhole, Power Line Tower, Power Transformer, UG Power Cable Hand Hole, H-Frame Pole, Recorded UG Power Line, Designated UG Power Line (S.U.E.*); TELEPHONE: Existing Telephone Pole, Proposed Telephone Pole, Telephone Manhole, Telephone Booth, Telephone Pedestal, Telephone Cell Tower, UG Telephone Cable Hand Hole, Recorded UG Telephone Cable, Designated UG Telephone Cable (S.U.E.*), Recorded UG Telephone Conduit, Designated UG Telephone Conduit (S.U.E.*), Recorded UG Fiber Optics Cable, Designated UG Fiber Optics Cable (S.U.E.*).

WATER:

Table listing symbols for water: Water Manhole, Water Meter, Water Valve, Water Hydrant, Recorded UG Water Line, Designated UG Water Line (S.U.E.*), Above Ground Water Line.

TV:

Table listing symbols for TV: TV Satellite Dish, TV Pedestal, TV Tower, UG TV Cable Hand Hole, Recorded UG TV Cable, Designated UG TV Cable (S.U.E.*), Recorded UG Fiber Optic Cable, Designated UG Fiber Optic Cable (S.U.E.*).

GAS:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded UG Gas Line, Designated UG Gas Line (S.U.E.*), Above Ground Gas Line.

SANITARY SEWER:

Table listing symbols for sanitary sewer: Sanitary Sewer Manhole, Sanitary Sewer Cleanout, UG Sanitary Sewer Line, Above Ground Sanitary Sewer, Recorded SS Forced Main Line, Designated SS Forced Main Line (S.U.E.*).

MISCELLANEOUS:

Table listing symbols for miscellaneous: Utility Pole, Utility Pole with Base, Utility Located Object, Utility Traffic Signal Box, Utility Unknown UG Line, UG Tank; Water, Gas, Oil, A/G Tank; Water, Gas, Oil, UG Test Hole (S.U.E.*), Abandoned According to Utility Records, End of Information.

SURVEY CONTROL SHEET B-3335

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL1	BL-1	629455.1070	549854.5090	1737.53	OUTSIDE PROJECT LIMITS	
BL2	BL-2	629142.5460	550189.9070	1734.40	OUTSIDE PROJECT LIMITS	
BL3	BL-3	629082.5560	550458.0230	1731.72	11+11.57	25.18 RT
BL4	BL-4	629263.0690	550741.8740	1732.60	13+77.75	117.99 LT
BL5	BL-5	629136.9870	550982.8170	1742.95	OUTSIDE PROJECT LIMITS	
BY POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
BY6	BY-6	628772.1430	550402.5700	1766.62	10+68.05	12.89 LT
BY7	BY-7	628770.6350	550626.1610	1760.23	12+88.31	19.23 RT
BY8	BY-8	628959.7410	550851.2960	1748.74	15+75.40	21.17 RT
S5	BL-5	629136.9870	550982.8170	1742.95	17+95.24	20.01 RT
BY9	BY-9	629393.0120	551133.0040	1743.11	20+90.27	12.49 LT

**NCDOT GPS STATION B-3335 GPS-102
LOCALIZED PROJECT COORDINATES**
 N = 630,362.1850
 E = 548,243.7920
 ELEV. = 1,749.65'

**NCDOT BASELINE STATION B-3335 BL-1
LOCALIZED PROJECT COORDINATES**
 N = 629,455.1070
 E = 549,854.5090
 ELEV. = 1,737.53'

**NCDOT BASELINE STATION B-3335 BY-9
LOCALIZED PROJECT COORDINATES**
 N = 629,393.0120
 E = 551,133.0040
 ELEV. = 1,743.11'

.....
 BM1 ELEVATION = 1736.73
 N 629435 E 549867
 L STATION 10+00
 S 55°24'43" E DIST. 578.01'
 8" SPIKE IN BASE OF WHITE OAK TREE

.....
 BM2 ELEVATION = 1733.88
 N 629287 E 550773
 L STATION 14+02 149 LEFT
 CHISELED "X" ON CONC. HW

.....
 BM3 ELEVATION = 1767.59
 N 628737 E 550568
 Y STATION 12+27 31 RIGHT
 8" SPIKE IN BASE OF POPLAR TREE

.....
 BM4 ELEVATION = 1743.08
 N 629398 E 551127
 Y STATION 20+91 20 LEFT
 8" SPIKE IN BASE OF SYCAMORE TREE

**NCDOT BASELINE STATION B-3335 BL-2
LOCALIZED PROJECT COORDINATES**
 N = 629,142.5460
 E = 550,189.9070
 ELEV. = 1,734.40'

**NCDOT BASELINE STATION B-3335 BL-3
LOCALIZED PROJECT COORDINATES**
 N = 629,082.5560
 E = 550,458.0230
 ELEV. = 1,731.72'

**NCDOT BASELINE STATION B-3335 BY-7
LOCALIZED PROJECT COORDINATES**
 N = 628,770.6350
 E = 550,626.1610
 ELEV. = 1,760.23'

**NCDOT BM-2
1,733.88'**

**NCDOT BASELINE STATION B-3335 BL-5
LOCALIZED PROJECT COORDINATES**
 N = 629,136.9870
 E = 550,982.8170
 ELEV. = 1,742.95'

**NCDOT BASELINE STATION B-3335 BY-8
LOCALIZED PROJECT COORDINATES**
 N = 628,959.7410
 E = 550,851.2960
 ELEV. = 1,742.74'

**NCDOT BASELINE STATION B-3335 BY-6
LOCALIZED PROJECT COORDINATES**
 N = 628,772.1430
 E = 550,402.5700
 ELEV. = 1,766.62'

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3335 "GPS-102"" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 630362.1850(±) EASTING: 548243.7920(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999796059 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3335 "GPS-102"" TO -L- STATION 11+75.00 IS S 61°22'47" E 2588.13'

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

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOE/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOE/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B3335_LS_CONTROL.TXT
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

© INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

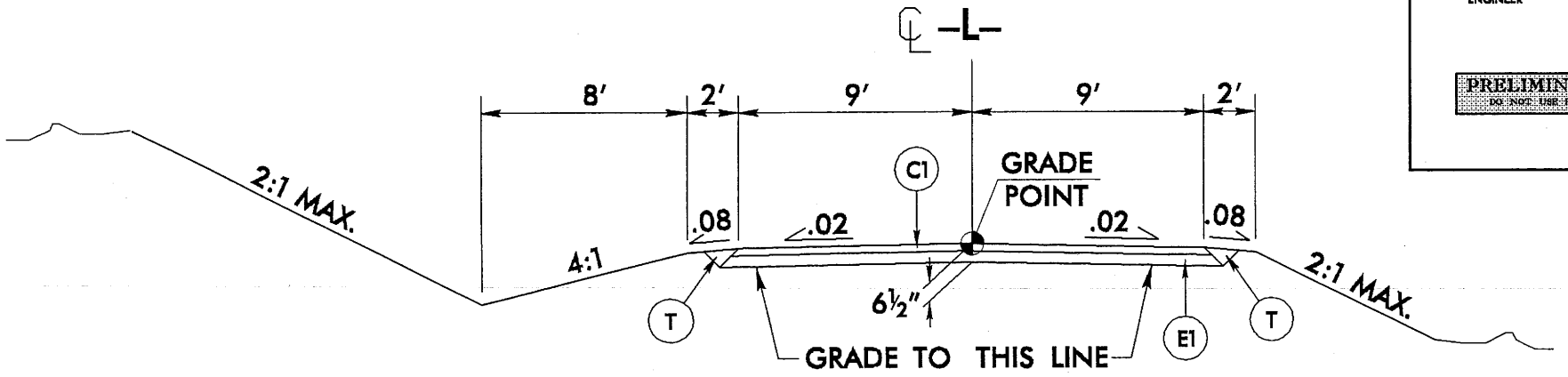
6/2/99
 17-AUG-2009 07:28
 I:\PROJECTS\B3335-RD\psh-loc.dgn

6/2/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF 2 LAYERS
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF 2 LAYERS
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 466 LBS. PER SQ. YD.
J1	8" AGGREGATE BASE COURSE
T	EARTH MATERIAL

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

PROJECT REFERENCE NO. B-3335	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

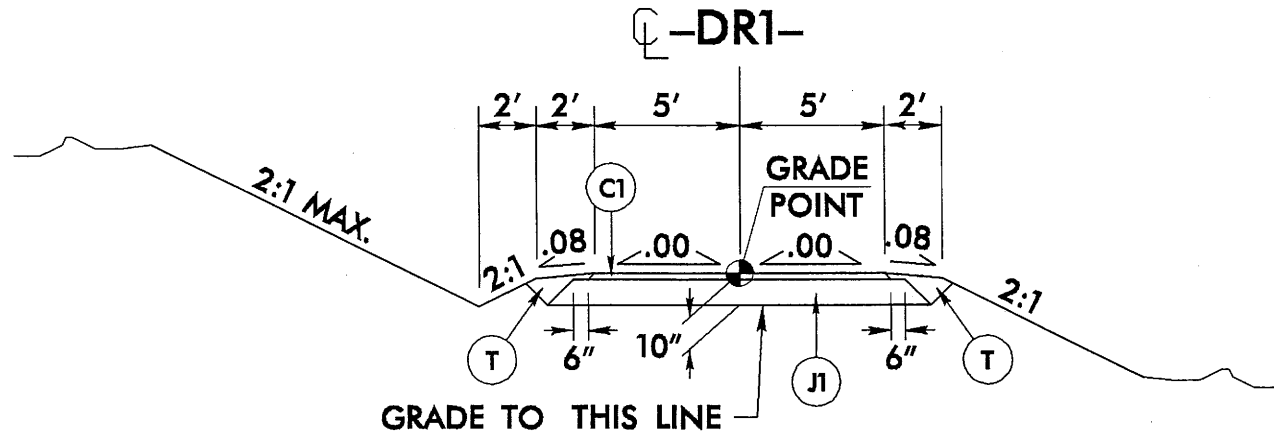


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 12+00.00 TO -L- STA. 13+29.00 (BEG. BR.)
 -L- STA. 15+39.00 (END BR.) TO -L- STA. 15+91.53

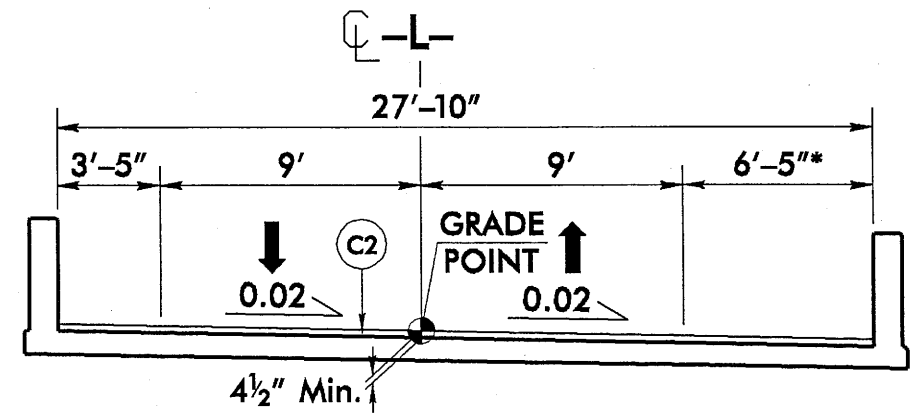
NOTES:
 TRANSITION FROM EXISTING TO T. S. NO.1
 -L- STA. 11+75.00 TO -L- STA. 12+00.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-DR1- STA. 10+07.80 TO -DR1- STA. 11+60.00



* ADDITIONAL WIDTH REQUIRED TO OBTAIN MINIMUM HORIZONTAL CLEARANCE ON WEST END OF PROPOSED STRUCTURE.

DETAIL SHOWING ASPHALT WEARING SURFACE ON CORED SLAB BRIDGE

-L- STA. 13+29.00 TO -L- STA. 15+39.00

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 \$\$\$\$ USE ENVPLOT \$\$\$

-L- CURVE DATA

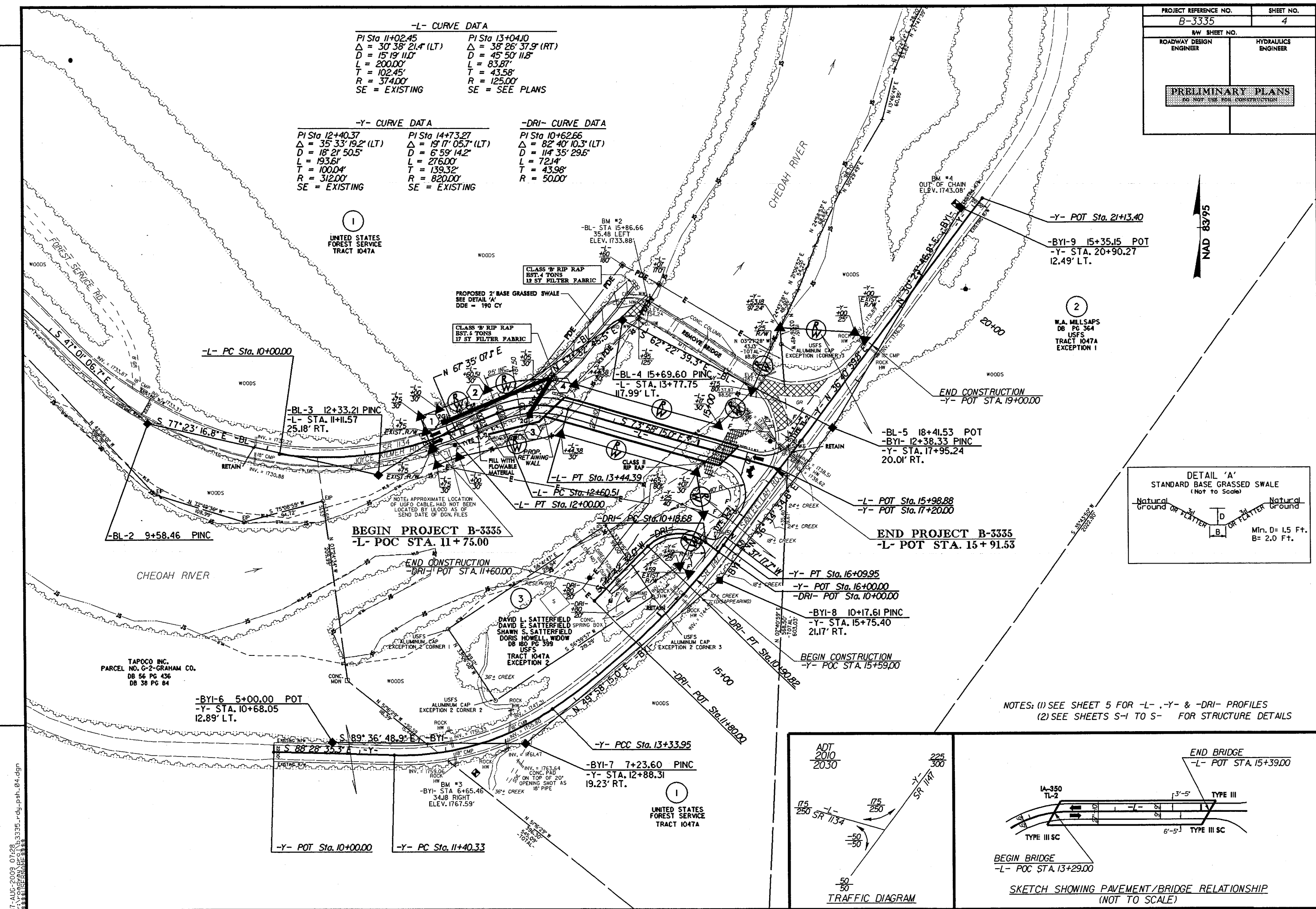
PI Sta 11+02.45 Δ = 30° 38' 21.4" (LT) D = 15° 19' 11.0" L = 200.00' T = 102.45' R = 374.00' SE = EXISTING	PI Sta 13+04.10 Δ = 38° 26' 37.9" (RT) D = 45° 50' 11.8" L = 83.87' T = 43.58' R = 125.00' SE = SEE PLANS
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-Y- CURVE DATA

PI Sta 12+40.37 Δ = 35° 33' 19.2" (LT) D = 18° 21' 50.5" L = 193.61' T = 100.04' R = 312.00' SE = EXISTING	PI Sta 14+73.27 Δ = 19° 17' 05.7" (LT) D = 6° 59' 14.2" L = 276.00' T = 139.32' R = 820.00' SE = EXISTING
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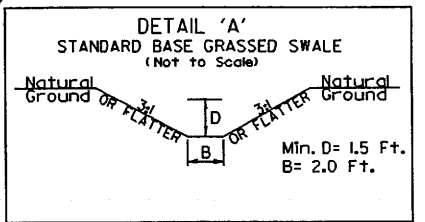
-DRI- CURVE DATA

PI Sta 10+62.66 Δ = 82° 40' 10.3" (LT) D = 114° 35' 29.6" L = 72.14' T = 43.98' R = 50.00'



NAD 83/95

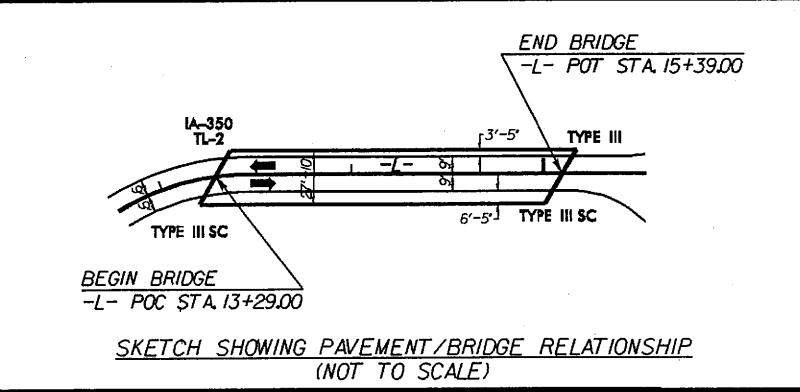
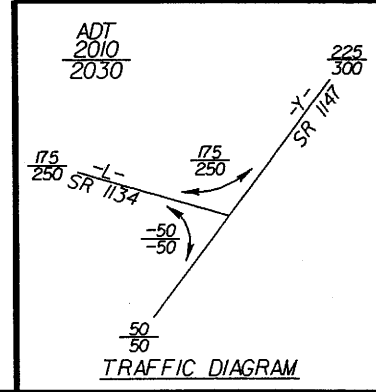
2
W.A. MILLSAPS
DB PG 364
USFS
TRACT 1047A
EXCEPTION 1



END PROJECT B-3335
-L- POT STA. 15+91.53

BEGIN PROJECT B-3335
-L- POC STA. 11+75.00

NOTES: (1) SEE SHEET 5 FOR -L-, -Y- & -DRI- PROFILES
(2) SEE SHEETS S-1 TO S- FOR STRUCTURE DETAILS



17-AUG-2009 07:28
L:\V\B\B\3335-r.dwg-pah_04.dgn

5/28/99

17-AUG-2009 07:28 33335_rdy.plt.dgn

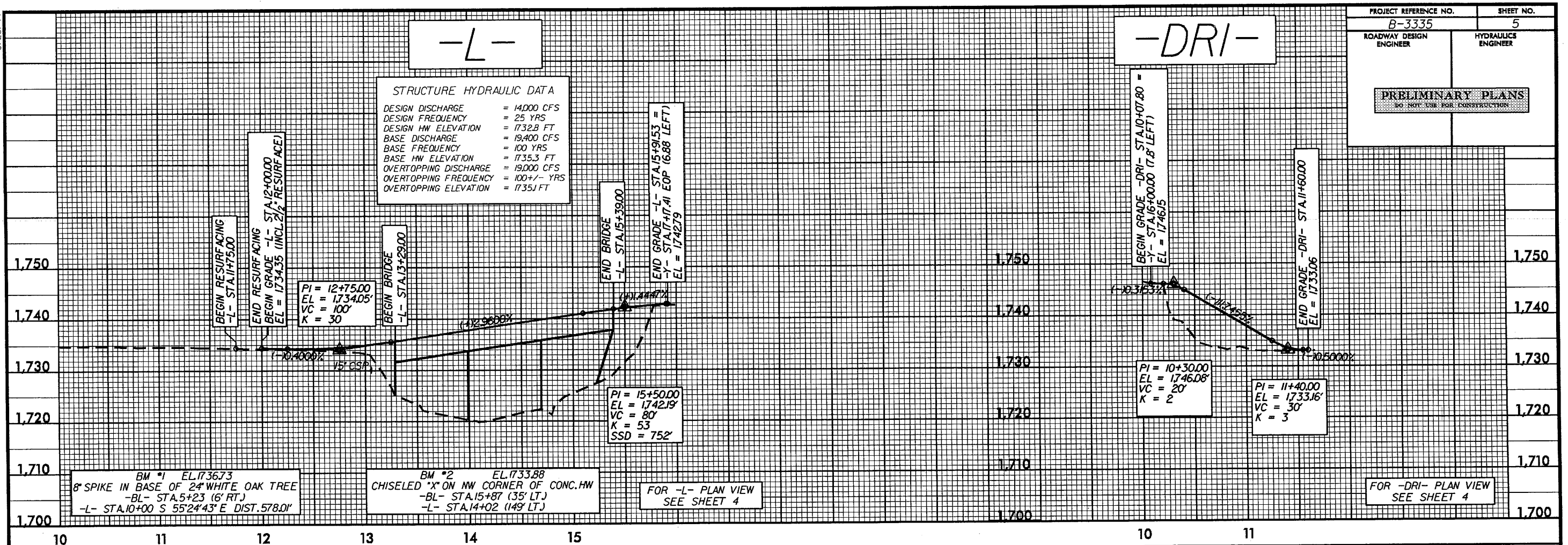
PROJECT REFERENCE NO. B-3335	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

-L-

-DRI-

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 14000 CFS
 DESIGN FREQUENCY = 25 YRS
 DESIGN HW ELEVATION = 1732.8 FT
 BASE DISCHARGE = 19400 CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 1735.3 FT
 OVERTOPPING DISCHARGE = 19000 CFS
 OVERTOPPING FREQUENCY = 100 +/- YRS
 OVERTOPPING ELEVATION = 1735.1 FT



BM #1 EL. 1736.73
 8" SPIKE IN BASE OF 24" WHITE OAK TREE
 -BL- STA. 5+23 (6' RT.)
 -L- STA. 10+00 S 55°24'43" E DIST. 578.0'

BM #2 EL. 1733.88
 CHISELED "X" ON NW CORNER OF CONC. HW
 -BL- STA. 15+87 (35' LT.)
 -L- STA. 14+02 (149' LT.)

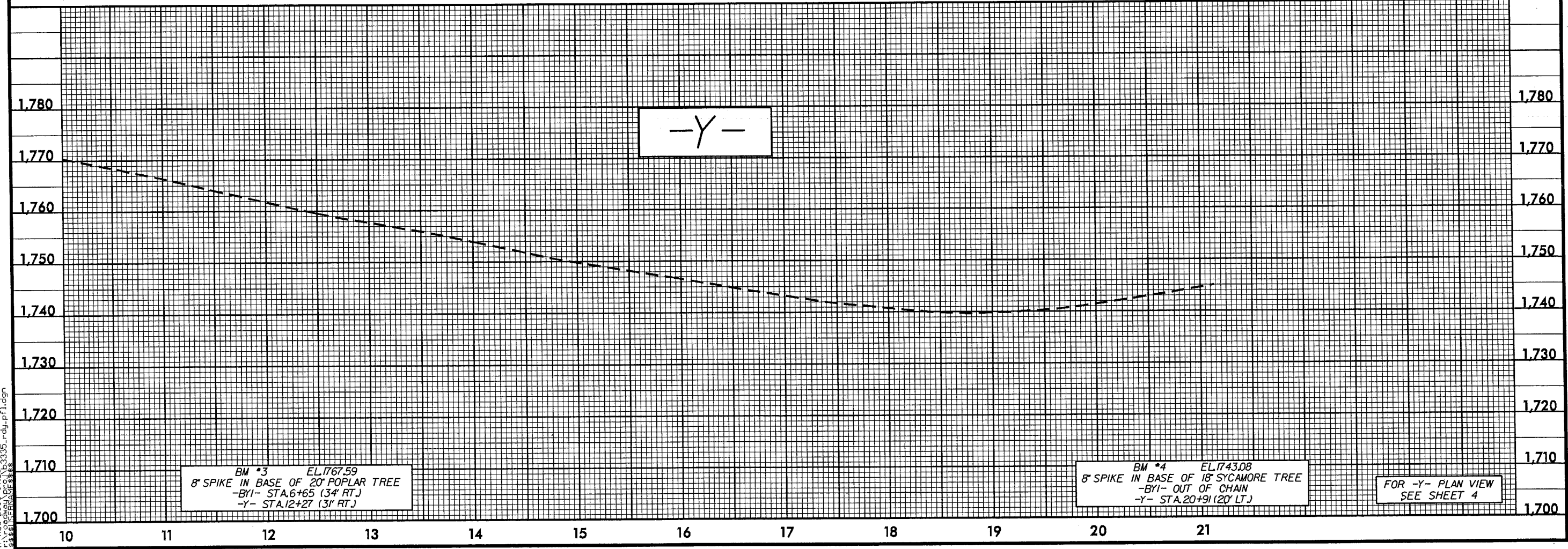
FOR -L- PLAN VIEW
SEE SHEET 4

PI = 10+30.00
 EL = 1746.08'
 VC = 20'
 K = 2

PI = 11+40.00
 EL = 1733.16'
 VC = 30'
 K = 3

FOR -DRI- PLAN VIEW
SEE SHEET 4

-Y-



BM #3 EL. 1767.59
 8" SPIKE IN BASE OF 20" POPLAR TREE
 -BYI- STA. 6+65 (34' RT.)
 -Y- STA. 12+27 (31' RT.)

BM #4 EL. 1743.08
 8" SPIKE IN BASE OF 18" SYCAMORE TREE
 -BYI- OUT OF CHAIN
 -Y- STA. 20+91 (20' LT.)

FOR -Y- PLAN VIEW
SEE SHEET 4