



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI
SECRETARY

June 30, 2011

U.S. Army Corps of Engineers
Regulatory Field Office
PO Box 1000
Washington, NC 27889-1000

Attention: Thomas Steffens
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 General Permit 198200031, Section 401 Water Quality Certification, and Neuse Riparian Buffer Authorization** for the proposed replacement of Bridge No. 102 on SR 1331 over Black Creek, Johnston County. TIP No. B-4560; State Project No. 8.2313701; Federal Aid Project No. BRZ-1331(10); Debit \$240.00 from WBS 33771.1.1

Please find enclosed the PCN form, stormwater management plan, permit drawings, buffer drawings, and half-size plan sheets for the above referenced project. A Categorical Exclusion (CE) was completed for this project in May 2007, and distributed shortly thereafter. Additional copies will be made available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 102 on SR 1331 over Black Creek in Johnston County. The project involves replacement of the existing 153-foot structure with a 208-foot long bridge in approximately the same location. Permanent riparian wetland impacts consist of 0.03 acre of permanent due to fill and excavation. In addition, there will be 2,703 sq. ft. of riparian buffer impacts.

The let date for this project is December 20, 2011; however, the let date may advance as additional funds become available.

Regulatory approvals

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that these activities be authorized by a General Permit No. 198200031.

Section 401 Water Quality Certification: We anticipate 401 General Certification number 3820 will apply to this project. All general conditions of the Water Quality Certification will

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

TELEPHONE: 919-707-6100
FAX: 919-212-5785

WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

be met. NCDOT is providing five copies of this application to the NCDWQ for their review and approval. Authorization to debit the \$240 Permit Application Fee from WBS Element 33771.1.1 is hereby given.

Neuse Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Neuse Riparian Buffer Authorization.

A copy of this permit application and its distribution list will be posted on the NCDOT website at <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>

Thank you for your assistance with this project. If you have any questions or need additional information, please contact John Merritt at jsmerritt@ncdot.gov or (919) 707-6140.

Sincerely,

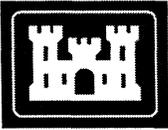


for

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

cc:

NCDOT Permit Application Standard Distribution List



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: _____ or General Permit (GP) number: 198200031		
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 checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input checked="" 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 type="checkbox"/> Yes <input checked="" 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:	Replacement of Bridge 102 over Black Creek on SR 1331
2b. County:	Johnston
2c. Nearest municipality / town:	Black Creek
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4560

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) 212-5757
3g. Fax no.:	(919) 212-5785
3h. Email address:	jsmeritt@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: 35.467725 (DD.DDDDDD) Longitude: - 78.53251 (-DD.DDDDDD)
1c. Property size:	1.4 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Black Creek
2b. Water Quality Classification of nearest receiving water:	C;NSW
2c. River basin:	Neuse
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: The primary natural community found on the site is mixed pine/hardwood forest; the principal land uses in the project vicinity include undeveloped land mixed with agriculture and residential development.	
3b. List the total estimated acreage of all existing wetlands on the property: The original study area consisted of approximately 11.04 acres of wetlands.	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 150	
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 153-foot bridge with a 205-foot, 2-span bridge on the existing alignment with an off-site detour. Standard road and bridge 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: The jurisdictional determination (JD) has expired and will be reapplied for in conjunction with this permit.	<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): Kevin Nunnery, Ph.D	Agency/Consultant Company: RK&K Engineers Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. The JD was issued on April 22, 2004. Please find the attached JD.	
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)
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	excavation		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	fill		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	fill		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.02
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	fill		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.06
Site 3 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	fill		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.01
Site 4 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	fill		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.01
Site 4 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	fill		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.02
2g. Total wetland impacts					T – 0.10 P – 0.03

2h. Comments: <0.01 Ac of Temporary Fill in wetlands in the Hand Clearing areas for the installation of erosion control measures, including Temporary Silt Fence and/or Special Sediment Control Fence; 0.10 acre for hand clearing impacts

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)
Site 1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <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 Perm

0 Temp

3i. Comments: I

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				

4g. Comments: Permanent impacts due to bents are <0.01 acre

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? Yes 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 checked="" type="checkbox"/> Neuse <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input type="checkbox"/> Other:
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 checked="" type="checkbox"/> P <input type="checkbox"/> T	Hand clearing	Black Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	130	177
B2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill – rip rap	Black Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	613	709
B3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Hand clearing and fill	Black Creek	<input type="checkbox"/> Yes <input type="checkbox"/> No	45	424
B4 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Hand clearing	Black Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4	601
6h. Total buffer impacts				792	1,911
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 proposed bridge is 48 feet longer than the existing bridge, the proposed bridge will be at approximately the same grade as the existing structure, use of minimum 3:1 side slopes, and there will be riprap at runoff outlets for erosion protection.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Best Management Practices for Bridge Demolition, Removal and Construction will be followed, as well as those for Sedimentation and Erosion Control, anadromous fish moratorium from February 15 - June 15, Design Standards in Sensitive Watersheds, and the utilization of an off-site detour.		
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 If no, explain: Due to the minimal impacts to Waters of the U.S., no compensatory mitigation is proposed.	
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.

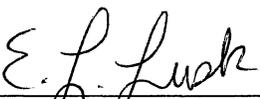
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				

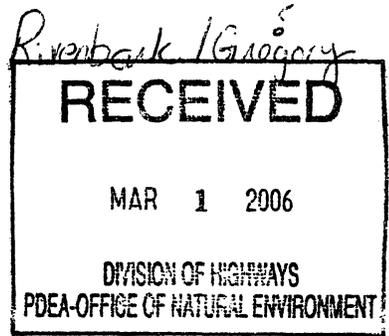
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments: see attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
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	
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 checked="" 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? N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
5b. Have all of the 401 Unit submittal requirements been met? N/A	<input 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 checked="" type="checkbox"/> Raleigh	<input type="checkbox"/> Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NHP, USFWS (concurrence memo attached), NCDOT field surveys, last completed on 11/4/2009		
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation and concurrence from the NC Department of Cultural Resources, State Historic Preservation Office, dated September 8, 2006.		
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 Flood 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.)	6.30.11 Date



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
February 23, 2006

Philip S. Harris, III, P.E.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

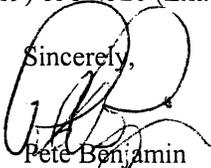
Dear Mr. Harris:

This letter is in response to your letter of February 15, 2006 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 102 on SR 1331 over Black Creek in Johnston County (TIP No. B-4560) may affect, but is not likely to adversely affect the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*) and Tar spiny mussel (*Elliptio steinstansana*). In addition, NCDOT has determined that the project will have no effect on the federally endangered Michaux's sumac (*Rhus michauxii*) and red-cockaded woodpecker (*Picoides borealis*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, a plant survey was conducted at the project site on August 24, 2004. No specimens of Michaux's sumac were observed. Based on these survey results, the Service concurs that the project will have no effect on Michaux's sumac. Also, due to the lack of habitat, the Service concurs that the project will have no effect on the red-cockaded woodpecker.

According to information provided, a mussel survey was conducted at the project site on June 7, 2005. The survey extended 100 meters upstream and 400 meters downstream of SR 1331. Neither of the federally listed species was found, and neither species has ever been known to occur within Black Creek. Based on the mussel survey results, the Service concurs with your determination that the proposed bridge replacement may affect, but is not likely to adversely affect the dwarf wedgemussel and Tar spiny mussel. We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation 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 in this review; (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 determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Pete Benjamin
Ecological Services Supervisor

- cc: William Wescott, USACE, Washington, NC
- Nicole Thomson, NCDWQ, Raleigh, NC
- Travis Wilson, NCWRC, Creedmoor, NC
- Chris Militscher, USEPA, Raleigh, NC
- John Sullivan, FHWA, Raleigh, NC

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action Id. 200411236

County: Johnson

U.S.G.S. Quad: -78.53251/35.467725

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: Kevin Nunnery, Ph.D, Project Manager

Address: RK&K Engineers

5800 Faringdon Place, Suite 105, Raleigh, North Carolina 27609-3960

Telephone No.: 919-878-9560

Size and location of property (waterbody, road name/number, town, etc.) Wetlands adjacent to Bridge No. 102 on SR 1331 over Black Creek. TIP No. B-4560.

Indicate Which of the Following Apply:

- Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps.
- There are wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
 - We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.
 - The wetlands on the property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on the property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.
 - The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.

Remarks: _____

Corps Regulatory Official: _____



Date April 22, 2004

Expiration Date April 22, 2009

Action Id. 200411236

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact Michael F. Bell at 252-975-1616 ext.26.

Basis For Determination: The wetlands are adjacent to Black Creek which is a tributary of the Neuse River.

Corps Regulatory Official (Initial): MF

FOR OFFICE USE ONLY:

- A plat or sketch of the property and the wetland data form must be attached to the file copy of this form.
- A copy of the "Notification Of Administrative Appeal Options And Process And Request For Appeal" form must be transmitted with the property owner/agent copy of this form.
- If the property contains isolated wetlands/waters, please indicate in "Remarks" section and attach the "Isolated Determination Information Sheet" to the file copy of this form.



General Project Information

Project No.:	WBS: 33771.1.1 / TIP: B-4560		Date:	1/4/2011
City/Town:			Designer:	
County(ies):	Johnston County		Project Manager:	Bill Zerman, PE
River Basin(s):	Neuse		CAMA County?	no
Primary Receiving Water:	Black Creek		TVA County?	no
NCDWQ Surface Water Classification for Primary Receiving Water			NCDWQ Stream Index:	27-45-(2)
			Class C	
			Nutrient Sensitive Waters (NSW)	

Other Stream Classification:	
303(d) Stream?	yes
State Stormwater Permit Required?	no
Could the Project Impact Threatened or Endangered Species?	no

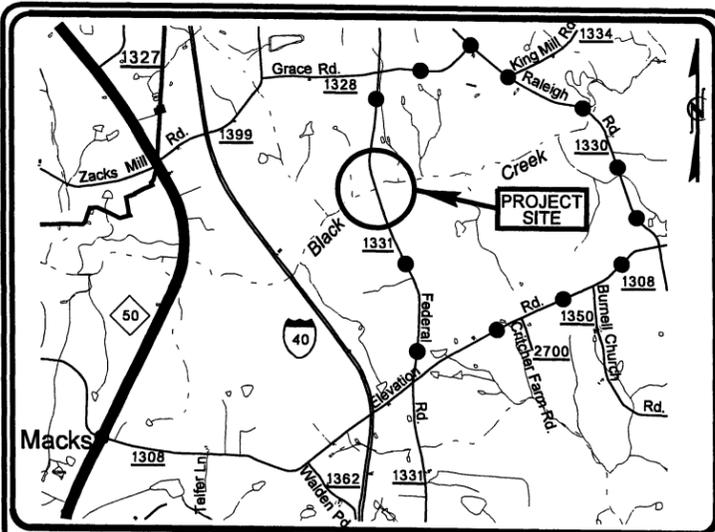
Description:	
Anadromous Fish Present?	no
Description:	
Buffer Rules in Effect?	yes
Buffer Rules:	Neuse River Basin

Existing Site	
Description of Existing Project Area:	2 lane shoulder section roadway in rural area of Johnson County
Average Daily Traffic (existing):	840
Existing Cross Section:	2 lane shoulder section
Surrounding Land Use:	Agricultural and Residential
General Comments:	

Project Description	
Description of Proposed Project:	Replacement of Bridge 102 over Black Creek on SR 1331 (Federal Rd.)
Average Daily Traffic (proposed):	1430
Proposed Cross-Section:	2 lane shoulder section
Interchange Modification:	no
Terminus:	12+50 -L-
Terminus:	23+00 -L-
Project Length (lin. miles/feet):	0.199 mi. / 1050 ft.
General Comments:	
Added Impervious Area (ac.):	0.09

Median Type:	none
---------------------	------

See Sheet 1-A For Index of Sheets



OFFSITE DETOUR

VICINITY MAP
NOT TO SCALE



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

LOCATION: BRIDGE NO. 102 OVER BLACK CREEK
ON SR 1331 (FEDERAL RD.)

GRADING, PAVING, DRAINAGE AND STRUCTURE

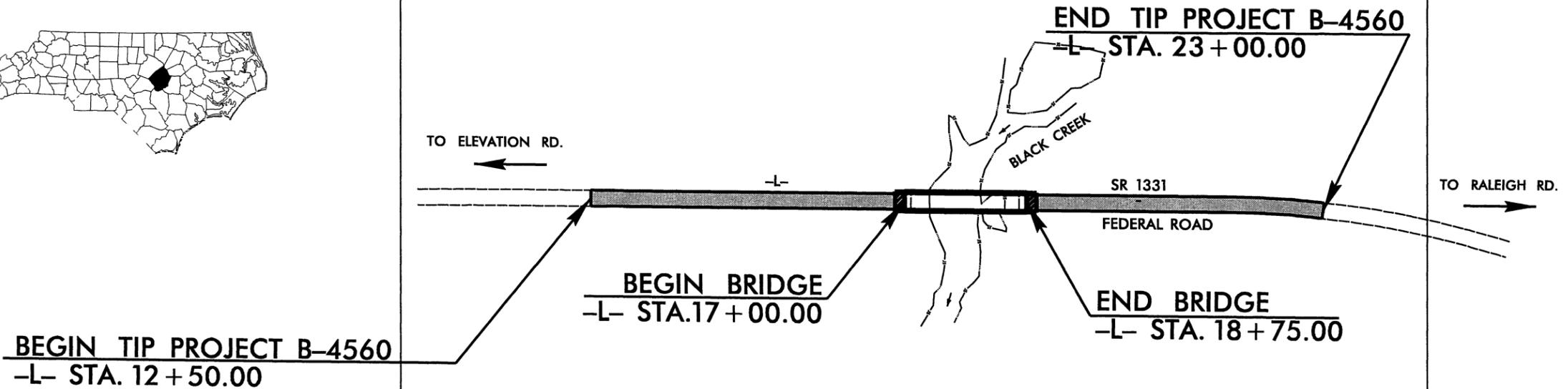
WETLAND & STREAM IMPACTS PACKAGE

Permit Drawing
Sheet 1 of 1

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4560	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33771.1.1	BRZ-1331(10)	P.E.	
33771.2.1	BRZ-1331(10)	RAW & UTL.	
33771.3.1	BRZ-1331(10)	CONST.	



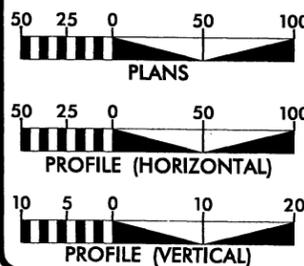
4



TIP PROJECT: B-4560

CONTRACT: C202740

GRAPHIC SCALES



DESIGN DATA

ADT 2011 =	840
ADT 2031 =	1430
DHV =	11 %
D =	60 %
T =	3 % *
V =	60 MPH
* (TTST 1% + DUALS 2%)	
FUNC CLASS =	RURAL LOCAL
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4560 = 0.166 MI
LENGTH STRUCTURE TIP PROJECT B-4560 = 0.033 MI
TOTAL LENGTH TIP PROJECT B-4560 = 0.199 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 9, 2010

LETTING DATE:
DECEMBER 20, 2011

RON McCOLLUM, P.E.
PROJECT ENGINEER

SUSAN C. LANCASTER, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

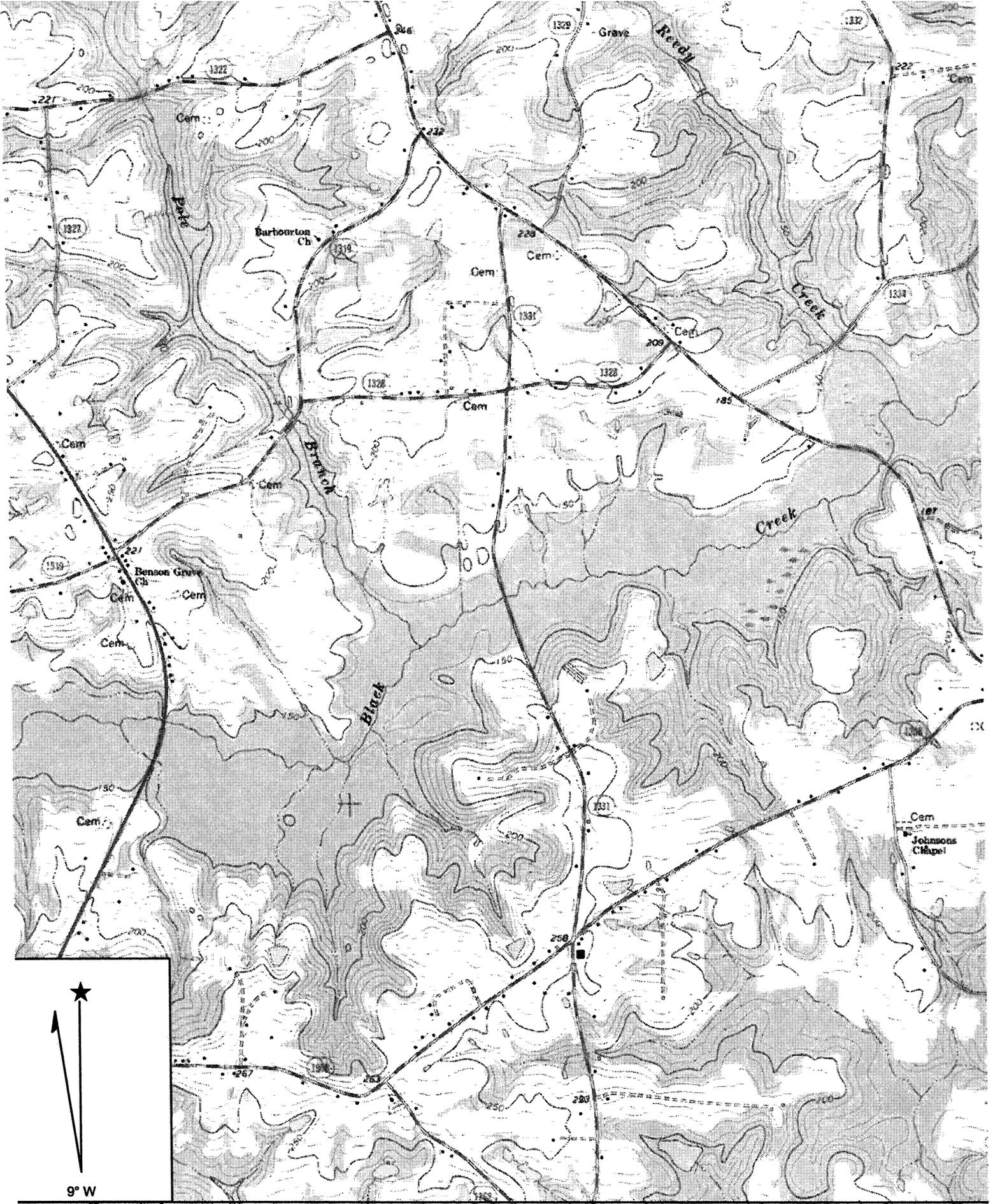
SIGNATURE: _____ P.E.
STATE HIGHWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER P.E.

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$



Name: BENSON
Date: 4/19/2010
Scale: 1 inch equals 2000 feet

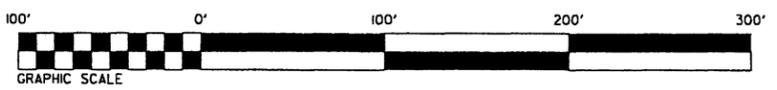
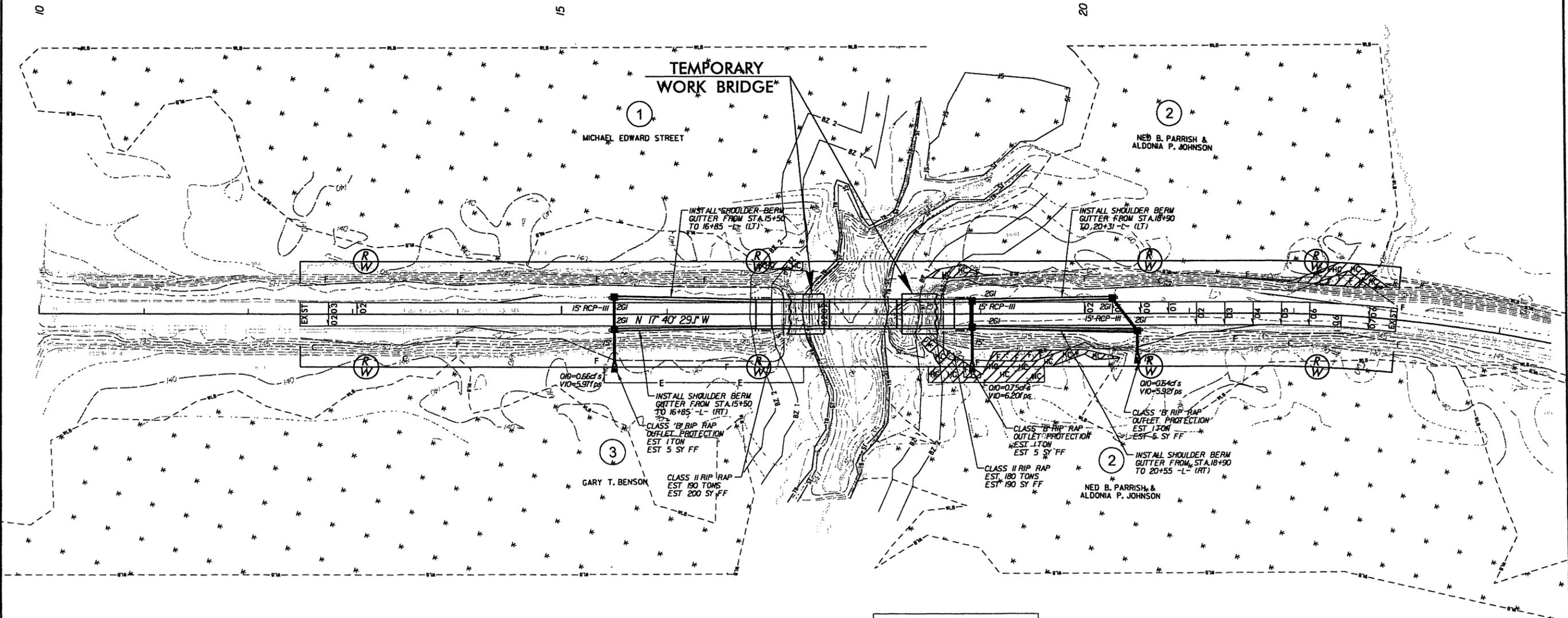
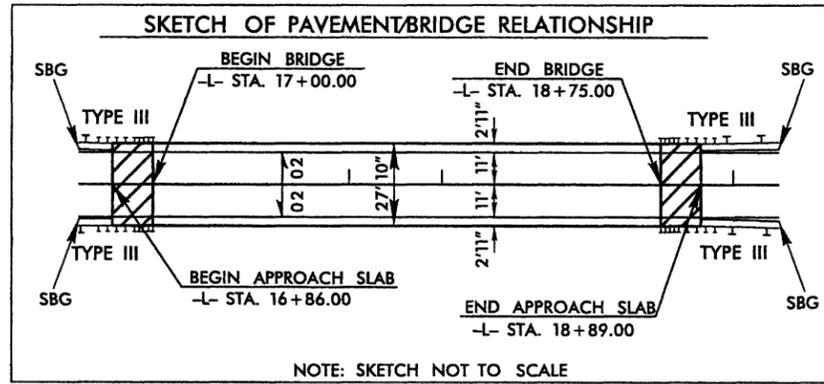
Permit Drawing
Sheet 2 of 11

Location: 035° 28' 05.0" N 078° 32' 00.4" W
Caption: Project 33771.1.1 (B-4560)
Johnston County

5/14/99

Permit Drawing
Sheet 4 of 11

PROJECT REFERENCE NO. B-4560	SHEET NO. 4
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 3377111 (B-4560)
BRIDGE NO. 102 ON SR 1331
FEDERAL RD OVER
BLACK CREEK
DATE: 06 / 27 / 2011

	DENOTES EXCAVATION IN WETLAND
	DENOTES FILL IN WETLAND
	DENOTES HAND CLEARING

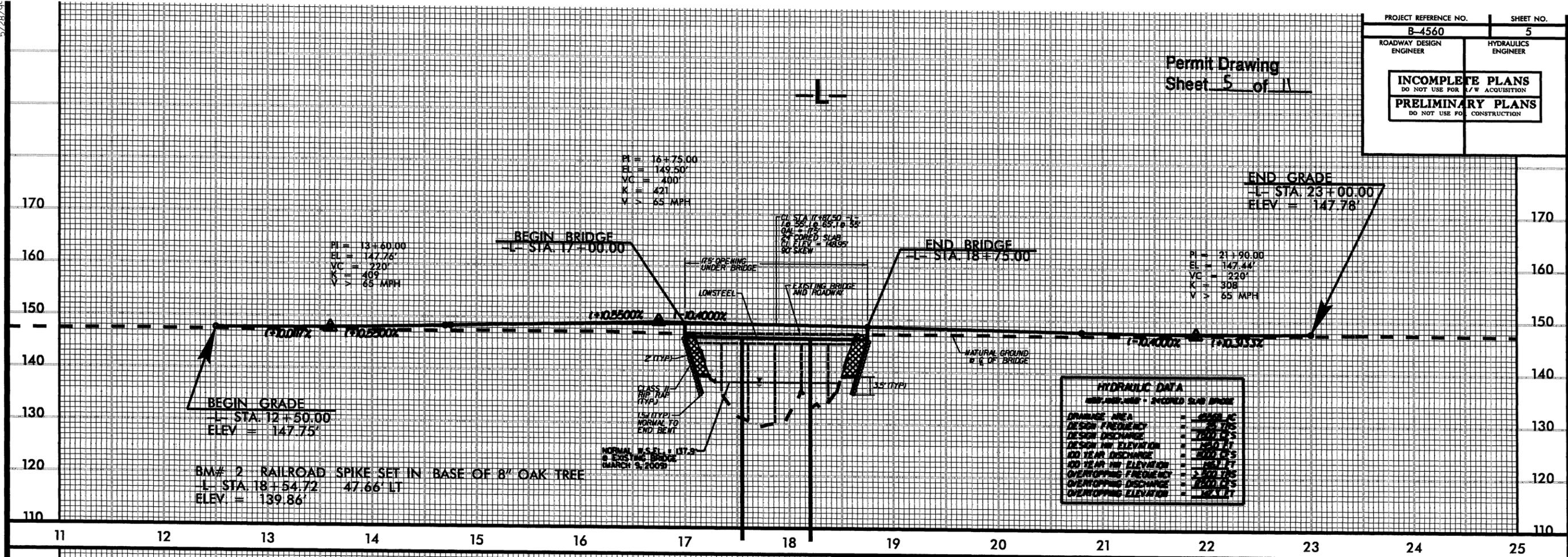
NOTES:
1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S2 - S2 FOR STRUCTURE PLANS

SYSTEMS
 5/14/99
 10
 15
 20

5/28/96

PROJECT REFERENCE NO. B-4560	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 5 of 11



PI = 13+60.00
 EL = 147.76'
 VC = 220'
 K = 499
 V > 65 MPH

PI = 16+75.00
 EL = 149.50'
 VC = 400'
 K = 421
 V > 65 MPH

PI = 21+90.00
 EL = 147.44'
 VC = 220'
 K = 308
 V > 65 MPH

BEGIN GRADE
 L- STA. 12+50.00
 ELEV = 147.75'

BM# 2 RAILROAD SPIKE SET IN BASE OF 8" OAK TREE
 L- STA. 18+54.72 47.66' LT
 ELEV = 139.86'

HYDRAULIC DATA	
FOR 17' x 17' x 17' SECOND SLAB BRIDGE	
DRAINAGE AREA	= 0.00 AC
DESIGN FREQUENCY	= 0.10
DESIGN DISCHARGE	= 1000 CFS
DESIGN HW ELEVATION	= 140.00 FT
100 YEAR DISCHARGE	= 1000 CFS
100 YEAR HW ELEVATION	= 140.00 FT
OVERTOPPING FREQUENCY	= 0.10
OVERTOPPING DISCHARGE	= 1000 CFS
OVERTOPPING ELEVATION	= 140.00 FT

5/28/96

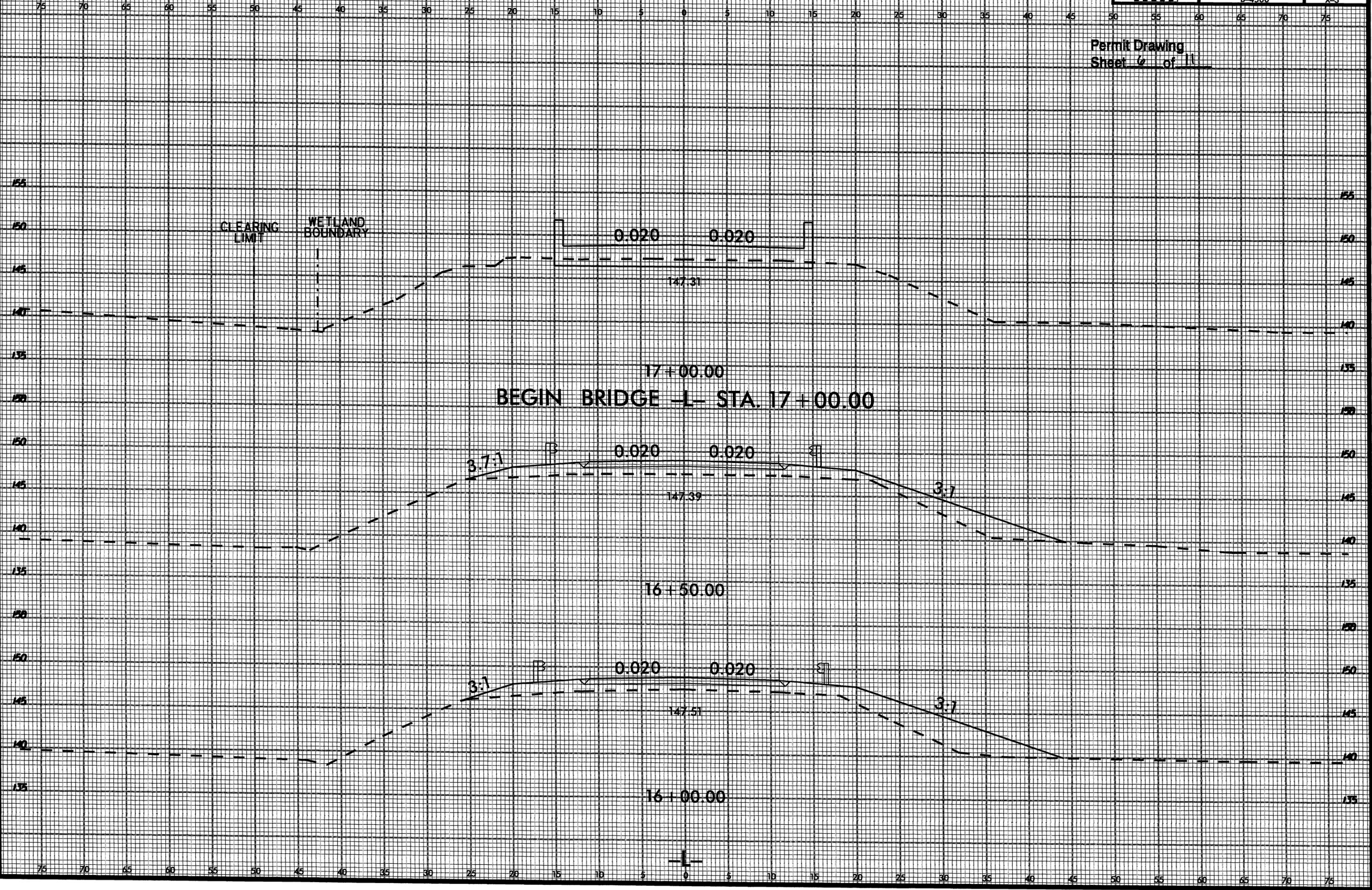
8/23/99



PROJ. REFERENCE NO. B-4560

SHEET NO. X-3

Permit Drawing
Sheet 6 of 11



***** SYSTEMS *****
***** DRAWING INFORMATION *****
***** DRAWING TITLE *****



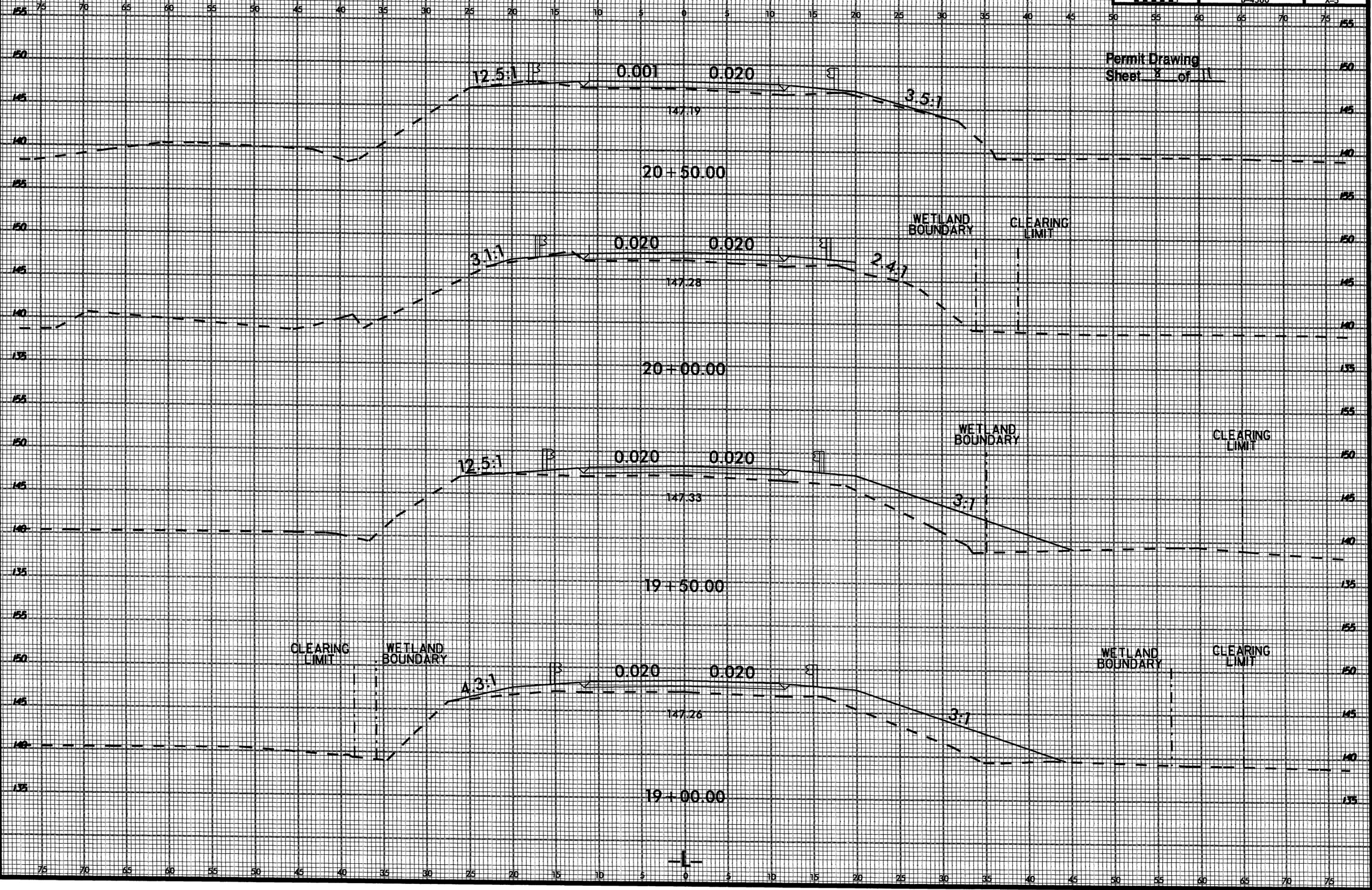
8/23/99



PROJ. REFERENCE NO. B-4560

SHEET NO. X-5

Permit Drawing
Sheet 8 of 11



*****SYSTEMS*****
*****PLANNING*****
*****DESIGN*****
*****CONSTRUCTION*****
*****OPERATION*****

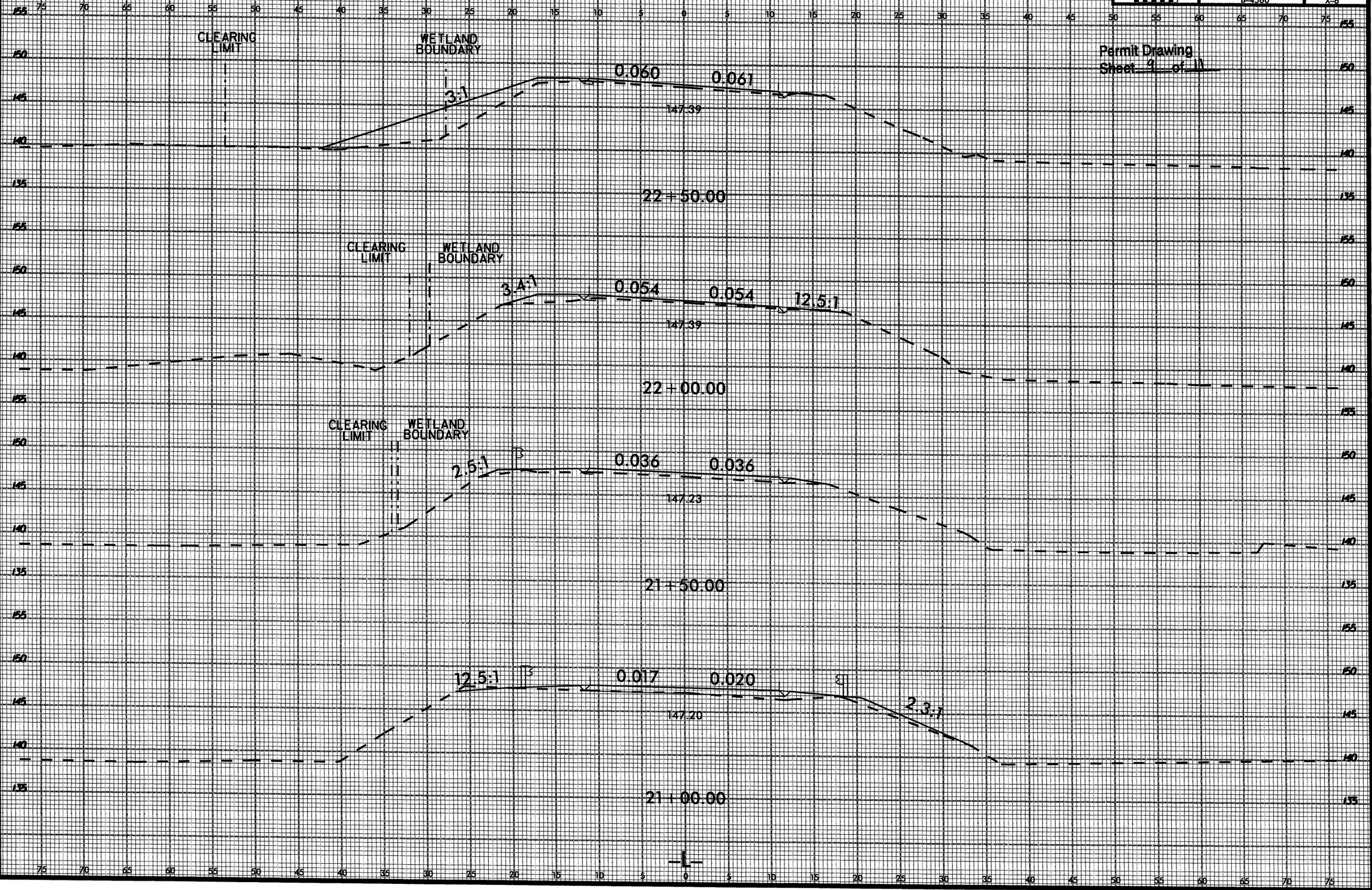


8/23/99

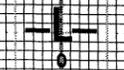


PROJ. REFERENCE NO. B-4560 SHEET NO. X-6

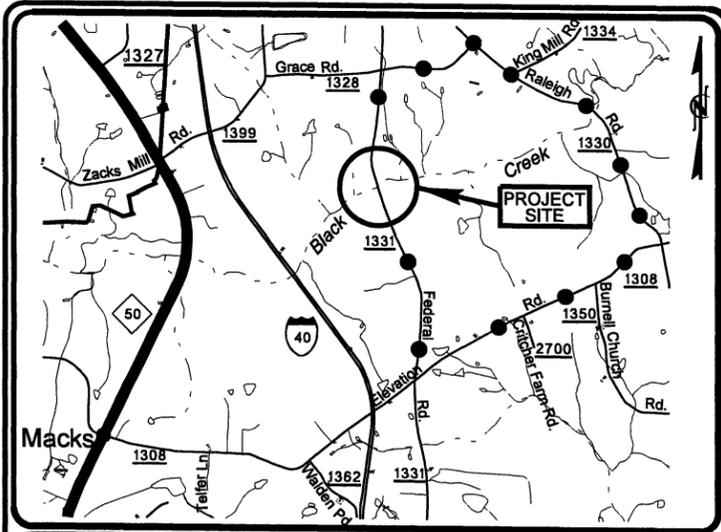
Permit Drawing
Sheet 9 of 11



SYSTEM TIME: 8/23/99 10:00:00
FILE NAME: C:\PROJECTS\B-4560\DRAWING\9.X-6.DWG
PLOT DATE: 8/23/99 10:00:00



See Sheet 1-A For Index of Sheets



OFFSITE DETOUR

VICINITY MAP

NOT TO SCALE



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

LOCATION: BRIDGE NO. 102 OVER BLACK CREEK
ON SR 1331 (FEDERAL RD.)

GRADING, PAVING, DRAINAGE AND STRUCTURE

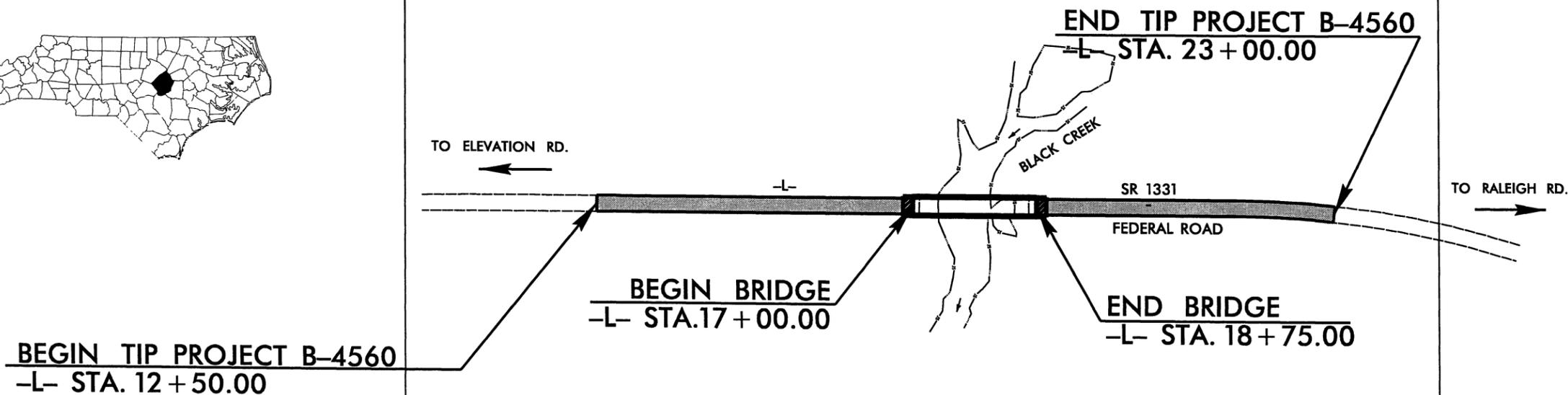
BUFFER IMPACT PACKAGE

Buffer Drawing
Sheet 1 of 9

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4560	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33771.1.1	BRZ-1331(10)	P.E.	
33771.2.1	BRZ-1331(10)	RW & UTL.	
33771.3.1	BRZ-1331(10)	CONST.	



4



TIP PROJECT: B-4560

CONTRACT: C202740

GRAPHIC SCALES



DESIGN DATA

ADT 2011 = 840
ADT 2031 = 1430
DHV = 11 %
D = 60 %
T = 3 % *
V = 60 MPH
* (TTST 1% + DUALS 2%)
FUNC CLASS = RURAL LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4560 = 0.166 MI
LENGTH STRUCTURE TIP PROJECT B-4560 = 0.033 MI
TOTAL LENGTH TIP PROJECT B-4560 = 0.199 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 9, 2010

LETTING DATE:
DECEMBER 20, 2011

RON McCOLLUM, P.E.
PROJECT ENGINEER

SUSAN C. LANCASTER, P.E.
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



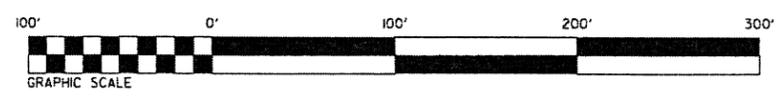
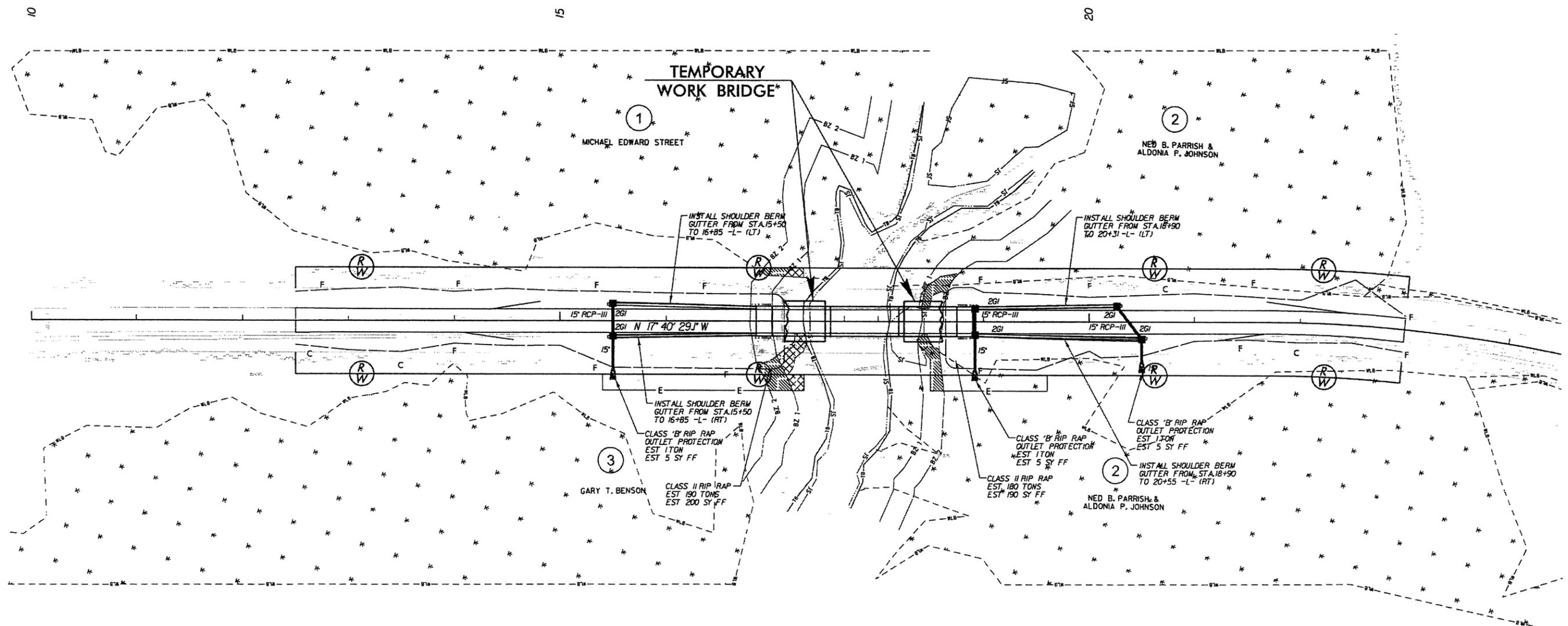
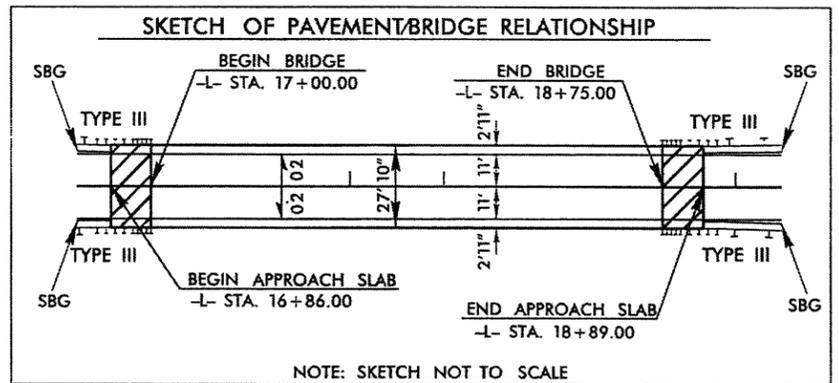
STATE HIGHWAY DESIGN ENGINEER

\$\$\$\$\$ SYSTEMS \$\$\$
\$\$\$\$\$ DGN \$\$\$
\$\$\$\$\$ USERNAME \$\$\$

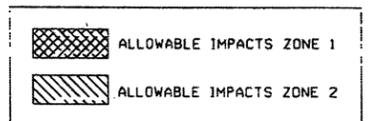
5/14/99

PROJECT REFERENCE NO. B-4560	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 3 of 9



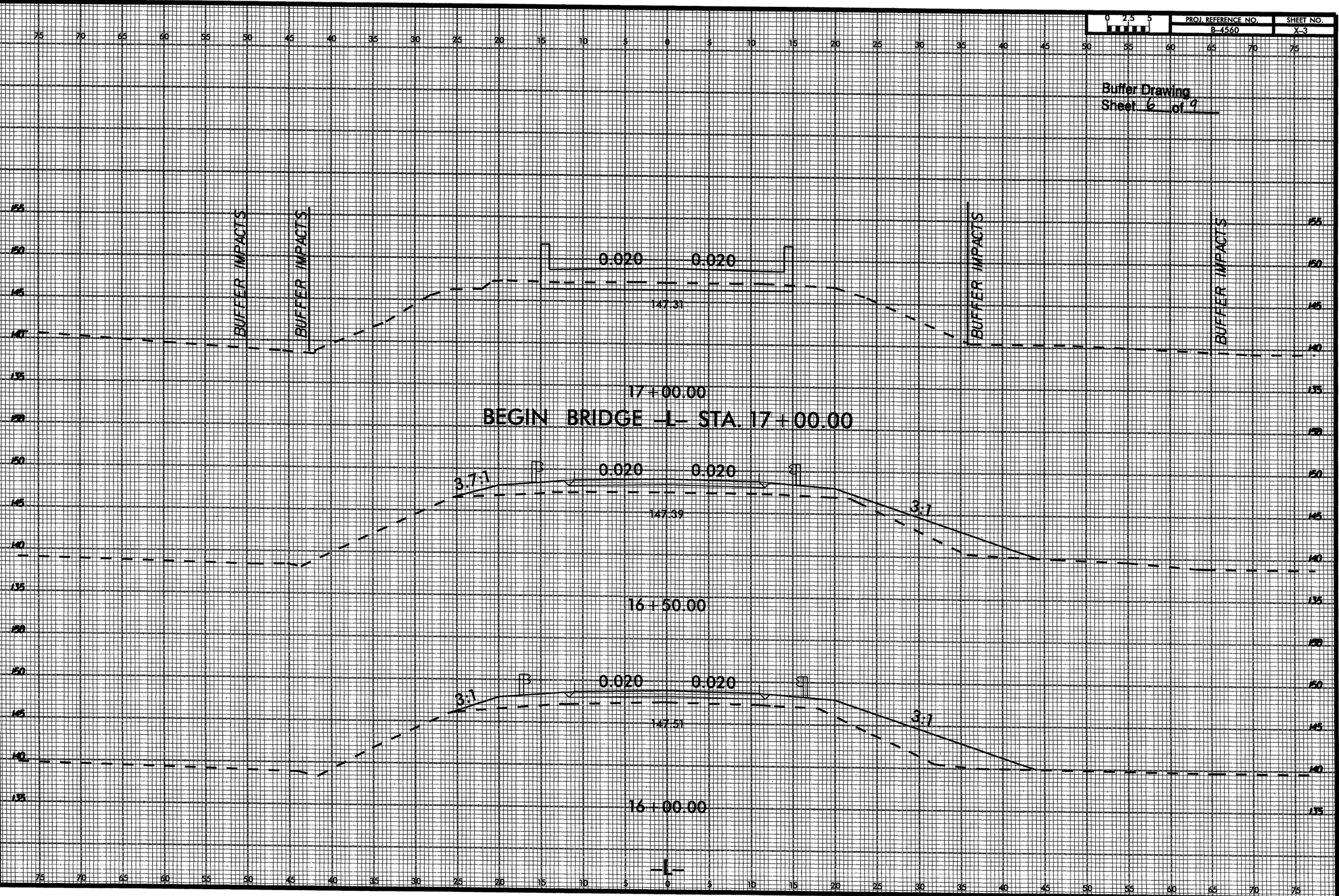
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 33771.1 (B-4560)
BRIDGE NO. 102 ON SR 1331
(FEDERAL RD) OVER
BLACK CREEK
DATE: 06 / 27 / 2011



NOTES:
1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S? - S? FOR STRUCTURE PLANS

8/23/99

Buffer Drawing
Sheet 6 of 9



\$\$\$\$\$ TIME\$\$\$\$\$
\$\$\$\$\$ DATE\$\$\$\$\$
\$\$\$\$\$ USER\$\$\$\$\$
\$\$\$\$\$ JOB\$\$\$\$\$

8/23/99



PROJ. REFERENCE NO. B-4560 SHEET NO. X-4

END BRIDGE - L - STA. 18 + 75.00

Buffer Drawing
Sheet 1 of 9

BUFFER IMPACTS

BUFFER IMPACTS

BUFFER IMPACTS

BUFFER IMPACTS

0.020 0.020

0.020 0.020

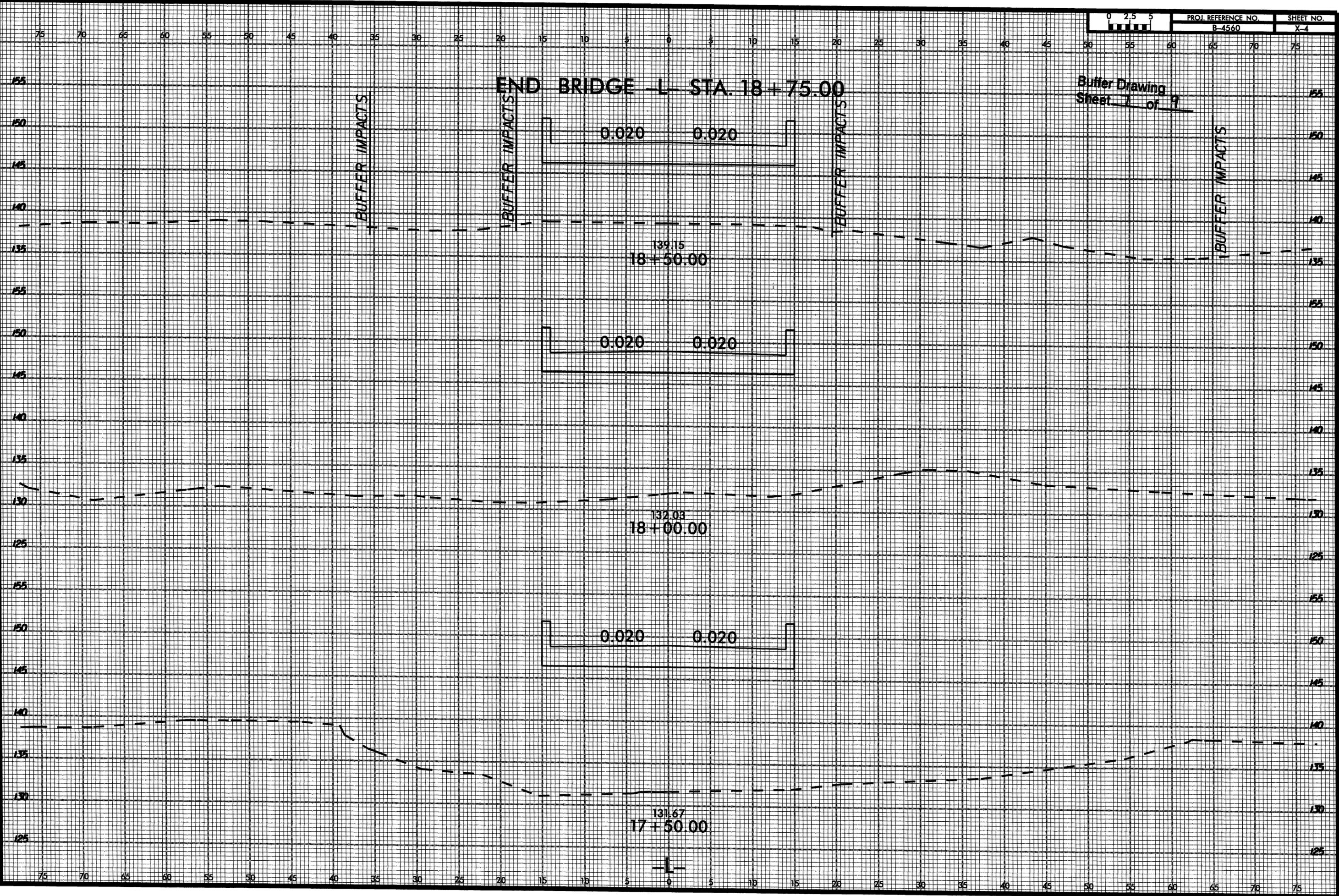
0.020 0.020

139.15
18 + 50.00

132.03
18 + 00.00

131.67
17 + 50.00

SYSTEMTIME\$\$\$\$
\$\$\$\$DCON\$\$\$\$
\$\$\$\$USERNAME\$\$\$\$

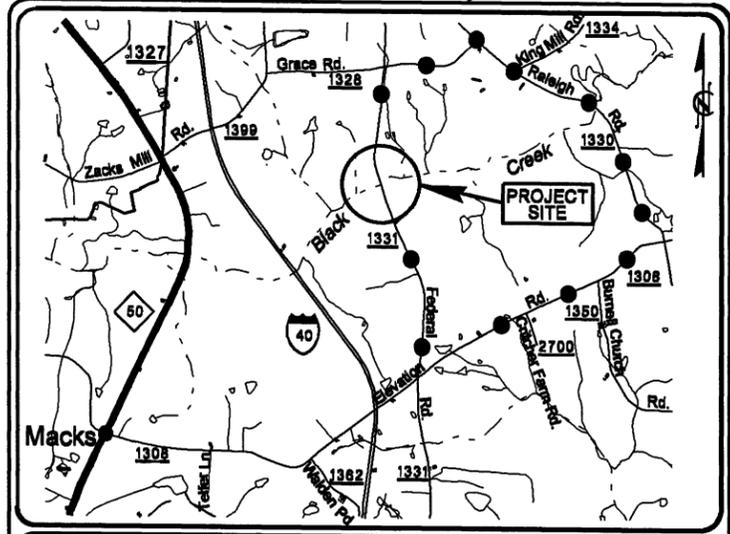


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4560	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33771.1.1	BRZ-1331(10)	P.E.	
33771.2.1	BRZ-1331(10)	RW & UTL.	

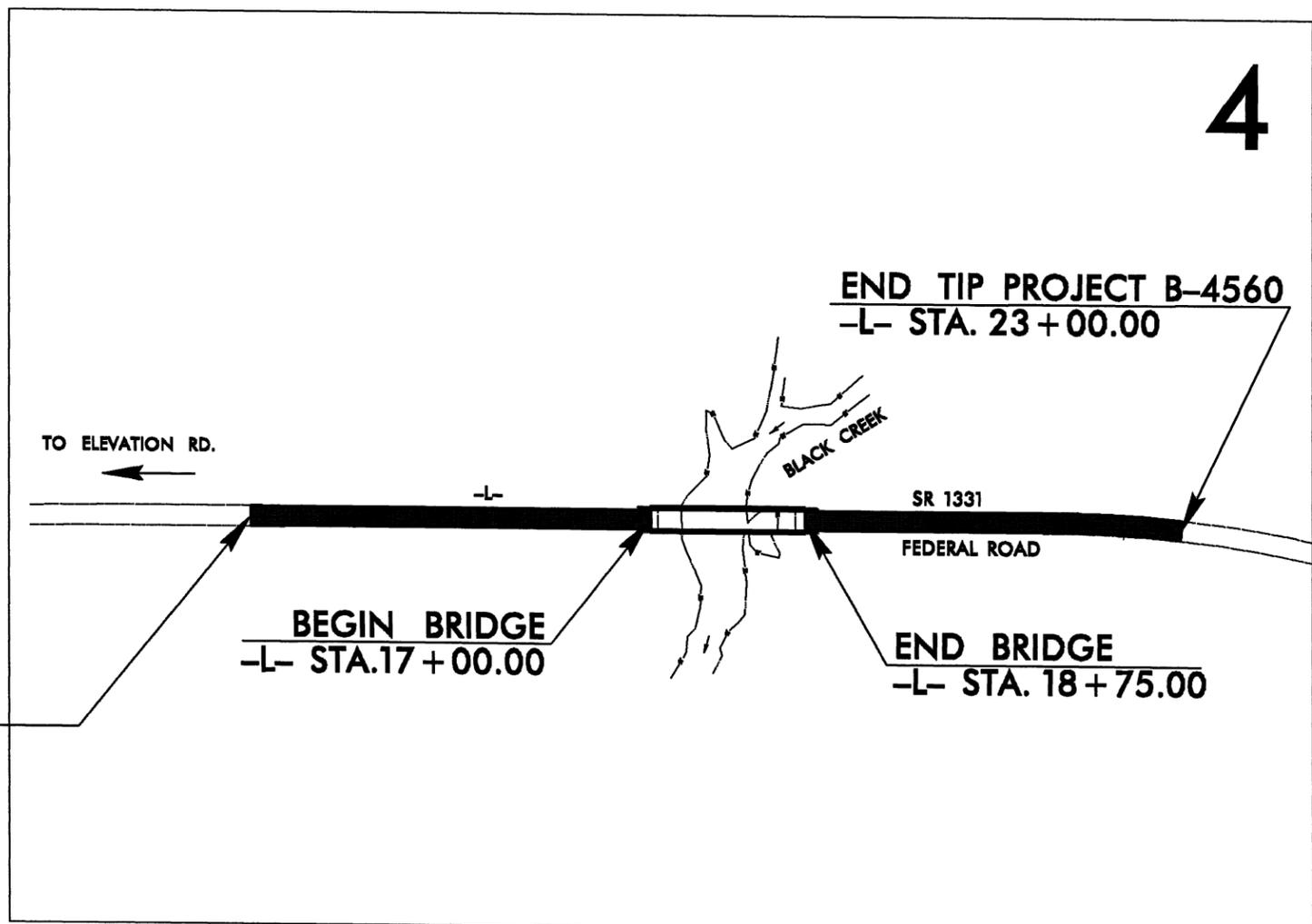
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

LOCATION: BRIDGE NO. 102 OVER BLACK CREEK AND APPROACHES ON SR 1331 (FEDERAL RD.)
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE



OFFSITE DETOUR
VICINITY MAP
NOT TO SCALE

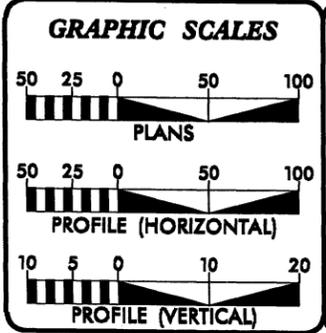


CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
NO SHOP DRAWINGS FOR CONSTRUCTION

TIP PROJECT: B-4560

CONTRACT:



DESIGN DATA

ADT 2011 =	840
ADT 2031 =	1430
DHV =	11 %
D =	60 %
T =	3 % *
V =	60 MPH
* (TTST 1% + DUALS 2%)	
FUNC CLASS =	RURAL LOCAL
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4560 =	0.166 MI
LENGTH STRUCTURE TIP PROJECT B-4560 =	0.033 MI
TOTAL LENGTH TIP PROJECT B-4560 =	0.199 MI

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

2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: DECEMBER 9, 2010	RON McCOLLUM, P.E. PROJECT ENGINEER
LETTING DATE: DECEMBER 20, 2011	SUSAN C. LANCASTER, P.E. 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 P.E.

19-JAN-2011 10:29
r:\p00d\wg\proj\14560_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊗
Property Monument	⊠
Parcel/Sequence Number	Ⓢ
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	⊠
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-w.s-
Proposed Wetland Boundary	-w.s-
Existing Endangered Animal Boundary	-e.a-
Existing Endangered Plant Boundary	-e.p-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊙
Small Mine	⊗
Foundation	⊠
Area Outline	⊠
Cemetery	⊠
Building	⊠
School	⊠
Church	⊠
Dam	⊠

HYDROLOGY:

Stream or Body of Water	~~~~~
Hydro, Pool or Reservoir	⊠
Jurisdictional Stream	-js-
Buffer Zone 1	-bz 1-
Buffer Zone 2	-bz 2-
Flow Arrow	→
Disappearing Stream	→
Spring	⊙
Wetland	⊠
Proposed Lateral, Tail, Head Ditch	→
False Sump	⊠

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙
Switch	⊠
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	⊠
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊙
Pavement Removal	⊠

VEGETATION:

Single Tree	⊙
Single Shrub	⊙
Hedge	~~~~~
Woods Line	~~~~~
Orchard	⊙
Vineyard	⊠

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:

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 U/G Power Line	-----
Designated U/G 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 U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

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

TV:

TV Satellite Dish	⊙
TV Pedestal	⊠
TV Tower	⊙
UG TV Cable Hand Hole	⊠
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

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

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:

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

6/2/99

SURVEY CONTROL SHEET B-4560

PROJECT REFERENCE NO.	SHEET NO.
B-4560	1-C
Location and Surveys	



BASELINE DATA

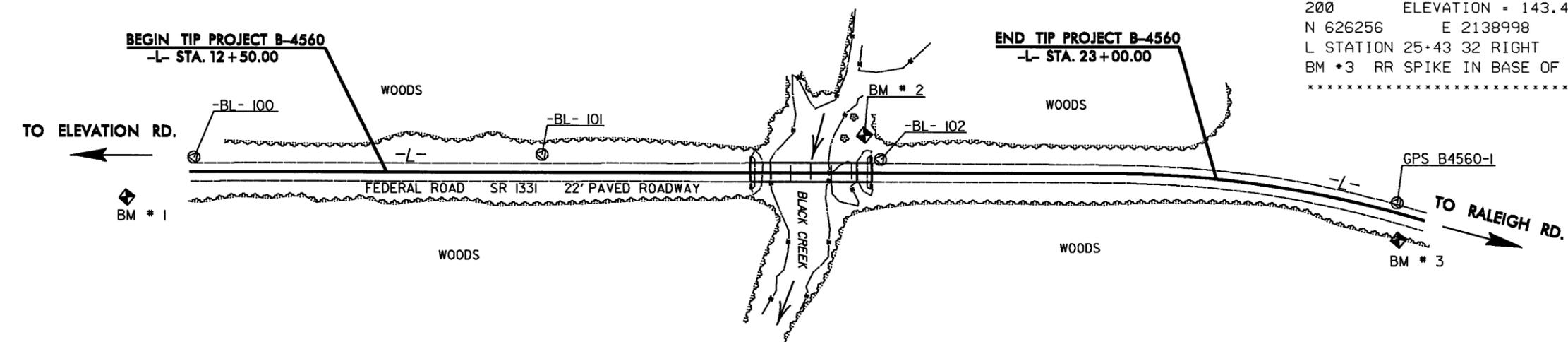
BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
100		BL 100	624773.7750	2139363.7630	146.71	10+05.66	18.11 LT
101		BL 101	625192.4420	2139225.8770	145.60	14+46.43	22.37 LT
102		BL 102	625601.8460	2139101.2010	146.47	18+74.36	16.86 LT
1		B4560 GPS 1	626240.8190	2138953.6390	147.63	25+29.03	12.30 LT

BENCHMARK DATA

 202 ELEVATION = 147.81
 N 624708 E 2139437
 L STATION 10+00
 S 39° 26' 33.3" E DIST 85.62
 BM *1 RR SPIKE IN BASE OF 18" OAK

 201 ELEVATION = 139.86
 N 625574 E 2139078
 L STATION 18+55 48 LEFT
 BM *2 RR SPIKE IN BASE OF 8" OAK

 200 ELEVATION = 143.47
 N 626256 E 2138998
 L STATION 25+43 32 RIGHT
 BM *3 RR SPIKE IN BASE OF 10" OAK



NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4560_LS_CONTROL_090313.TXT
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- ② 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)

DATUM DESCRIPTION

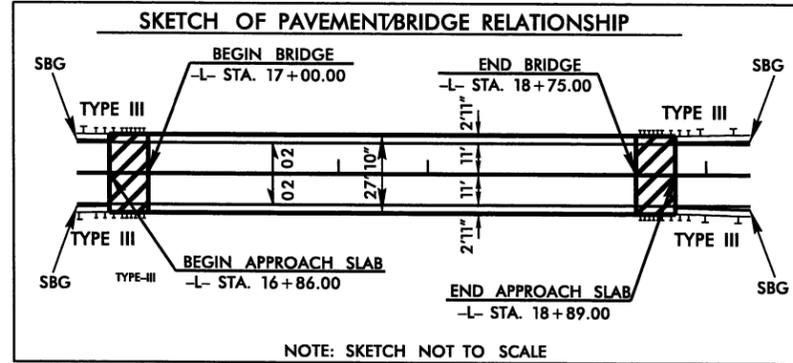
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4560-1"
 WITH NAD 83/86 STATE PLANE GRID COORDINATES OF
 NORTHING: 626240.819(ft) EASTING: 2138953.639(ft)
 ELEVATION: 147.63(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987804
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4560-1" TO -L- STATION 12+50.00 IS
 S 16°02'13" E 1278.49 (ft)
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

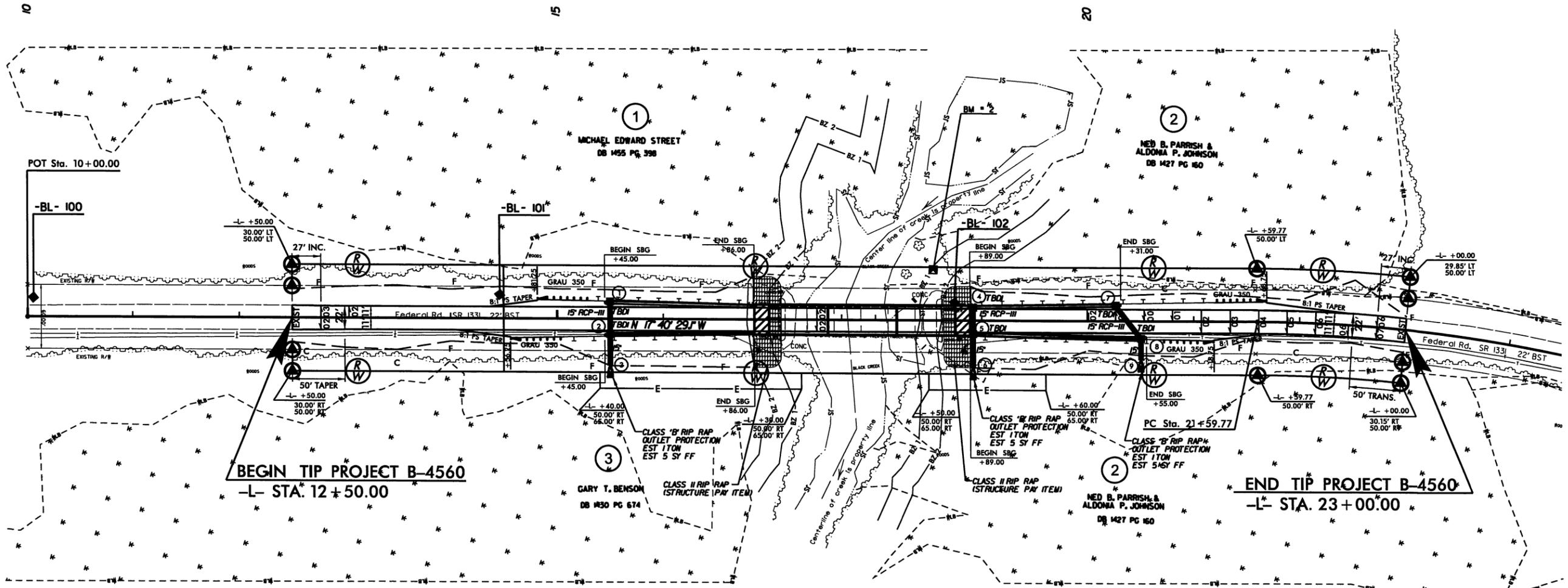
19 JAN-2011 10:29 1:58:02 PM \\s:\b4560\1s\1c_090313.dgn

5/14/99

PROJECT REFERENCE NO. B-4560	SHEET NO. 4
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



REVISIONS



-L-

PI Sta 24+90.46
 $\Delta = 26' 34" 49.2" (RT)$
 $D = 4' 05" 33.2"$
 $L = 649.48'$
 $T = 330.69'$
 $R = 1,400.00'$

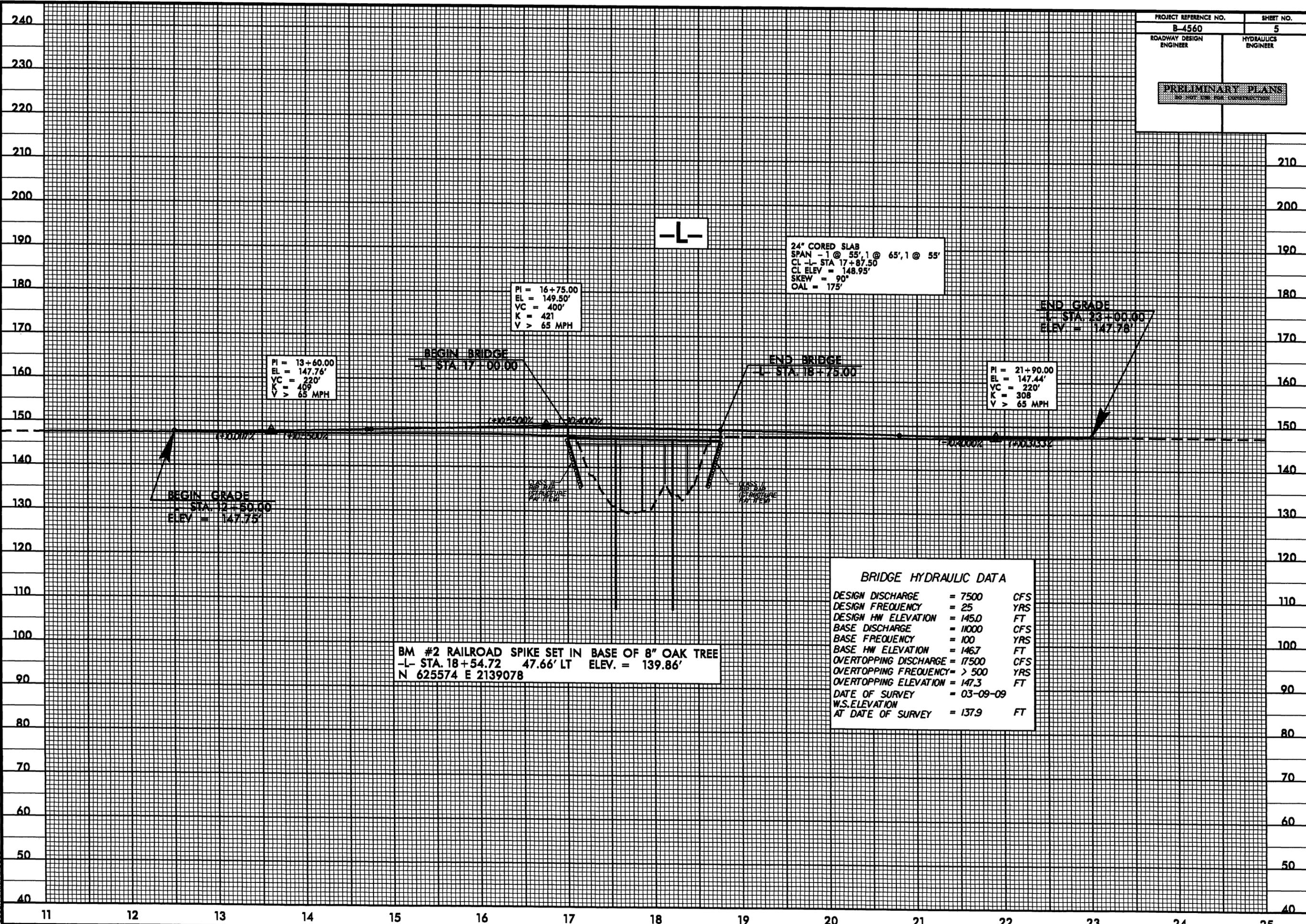
BRIDGE APPROACH SLAB

NOTES:
 1) SEE SHEET 5 FOR -L- PROFILE
 2) SEE SHEETS S? - S? FOR STRUCTURE PLANS

16-JUN-2010 7:39 AM
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 4560.dwg

5/14/99

PROJECT REFERENCE NO. B-4560	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	



PI = 13+60.00
EL = 147.76'
VC = 220'
K = 409
V > 65 MPH

PI = 16+75.00
EL = 149.50'
VC = 400'
K = 421
V > 65 MPH

24" CORED SLAB
SPAN - 1 @ 55', 1 @ 65', 1 @ 55'
CL -L- STA 17+87.50
CL ELEV = 148.95'
SKEW = 90°
OAL = 175'

PI = 21+90.00
EL = 147.44'
VC = 220'
K = 308
V > 65 MPH

BEGIN GRADE
-L- STA. 12+50.00
ELEV = 147.75'

BEGIN BRIDGE
-L- STA. 17+00.00

END BRIDGE
-L- STA. 18+75.00

END GRADE
-L- STA. 23+00.00
ELEV = 147.78'

BM #2 RAILROAD SPIKE SET IN BASE OF 8" OAK TREE
-L- STA. 18+54.72 47.66' LT ELEV. = 139.86'
N 625574 E 2139078

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 7500	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 145.0	FT
BASE DISCHARGE	= 1000	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 146.7	FT
OVERTOPPING DISCHARGE	= 17500	CFS
OVERTOPPING FREQUENCY	= > 500	YRS
OVERTOPPING ELEVATION	= 147.3	FT
DATE OF SURVEY	= 03-09-09	
W.S. ELEVATION AT DATE OF SURVEY	= 137.9	FT

19-JAN-2010 10:29
C:\Users\user\Documents\B4560.rdy.plt.dgn