



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

November 9, 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 Permit 33** for the proposed replacement of Bridge No. 3 over Brasstown Creek on SR 1111 (West Road) in Clay County, Federal Aid Project No. BRZ-1111(7); Division 14; TIP No. B-4467; WBS 33716.1.1

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 3 over Brasstown Creek on SR 1111 (West Road). There will be 39 feet of temporary surface water impacts associated with this project.

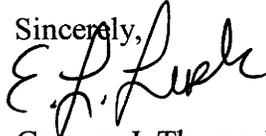
Please see enclosed copies of the Pre-Construction Notification (PCN), stormwater management plan, permit drawings, and design plans for the above-referenced project. The Categorical Exclusion (CE) was completed in September 2008. Documents were distributed shortly thereafter. Additional copies are available 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 advance as additional funding becomes available.

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

A copy of this permit application will be posted on the NCDOT Website at: <http://www.ncdot.org/doh/preconstruct/pe/>. If you have any questions or need additional information, please call Kris Dramby at (919) 431-6687 or by email at kjdramby@ncdot.gov.

Sincerely,



for

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

w/attachment

Mr. Brian Wrenn, NCDWQ (2 copies)
Ms. Marla Chambers, NCWRC
Ms. Marella Buncick, USFWS
Mr. Harold Draper, TVA

w/o attachment

Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Greg Perfetti, P.E., Structure Design
Mr. J. B. Setzer, P.E., Division Engineer
Mr. Mark Davis, DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Tracy Walter, Project Bridge 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: 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 3 over Brasstown Creek on SR 1111 (West Road).
2b. County:	Clay
2c. Nearest municipality / town:	Warne
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4467

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) 431-6687
3g. Fax no.:	(919) 431-2002
3h. Email address:	kjdramby@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: 34.98813 (DD.DDDDDD) Longitude: - 83.89435 (-DD.DDDDDD)
1c. Property size:	0.5 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Brasstown Creek
2b. Water Quality Classification of nearest receiving water:	WS-IV
2c. River basin:	Hiwassee
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 site consists of both rural residential and agriculture areas with scattered forested land.	
3b. List the total estimated acreage of all existing wetlands on the property: None	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 50	
3d. Explain the purpose of the proposed project: Example: 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 125-foot bridge with a 130-foot on the existing alignment with an off-site 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:	<input type="checkbox"/> Yes <input checked="" 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 type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.	
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 type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 6 <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					X Permanent X 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)
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Causeway	Brasstown Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	40	0.02 acres
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Causeway	Brasstown Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	40	0.01 acres
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						0.00 Perm 0.03 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"/> 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 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 proposed bridge is 5 feet longer than the existing bridge and an off site detour will be used. Additionally, 2 preformed scour holes to diffuse flow will be used.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. 3:1 fill slopes where practicable and one causeway at a time will be used.		
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:	
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: if yes, see attached permit drawings.	<input 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 permit drawings.	
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 Pending

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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input 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 and USFWS websites and NCDOT field surveys.		
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 coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name	 _____ Applicant/Agent's Signature <small>(Agent's signature is valid only if an authorization letter from the applicant is provided.)</small>	<u>11-9-09</u> Date

STORMWATER MANAGEMENT PLAN

Project: 33716.1.1

TIP No. B-4467

Clay County

07/28/2009

Hydraulics Project Manager: Dennis Hoyle, P.E. (URS Corporation)
Marshal Clawson, P.E. (NCDOT Hydraulics Unit)

ROADWAY DESCRIPTION

The project B-4467 consists of constructing a new bridge 135 feet long to replace the existing bridge #03 in Clay County on SR-1111 over Brasstown Creek. The total project length is 0.071 miles. The project creates impacts to Brasstown Creek, which is located in the Tennessee River Basin. The project drainage systems consist of grated inlets with associated pipe systems, and preformed scour holes at the pipe outlets

Jurisdiction Stream: Brasstown Creek

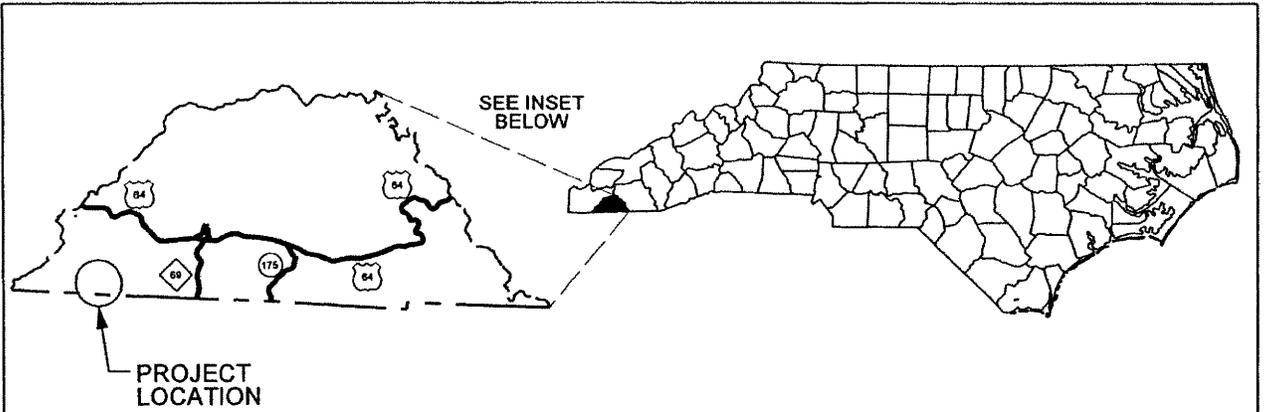
ENVIRONMENTAL DESCRIPTION

The project is located within the Tennessee River Basin in Clay County. A temporary causeway will be required for removal of the existing structure and construction of the proposed structure. Impacts have been minimized by using preformed scour holes at the pipe outlets.

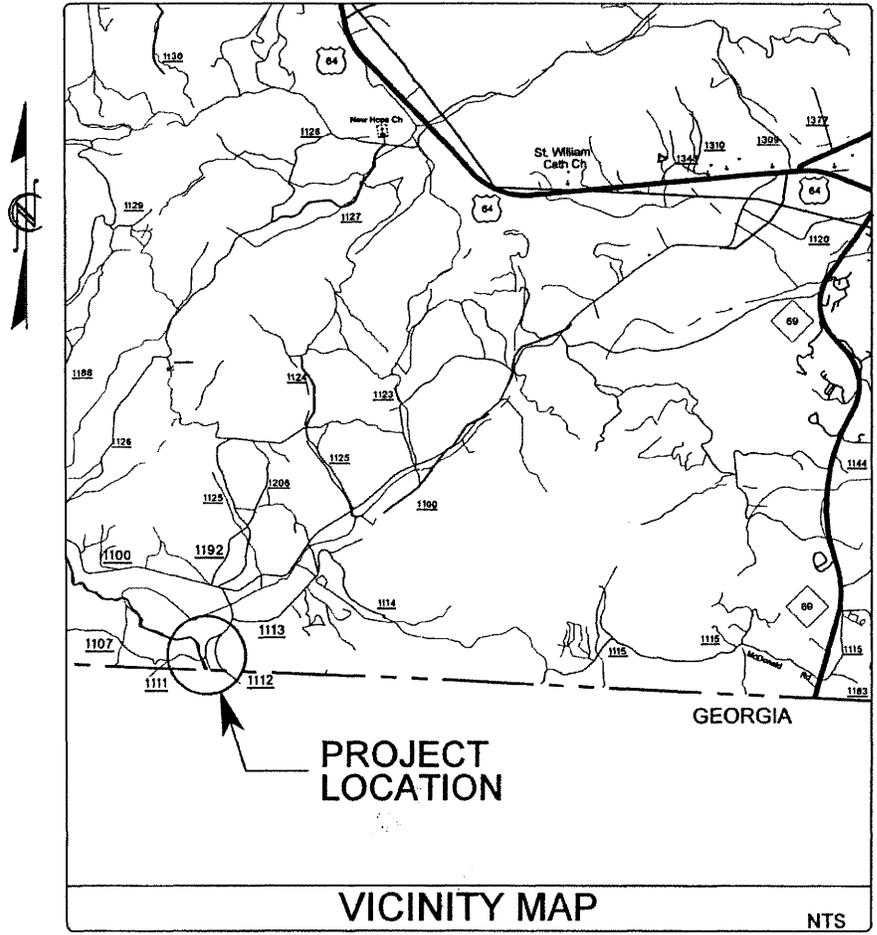
BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The primary goal of Best Management Practices (BMPs) is to prevent degradation of the states surface waters caused by the location, construction and operation of the highway system. The BMPs are activities, practices and procedures taken to prevent or reduce stormwater pollution. The BMP measures used on this project to reduce stormwater impacts are:

- Preformed scour hole at pipe outlets.



CLAY COUNTY



**WETLAND/STREAM
IMPACTS**

NCDOT

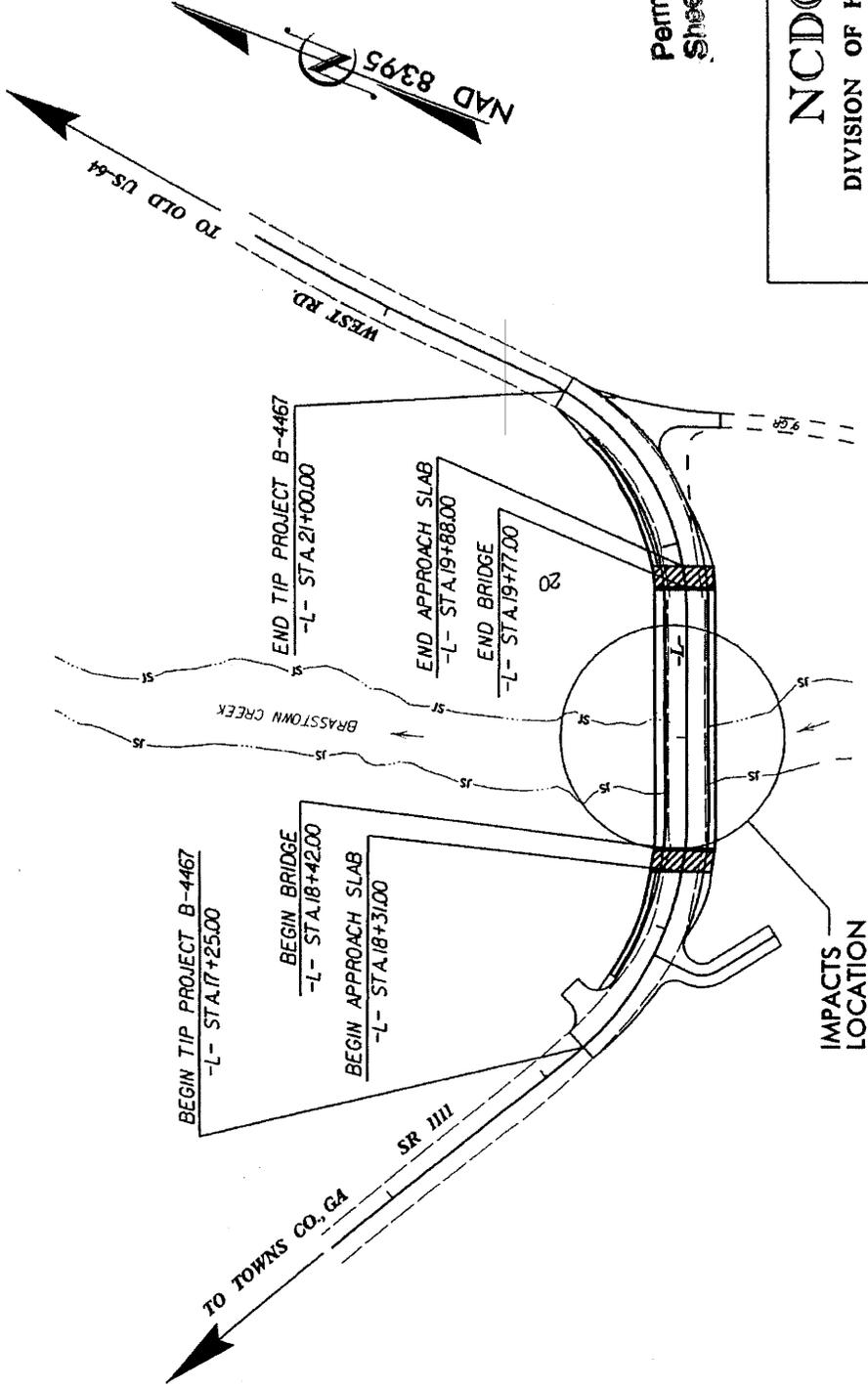
**DIVISION OF HIGHWAYS
CLAY COUNTY**

**PROJECT: 33716.1.1 (B-4467)
REPLACEMENT OF BRIDGE NO. 3
OVER BRASSTOWN CREEK
ON SR 1111 (WEST ROAD)**

SHEET 1 OF 12

7/15/09

**Permit Drawing
Sheet 1 of 12**



Permit Drawing
 Sheet 2 of 12

NCDOT
 DIVISION OF HIGHWAYS
 CLAY COUNTY
 PROJECT: 33716.1.1 (B-4467)
 REPLACEMENT OF BRIDGE NO. 3
 OVER BRASSTOWN CREEK
 ON SR 1111 (WEST ROAD)

SHEET 2 OF 12 7/15/09

PLAN VIEW

WETLAND/STREAM IMPACTS

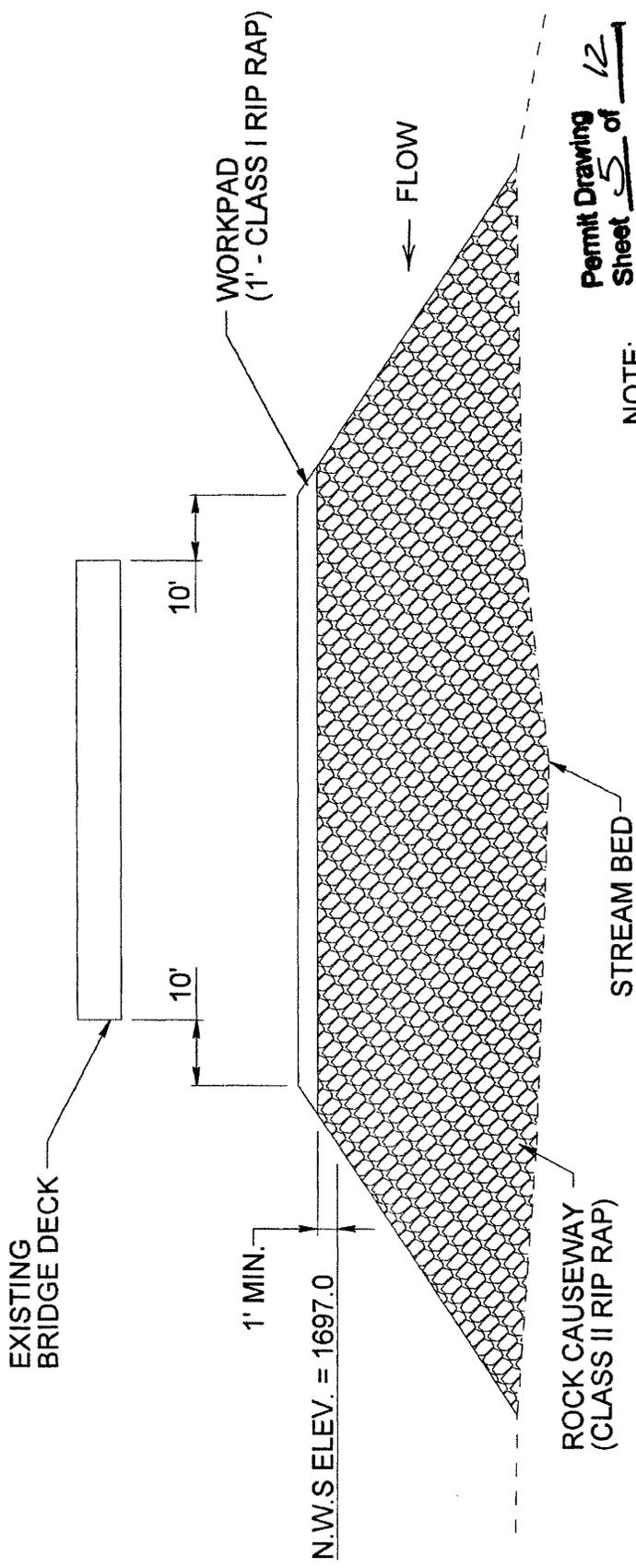
PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	WANDA WEST HOFFMAN	
2	CLAY IVESTOR	
3	WANDA WEST HOFFMAN	

Permit Drawing
Sheet 3 of 12

NCDOT
DIVISION OF HIGHWAYS
CLAY COUNTY
PROJECT: 33716.1.1 (B-4467)
REPLACEMENT OF BRIDGE NO. 3
OVER BRASSTOWN CREEK
ON SR 1111 (WEST ROAD)

SHEET 3 OF 12 7/15/09



Permit Drawing
Sheet 5 of 12

NOTE:
BOTH TEMPORARY CAUSEWAYS
WILL NOT BE IN THE STREAM AT
THE SAME TIME.

WORKPAD DETAIL
N.T.S.

ESTIMATE OF QUANTITIES

-L- STA. 18+71 TO STA. 18+92	-L- STA. 19+01 TO STA. 19+10
VOLUME CLASS I RIP RAP = 18.4 CY ESTIMATE 1 TON CLASS I RIP RAP	VOLUME CLASS I RIP RAP = 2.0 CY ESTIMATE 0.5 TONS CLASS I RIP RAP
VOLUME CLASS II RIP RAP = 183.9 CY ESTIMATE 10 TONS CLASS II RIP RAP	VOLUME CLASS II RIP RAP = 134.1 CY ESTIMATE 7.5 TONS CLASS II RIP RAP
AREA OF RIP RAP = 0.019 ACRES	AREA OF RIP RAP = 0.007 ACRES

NCDOT

DIVISION OF HIGHWAYS

CLAY COUNTY

PROJECT: 53716.1.1 (B-4467)

REPLACEMENT OF BRIDGE NO. 3
OVER BRASSTOWN CREEK
ON SR 1111 (WEST ROAD)

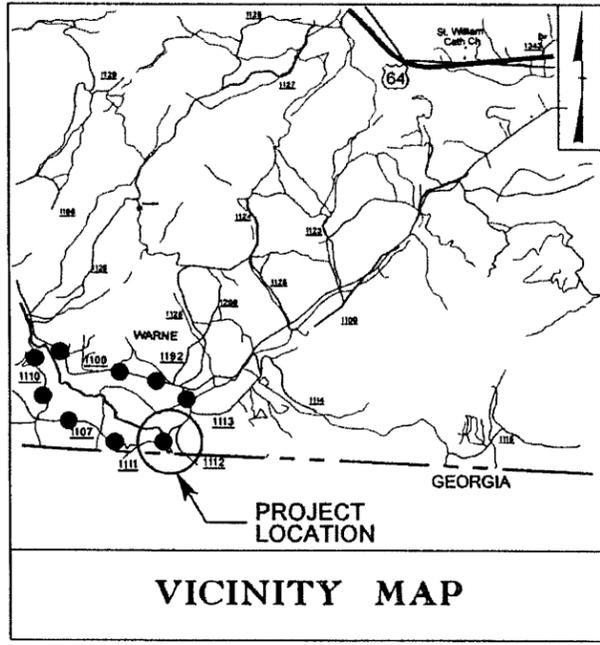
09/28/99

7/27/2009 R:\Hydraulics\PERMITS_Environmental\Drawings\4467_HYD_perm.tsh.dgn
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TIP PROJECT: B-4467

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional symbols
See Sheet 1-C For Survey Control Sheet



VICINITY MAP

OFF-SITE DETOUR ROUTE ●●●●●

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

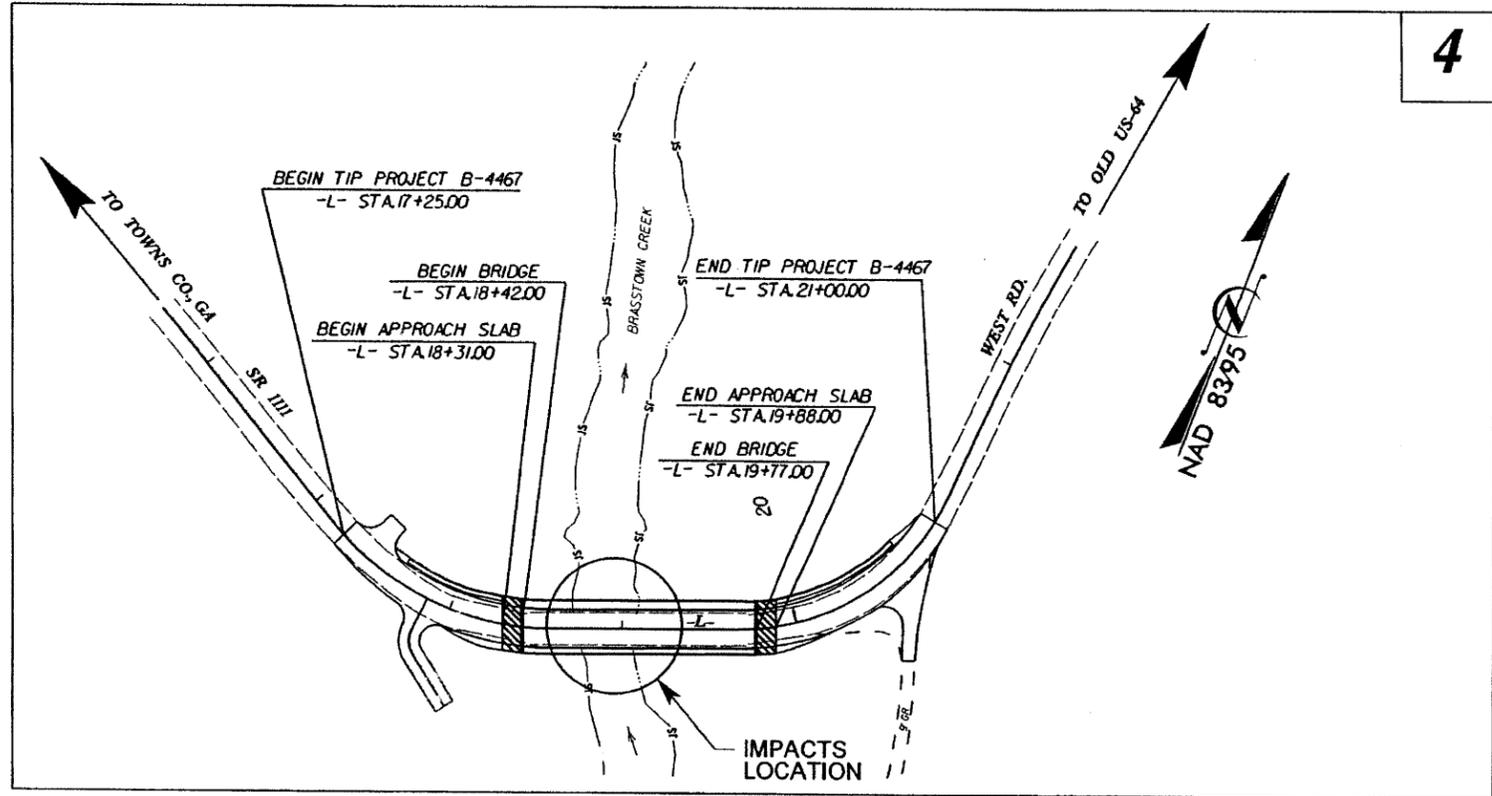
CLAY COUNTY

**LOCATION: BRIDGE # 3 OVER BRASSTOWN CREEK
ON SR 1111 (WEST ROAD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4467	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33716.1.1	BRZ-1111(7)	PE	
33716.1.1	BRZ-1111(7)	R/W	

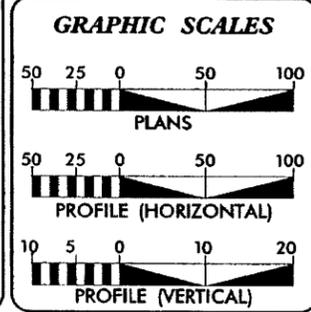
**WETLAND/STREAM
IMPACTS**



THIS PROJECT IS NOT WITHIN MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

Permit Drawing
Sheet 6 of 12

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2010 =	1385
ADT 2030 =	2000
DHV =	10 %
D =	60 %
T =	6 % *
V =	40 MPH
FUNC. CLASS =	RURAL LOCAL
* TTST 1% DUAL 5%	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4467 =	0.045 MI
LENGTH OF STRUCTURE TIP PROJECT B-4467 =	0.026 MI
TOTAL LENGTH OF TIP PROJECT B-4467 =	0.071 MI

DESIGN EXCEPTIONS REQUIRED:
DESIGN SPEED
VERTICAL CURVES
HORIZONTAL CURVES

Prepared in the Office of:
SSEPI
ENGINEERING & CONSTRUCTION
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION
2006 STANDARD SPECIFICATIONS

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-799-9677
Fax: 919-799-0501

RIGHT OF WAY DATE:
JUNE 19, 2009

LETTING DATE:
JUNE 15, 2010

STEVE SCOTT, PE
PROJECT ENGINEER

AGNIESKA NAU, PE
ROADWAY PROJECT DESIGN ENGINEER

B. DOUG TAYLOR, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

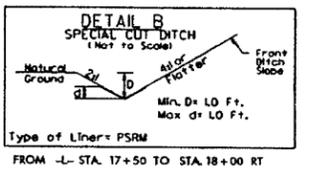
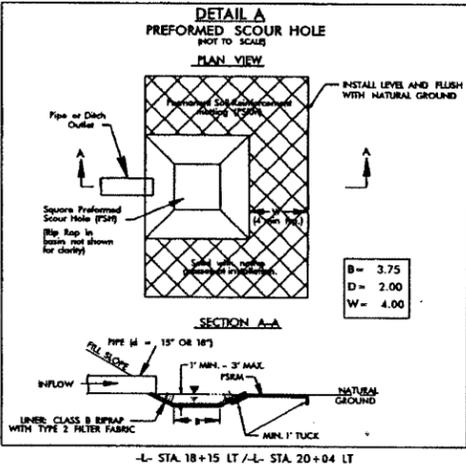
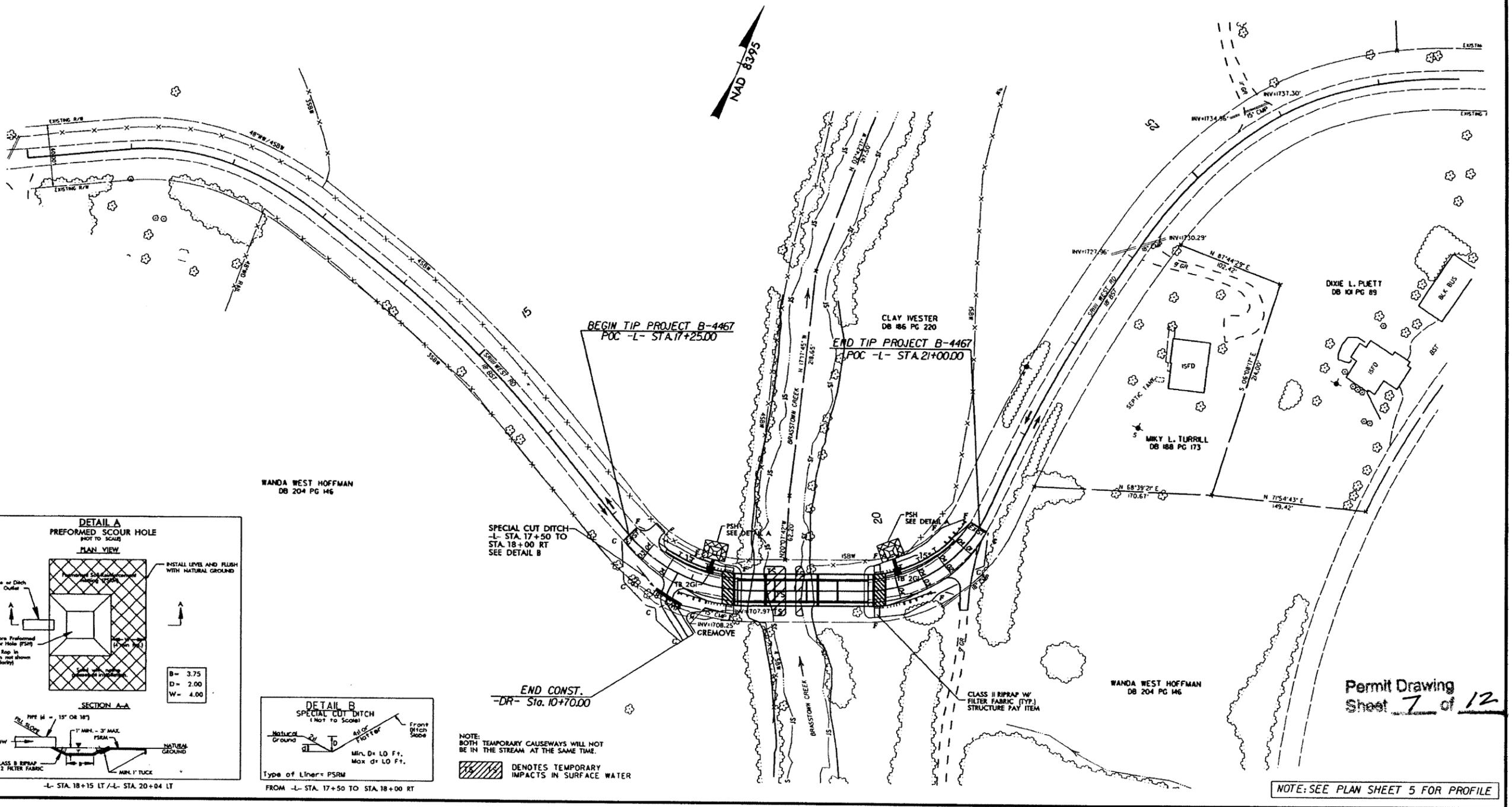
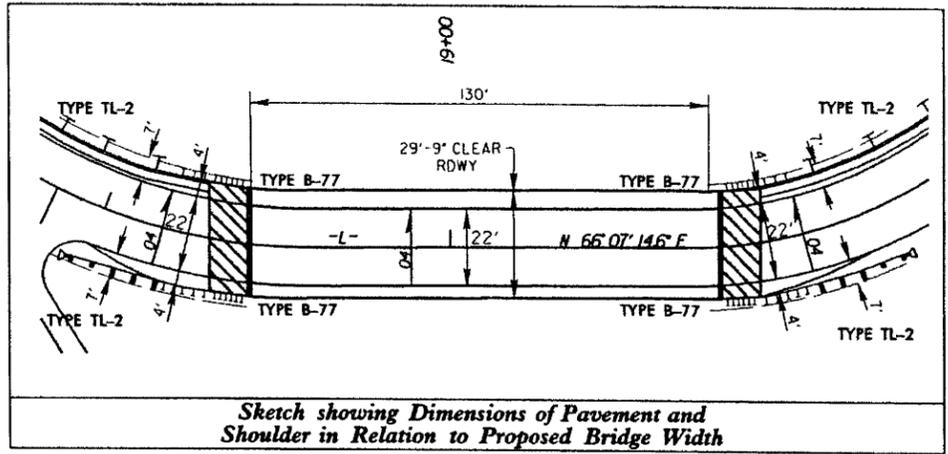
**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

P.E.

5/14/99
7/27/2009
41TS_Environmental\Drawings\B4467_RDY.ph04_permit100.dgn

PROJECT REFERENCE NO. B-4467	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	

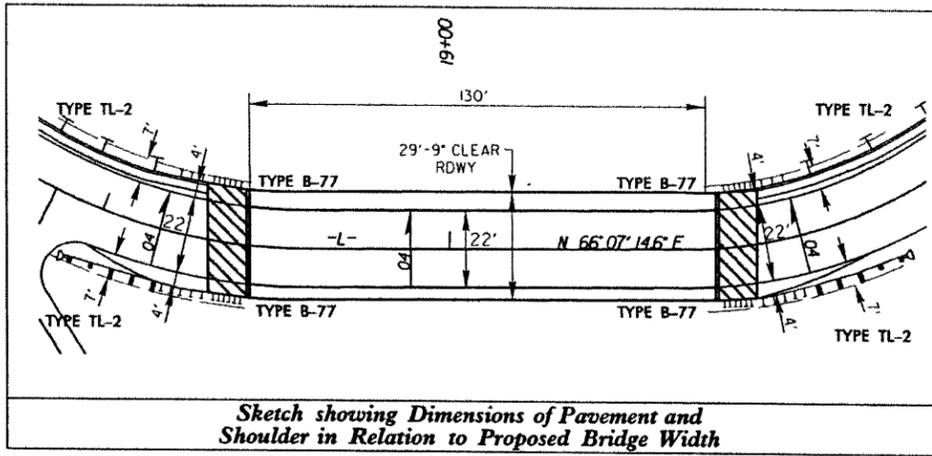


Permit Drawing Sheet **7** of **12**

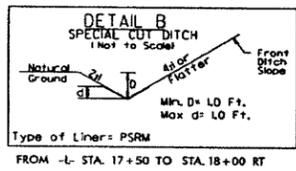
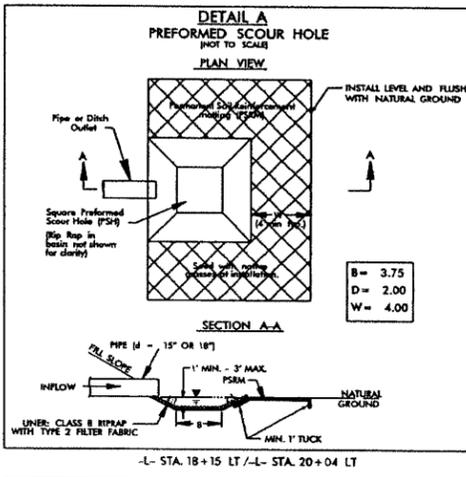
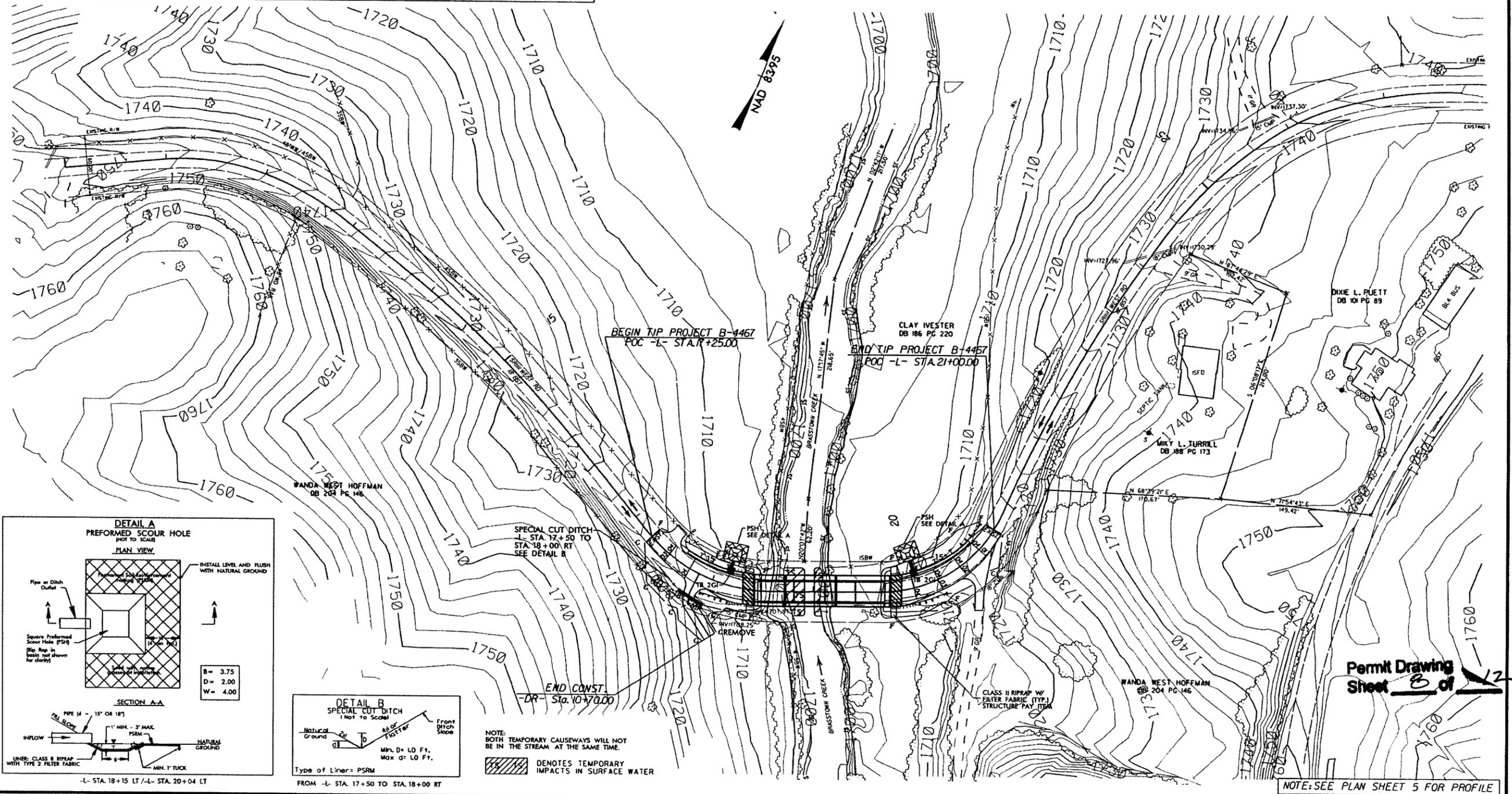
NOTE: SEE PLAN SHEET 5 FOR PROFILE

5/14/99

PROJECT REFERENCE NO. B-4467		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			



Sketch showing Dimensions of Pavement and Shoulder in Relation to Proposed Bridge Width



NOTE:
BOTH TEMPORARY CAUSEWAYS WILL NOT BE IN THE STREAM AT THE SAME TIME.

■ DENOTES TEMPORARY IMPACTS IN SURFACE WATER

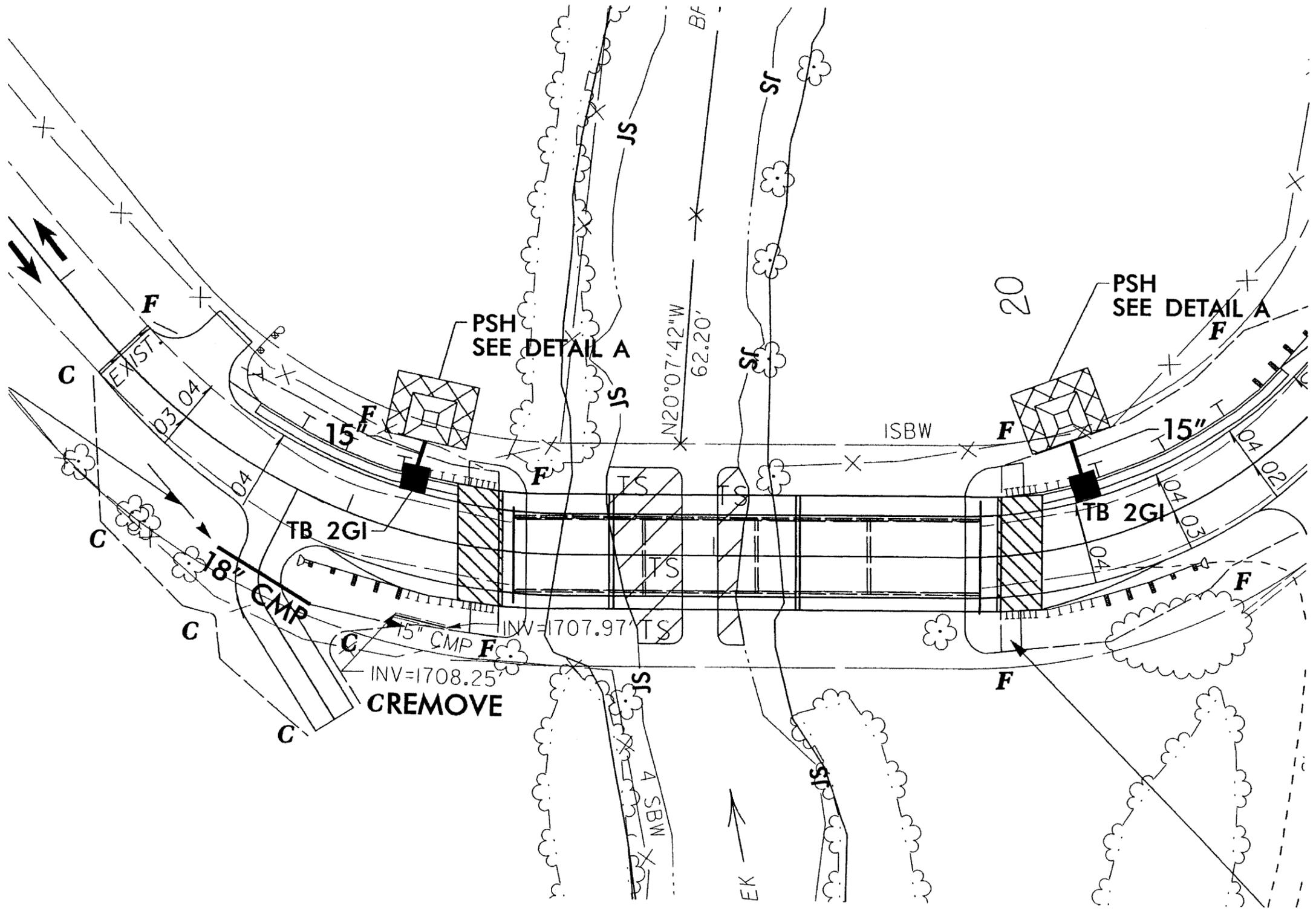
Permit Drawing Sheet 8 of 12

NOTE: SEE PLAN SHEET 5 FOR PROFILE

7/27/2009 M:\S:\Environment\Drawings\B4467_RDY_ph04_permit100.dgn

5/14/99

PROJECT REFERENCE NO. B-4467	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
INCOMPLETE PLANS DO NOT USE FOR E/W ACQUISITION	



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NOTE:
 BOTH TEMPORARY CAUSEWAYS WILL NOT
 BE IN THE STREAM AT THE SAME TIME.

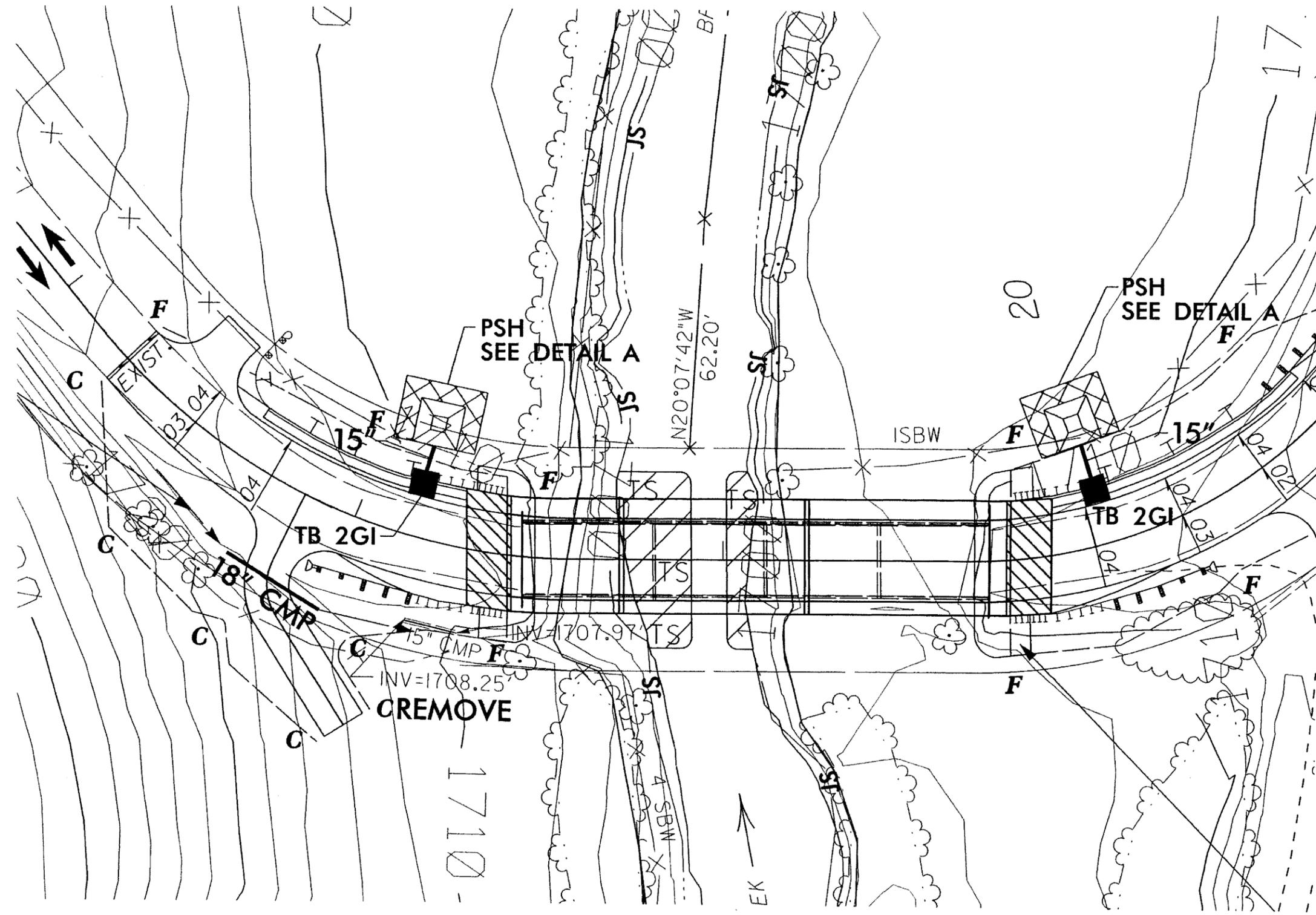
 DENOTES TEMPORARY
 IMPACTS IN SURFACE WATER

Permit Drawing Sheet 9 of 12

NOTE: SEE PLAN SHEET 5 FOR PROFILE

5/14/99

PROJECT REFERENCE NO. B-4467	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
INCOMPLETE PLANS DO NOT USE FOR E/W ACQUISITION	



7/27/2009 M:\S_Environmental\Drawings\B4467_RDY_ph04_per.mt50.dgn

NOTE:
 BOTH TEMPORARY CAUSEWAYS WILL NOT
 BE IN THE STREAM AT THE SAME TIME.

 DENOTES TEMPORARY
 IMPACTS IN SURFACE WATER

Permit Drawing Sheet 10 of 12

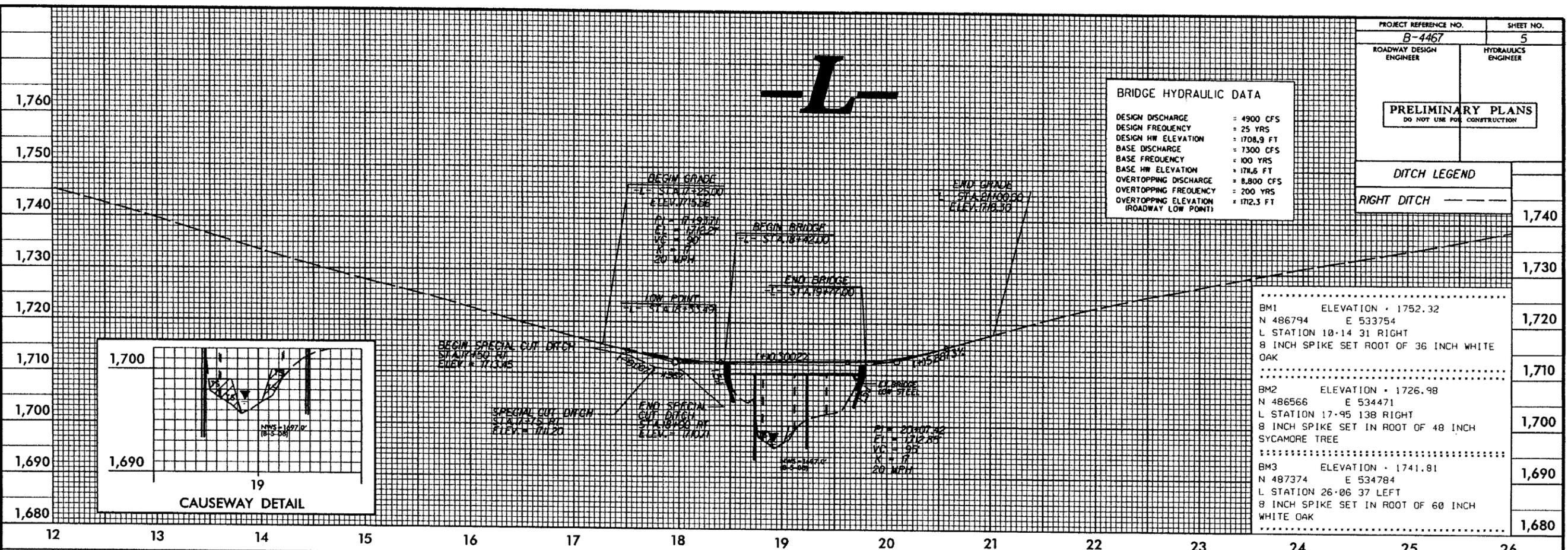
NOTE: SEE PLAN SHEET 5 FOR PROFILE

5/28/99

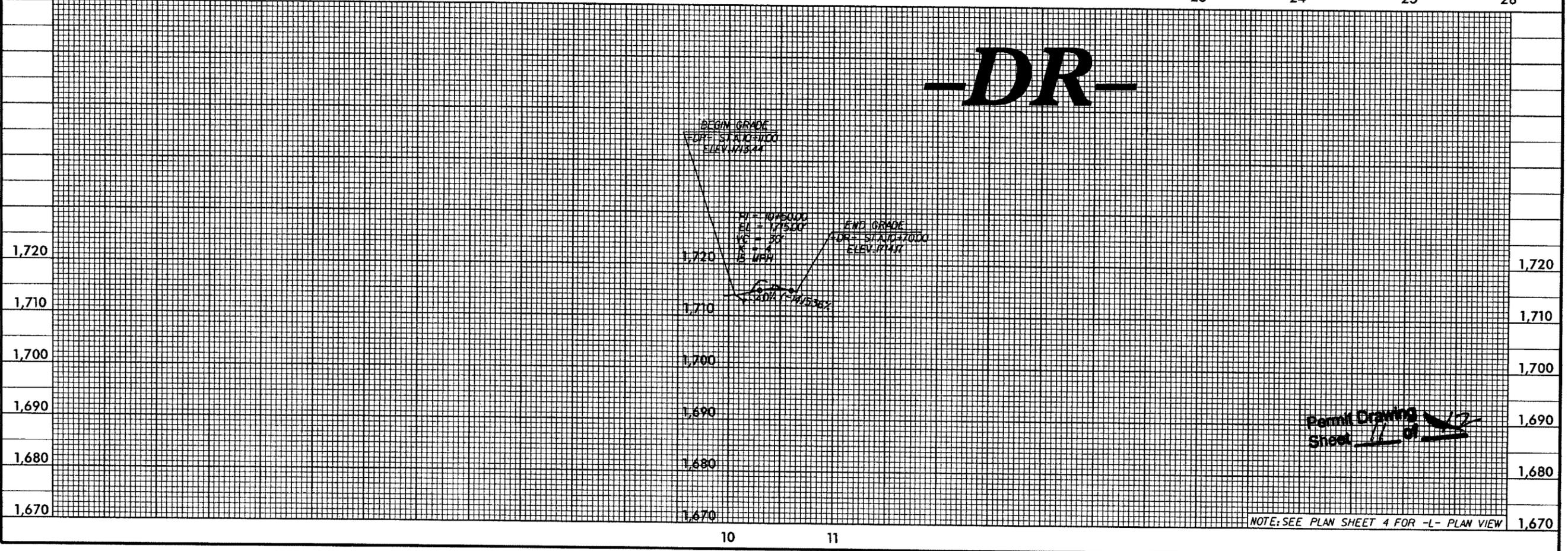
PROJECT REFERENCE NO. B-4467	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 4900 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 1708.9 FT
BASE DISCHARGE	= 1300 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1716.6 FT
OVERTOPPING DISCHARGE	= 8,800 CFS
OVERTOPPING FREQUENCY	= 200 YRS
OVERTOPPING ELEVATION (ROADWAY LOW POINT)	= 1712.3 FT

DITCH LEGEND	
RIGHT DITCH	---



-DR-

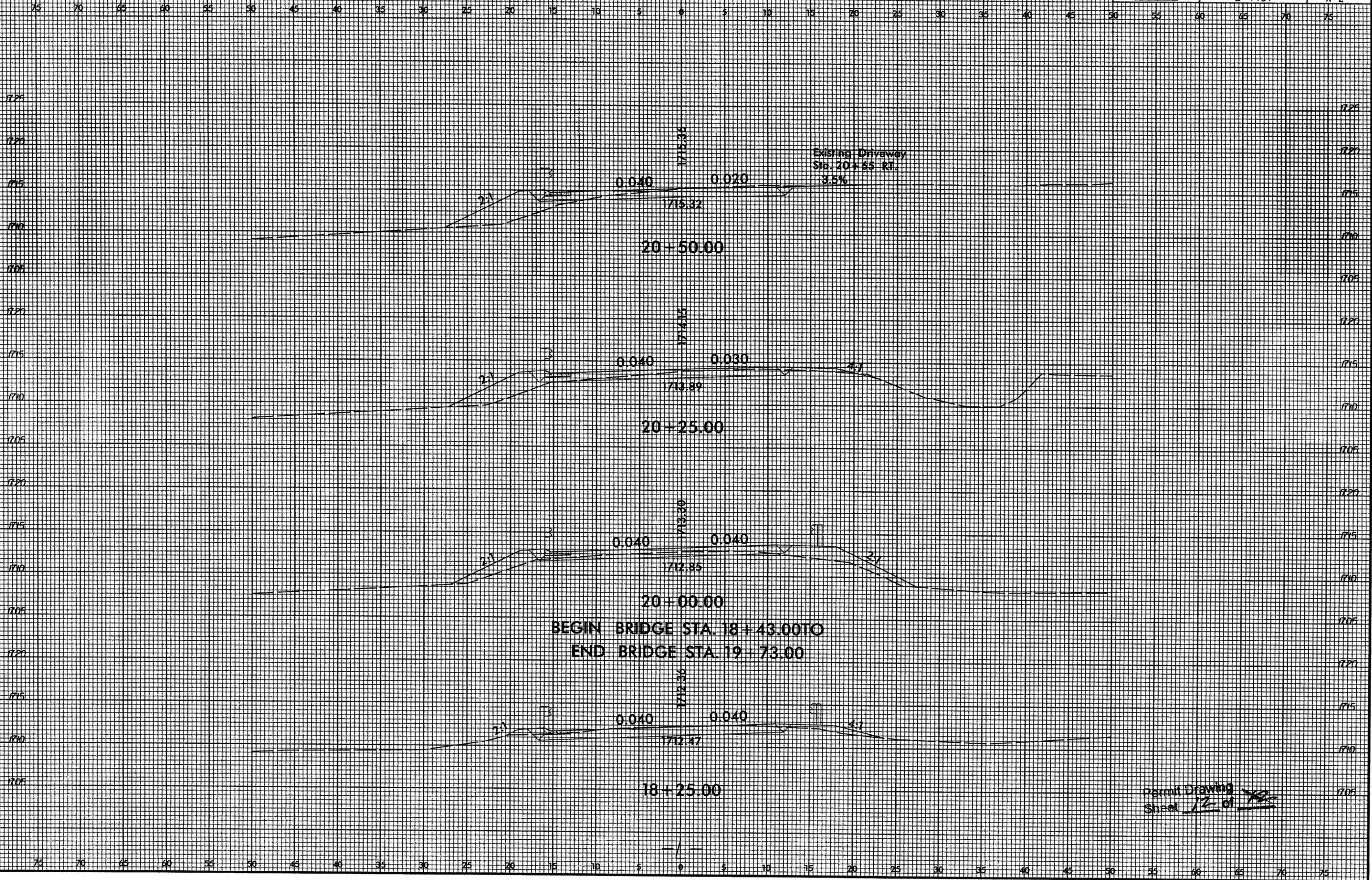


Permit Drawing
Sheet 11

NOTE: SEE PLAN SHEET 4 FOR -L- PLAN VIEW

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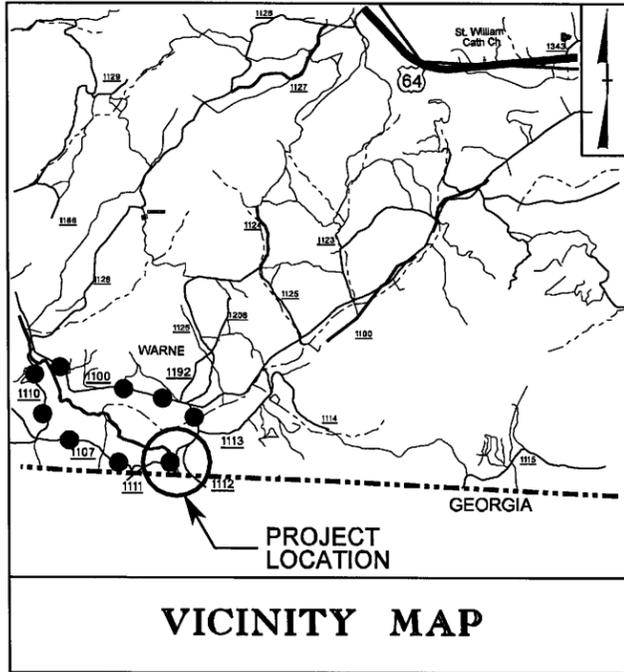
8/23/99



7/21/2008
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element

Permit Drawing
Sheet 12 of 15

See Sheet 1-A For Index of Sheets
 See Sheet 1-B For Conventional symbols
 See Sheet 1-C For Survey Control Sheet



STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

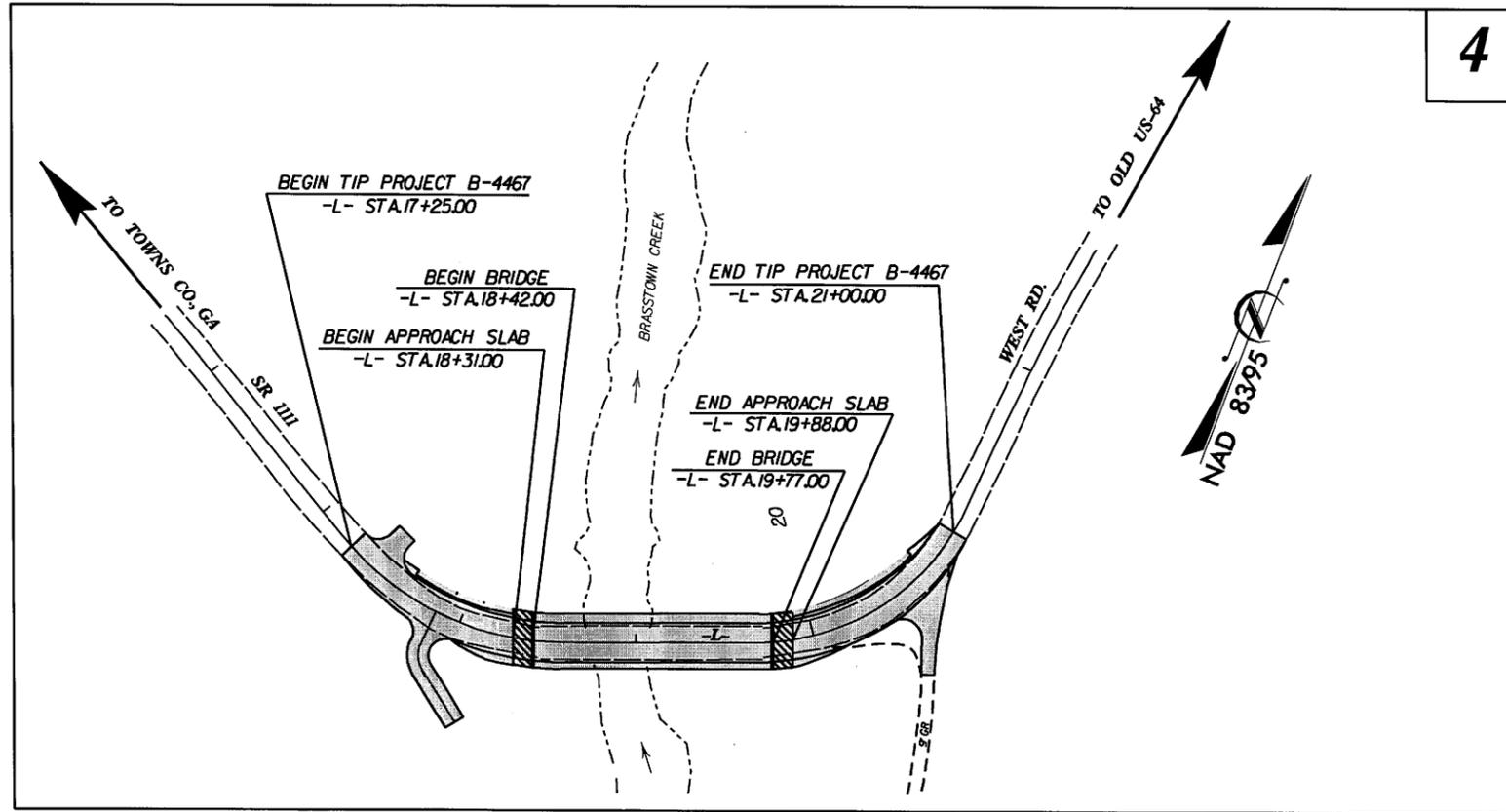
CLAY COUNTY

**LOCATION: BRIDGE # 3 OVER BRASSTOWN CREEK
 ON SR 1111 (WEST ROAD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4467	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33716.1.1	BRZ-1111(7)	PE	
33716.1.1	BRZ-1111(7)	R/W	

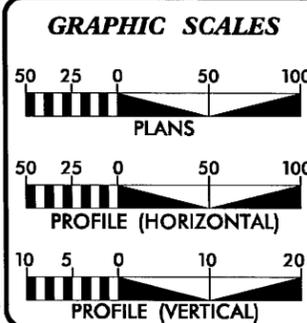
TIP PROJECT: B-4467



THIS PROJECT IS NOT WITHIN MUNICIPAL BOUNDARIES.
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2010 =	1385
ADT 2030 =	2000
DHV =	10 %
D =	60 %
T =	6 % *
V =	40 MPH
FUNC. CLASS =	RURAL LOCAL
* TTST 1%	DUAL 5%

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4467 =	0.045 MI
LENGTH OF STRUCTURE TIP PROJECT B-4467 =	0.026 MI
TOTAL LENGTH OF TIP PROJECT B-4467 =	0.071 MI

DESIGN EXCEPTIONS REQUIRED:
 DESIGN SPEED
 VERTICAL CURVES
 HORIZONTAL CURVES

Prepared in the Office of:
SSEPI
 ENGINEERING & CONSTRUCTION
 FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

1025 Wade Avenue
 Raleigh, NC 27605
 Tel: 919-789-9977
 Fax: 919-789-9591

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 JUNE 19, 2009

LETTING DATE:
 JUNE 15, 2010

STEVE SCOTT, PE
 PROJECT ENGINEER

AGNIESZKA NAU, PE
 ROADWAY PROJECT DESIGN ENGINEER

B. DOUG TAYLOR, PE
 NCDOT CONTACT

HYDRAULICS ENGINEER

 P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

 P.E.

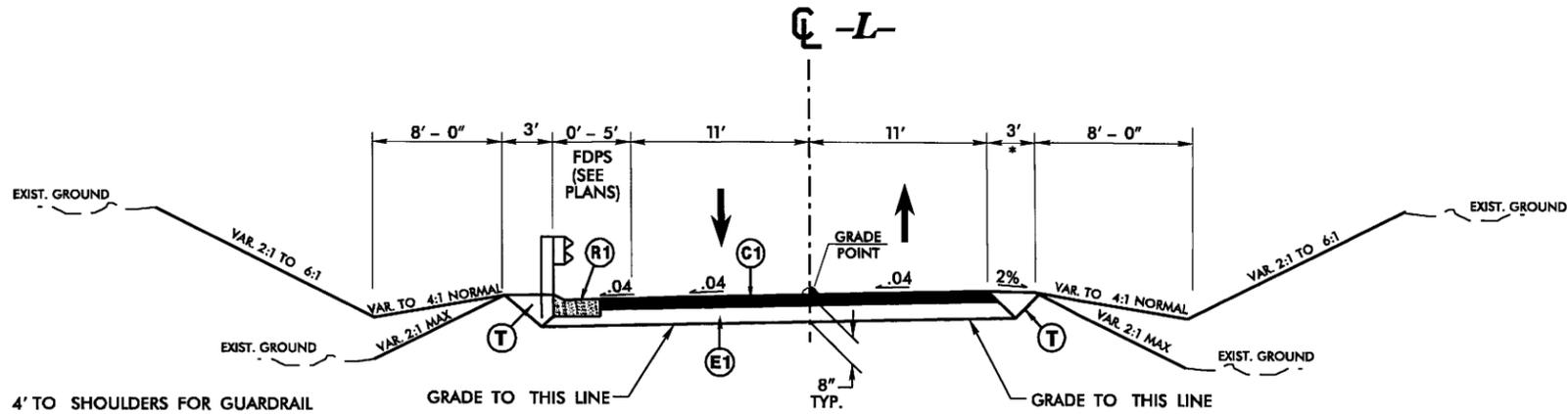
SIGNATURE:

**DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

\$\$\$SYTIME\$\$\$\$\$
 \$\$\$SDGN\$\$\$\$\$
 \$\$\$CERVA\$\$\$\$\$
 \$\$\$SERVA\$\$\$\$\$

PROJECT REFERENCE NO. B-4467	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



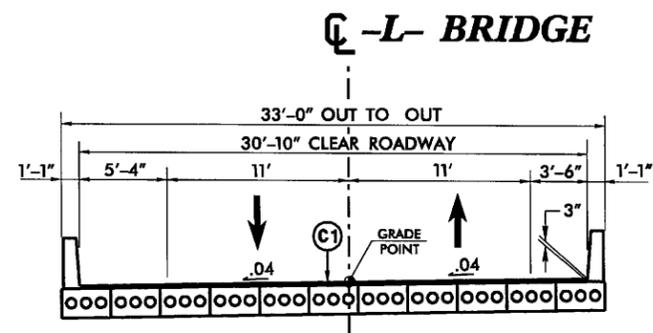
* ADD 4' TO SHOULDERS FOR GUARDRAIL

TYPICAL SECTION NO. 1

-L- STA. 17+25.00 TO STA.18+42.00 (BEGIN BRIDGE)
-L- STA. 19+77.00 (END BRIDGE) TO STA. 21+00.00

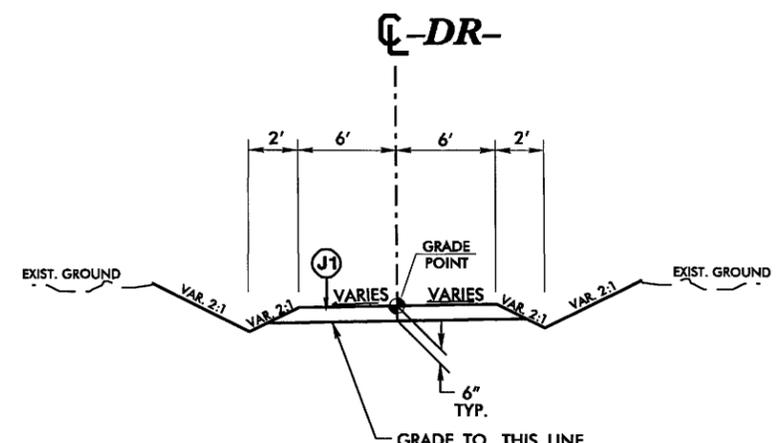
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
J1	PROP. 6" AGGREGATE BASE COURSE.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL

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



TYPICAL SECTION NO. 2

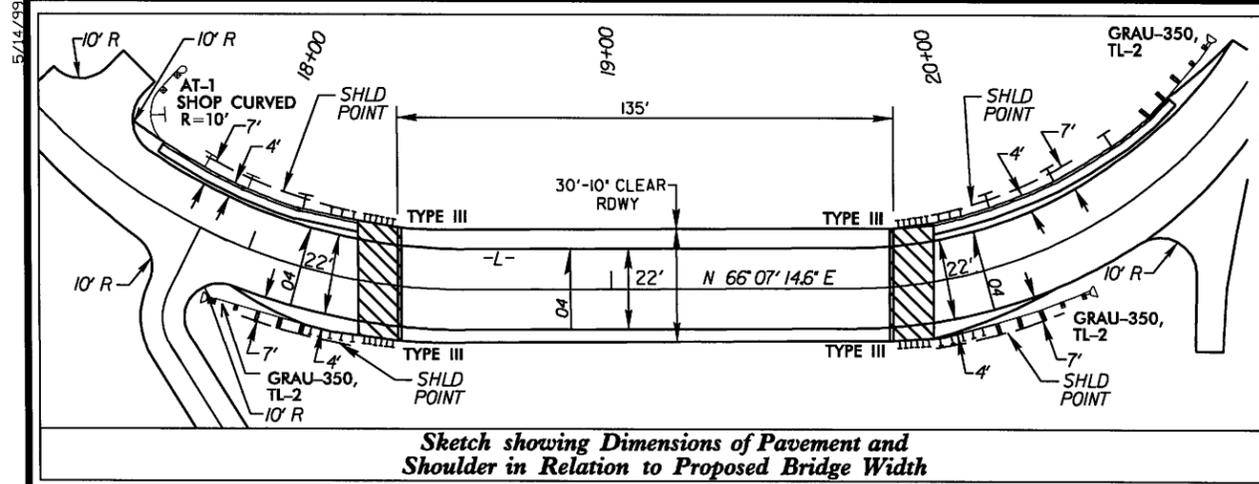
-L- STA. 18+42.00 (BEGIN BRIDGE) TO -L STA. 19+77.00 (END BRIDGE)



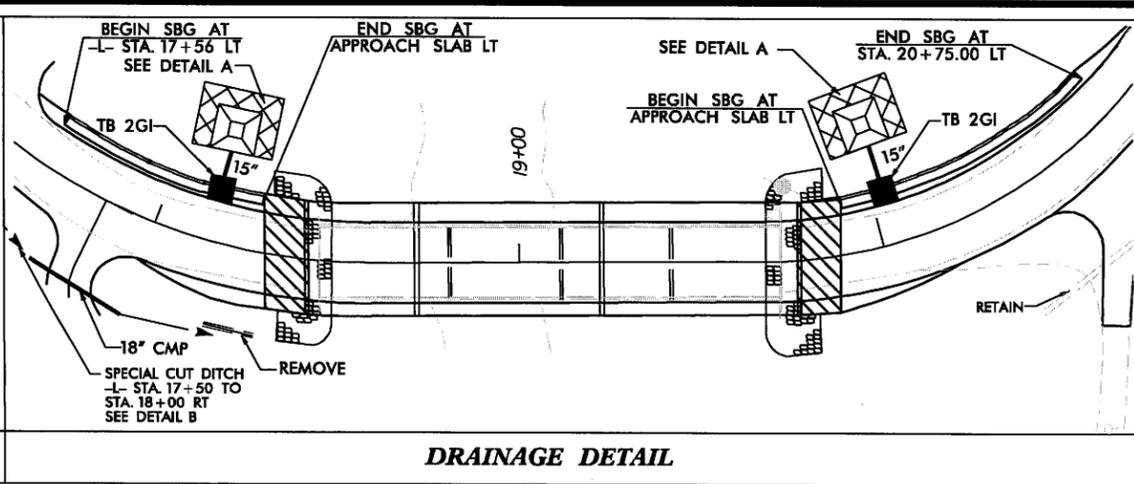
TYPICAL SECTION NO. 3

-DR- STA. 10+11.00 TO -DR- STA. 10+70.00

5/14/99
SYTIME
DCN



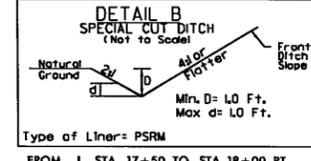
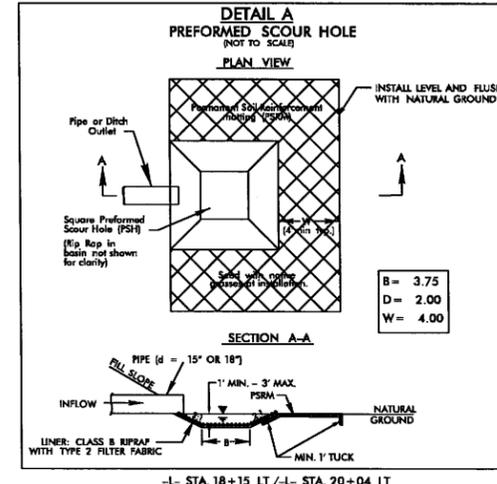
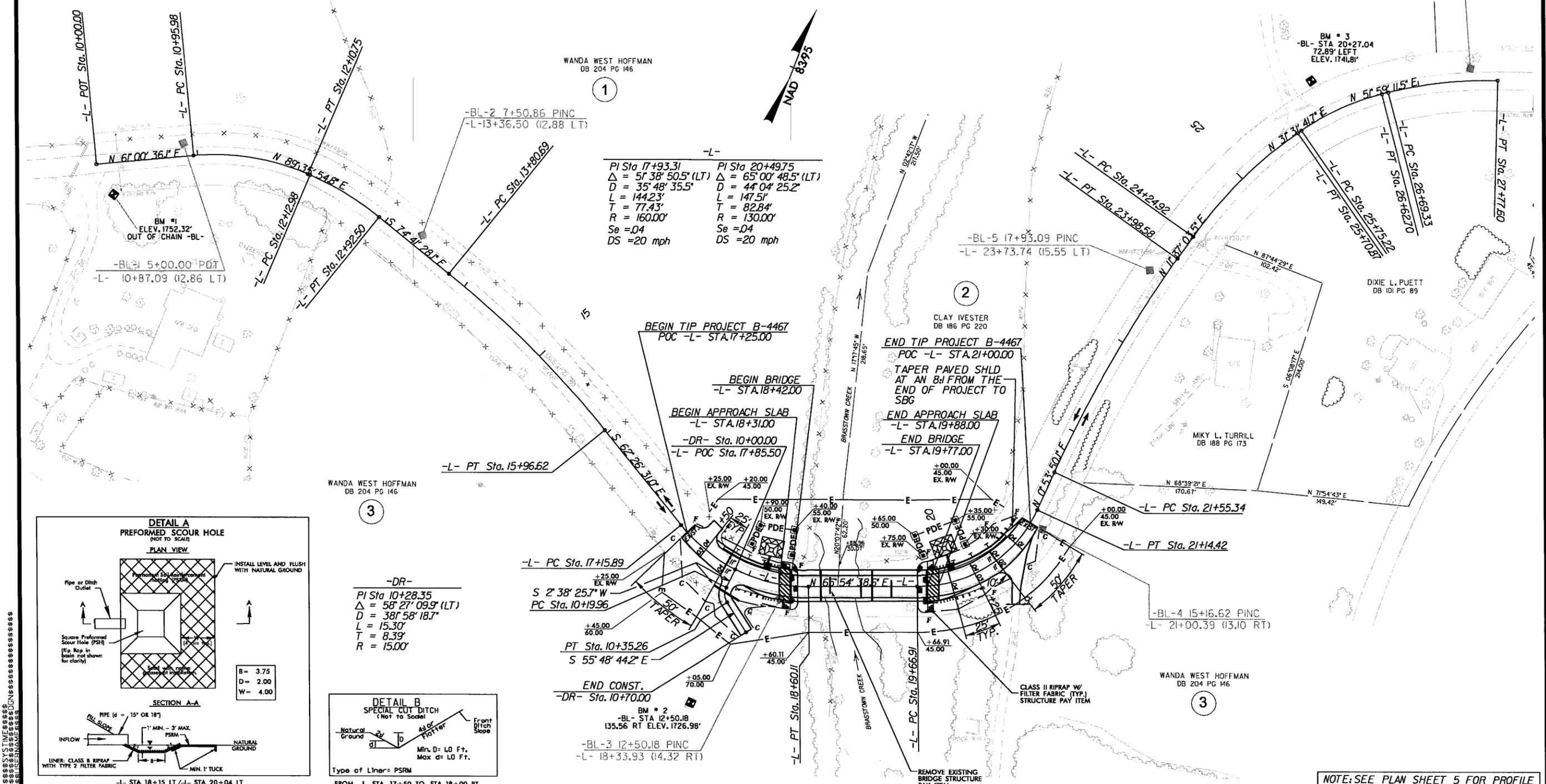
Sketch showing Dimensions of Pavement and Shoulder in Relation to Proposed Bridge Width



DRAINAGE DETAIL

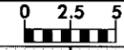
-BL-6 21+66.06 POT
-L-27+51.37 (12.11 LT)

HALEN DILLS
DB 49 PG 126



NOTE: SEE PLAN SHEET 5 FOR PROFILE

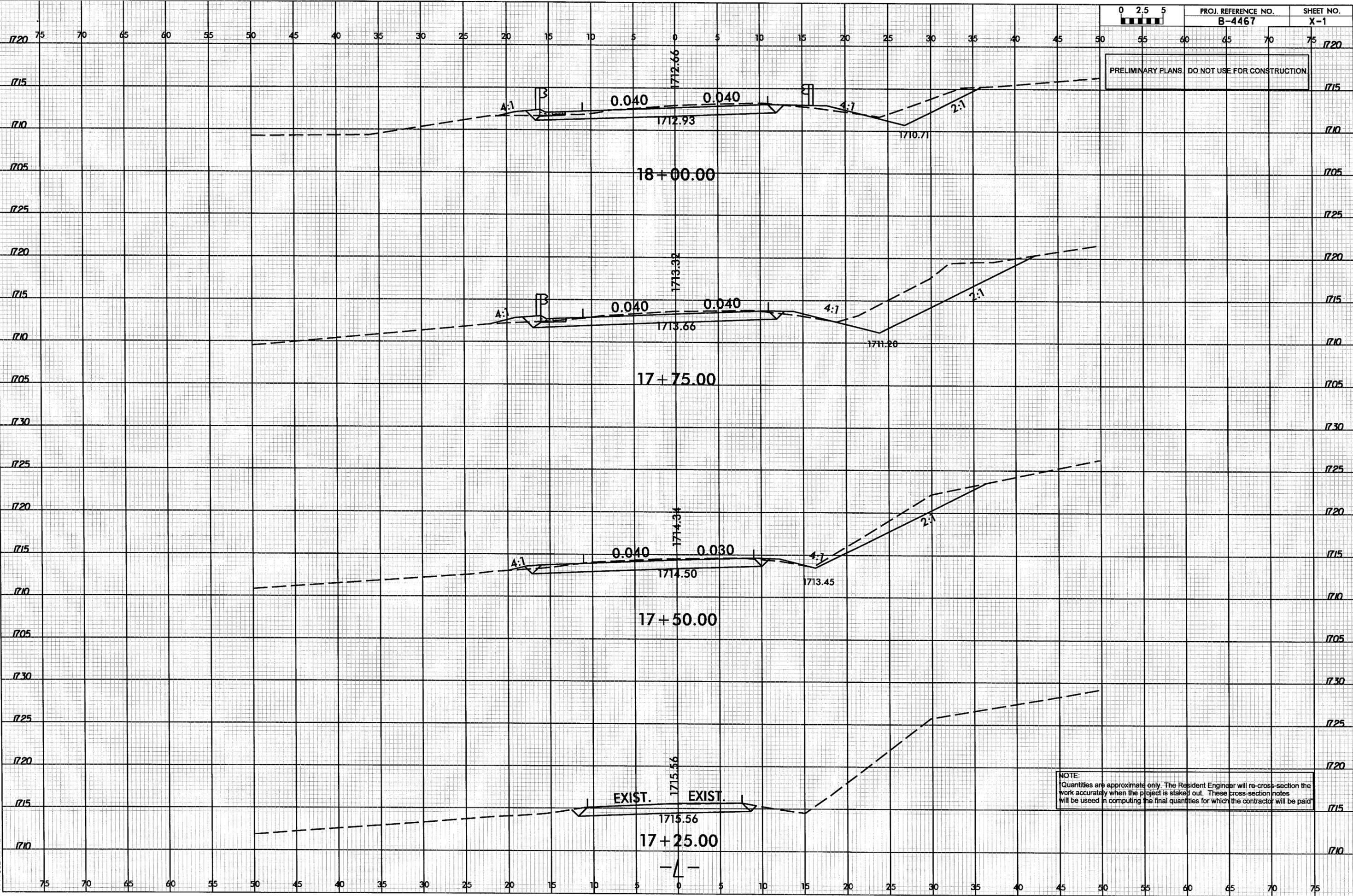
8/23/99



PROJ. REFERENCE NO. B-4467

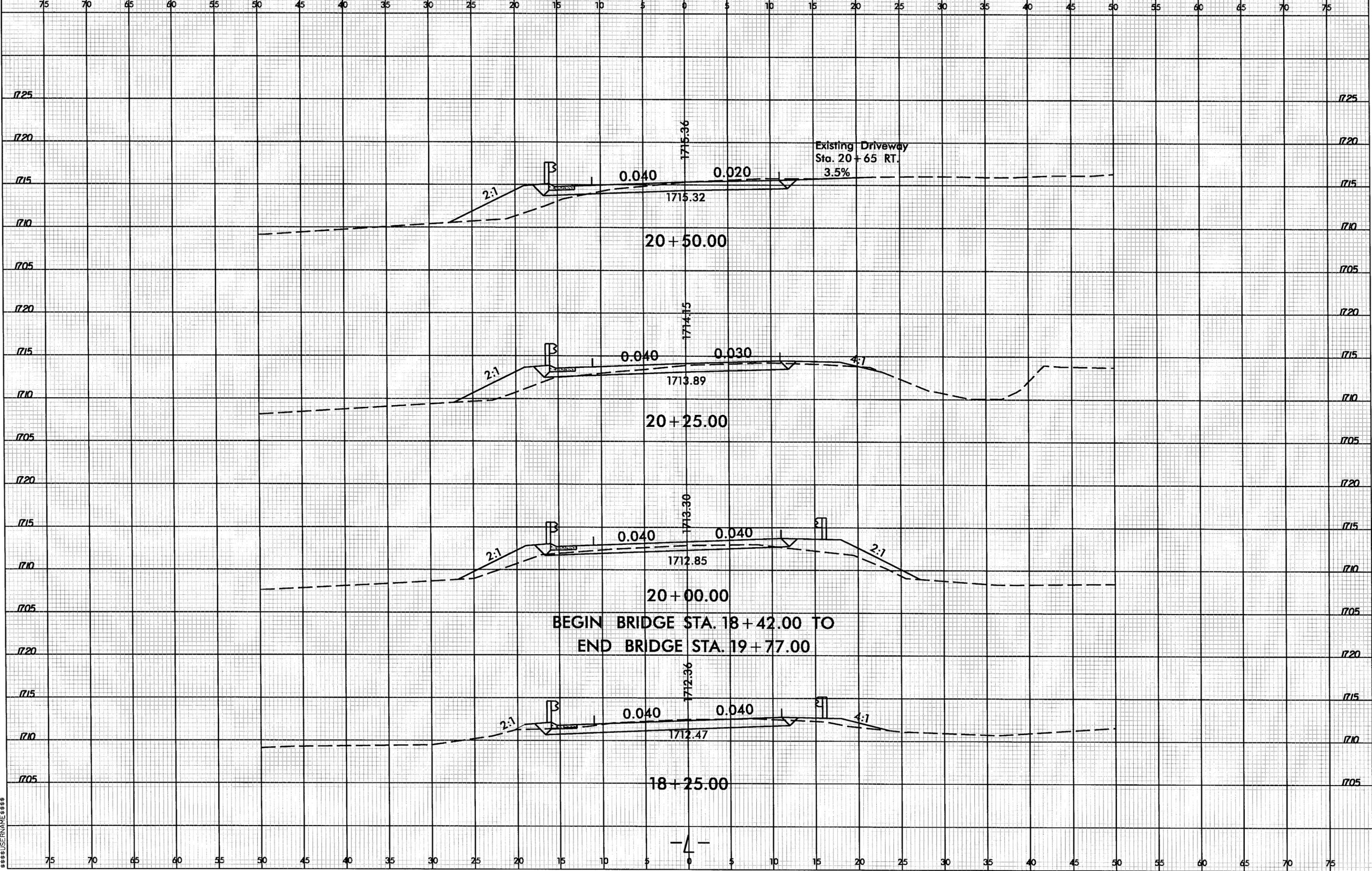
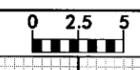
SHEET NO. X-1

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION



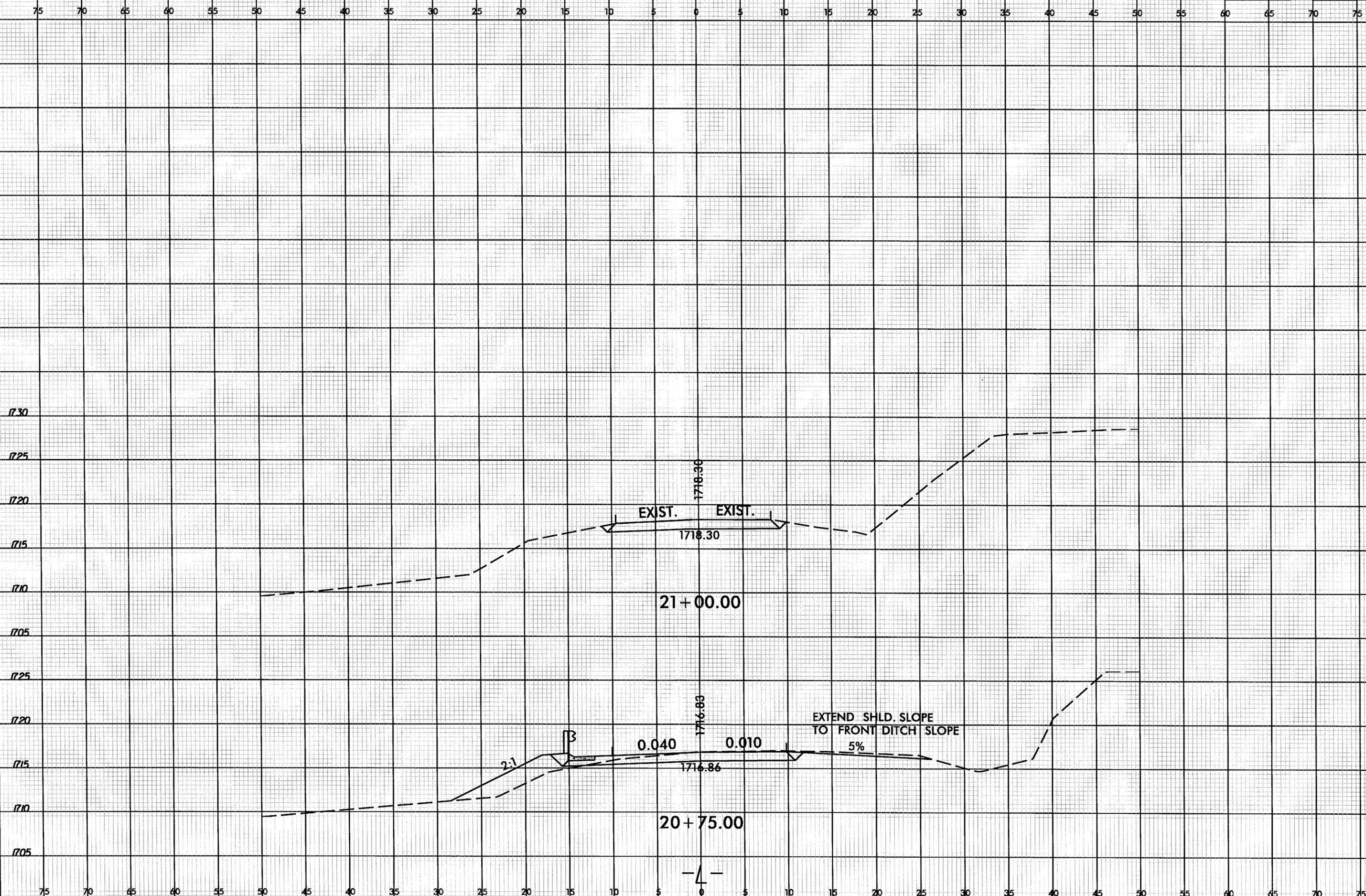
NOTE:
 Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid.

SYSTEM TIME: 8/23/99 10:00:00 AM



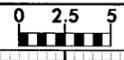
BEGIN BRIDGE STA. 18 + 42.00 TO
END BRIDGE STA. 19 + 77.00

SYSTEMS
USER

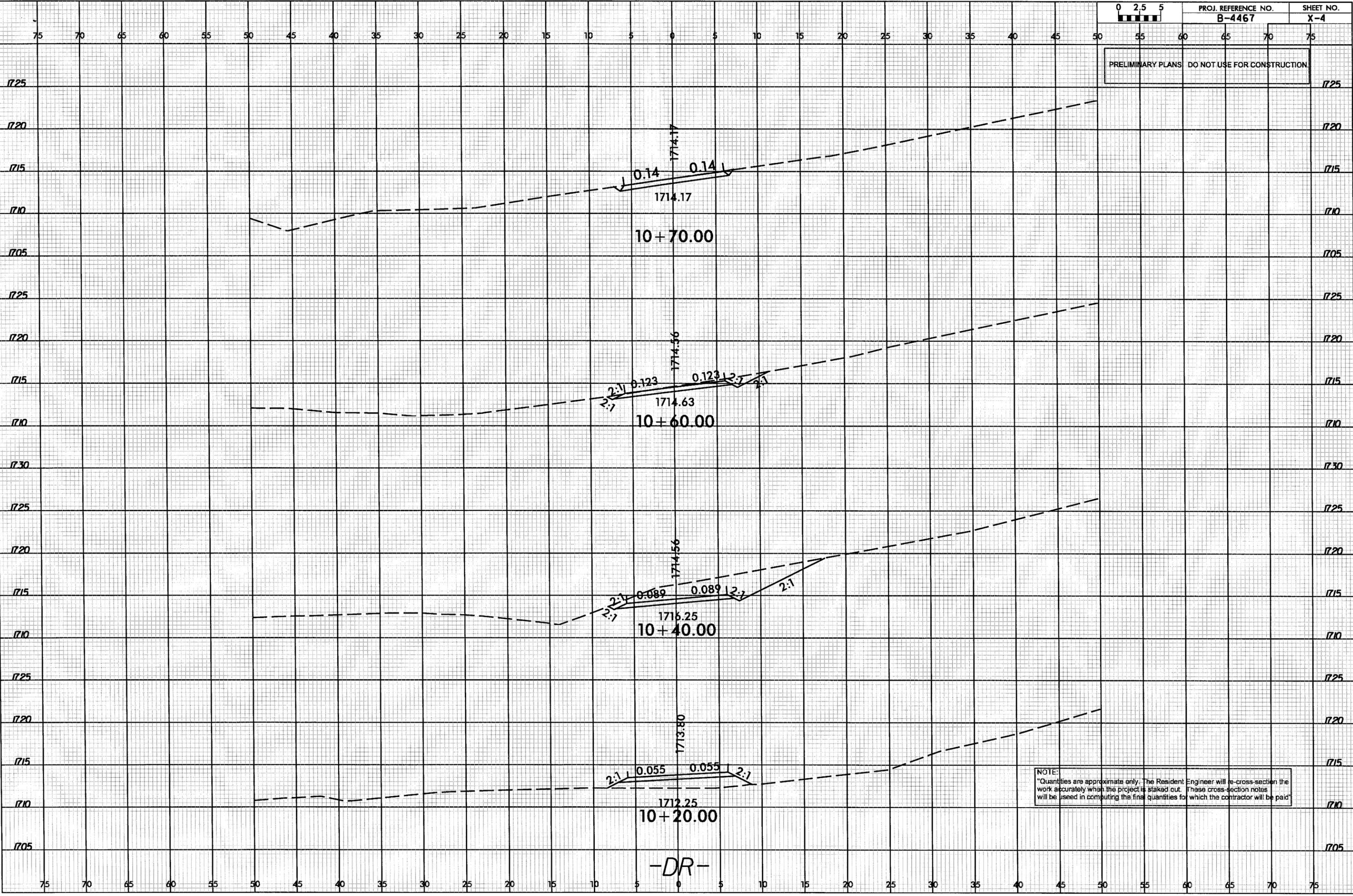


\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

8/23/99



PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION.



-DR-

NOTE:
 "Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid."

SYSTEMS ENGINEERING CONSULTANTS