



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

March 7, 2011

U. S. Army Corps of Engineers  
Regulatory Field Office  
3331 Heritage Trade Drive, Suite 105  
Wake Forest, NC 27587

ATTN: Mr. Monte Matthews  
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 33 and 13 and 401  
General Water Quality Certifications** for the proposed replacement of  
Bridge No. 33 over Meat Camp Creek on SR 1335 in Watauga County,  
Federal Aid Project No. BRZ-1335(2); Division 11; TIP No. B-3924; WBS  
36271.1.1 Debit work order \$240.00

Dear Mr. Matthews:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 33, a 26-foot one-span bridge over Meat Camp Creek on Meat Camp Road (SR 1335), with a 35-foot long single span bridge. The new structure will be located in approximately the same location of the current bridge. Traffic will use an onsite detour to the south of the existing structure during construction. There will be 72 linear feet of permanent stream impacts from bank stabilization and 0.01 acre of temporary stream impacts from the removal of the concrete mill race.

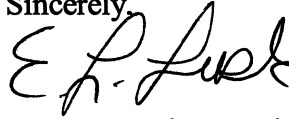
Comments from the North Carolina Wildlife Resources Commission (NCWRC) will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachment, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT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

Please see enclosed copies of the Pre-Construction Notification (PCN) Form, stormwater management plan, permit drawings and design plans. The Categorical Exclusion (CE) was completed on March 29, 2007. Documents were distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of September 20, 2011 and a review date of August 2, 2011; however the let date may advance as additional funding becomes available.

If you have any questions or need additional information, please call Brett Feulner at (919) 707-6116. A copy of this permit application and distribution list will be posted on the NCDOT Website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>

Sincerely,

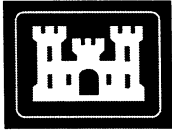
A handwritten signature in black ink, appearing to read "G. J. Thorpe".

Gregory J. Thorpe, Ph.D.

Environmental Management Director, PDEA

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: 13      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 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 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 No. 33 over Meat Camp Creek (SR 1335)
2b. County:	Watauga
2c. Nearest municipality / town:	Boone
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-3924

#### 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) 431-6663
3g. Fax no..	(919) 431-2002
3h. Email address:	bmfeulner@ncdot.gov

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



<b>B. Project Information and Prior Project History</b>	
<b>1. Property Identification</b>	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.85 (DD.DDDDDD) Longitude: - 82.48 (-DD.DDDDDD)
1c. Property size:	443'L x 120' W = 82,592 sq. ft. (53,160) / (43,650) = 1.22 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Meat Camp Creek
2b. Water Quality Classification of nearest receiving water:	C Tr(+)
2c. River basin:	Watauga
<b>3. Project Description</b>	
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: Maintained/Disturbed mostly and scrub-shrub communities	
3b. List the total estimated acreage of all existing wetlands on the property: 0	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 350	
3d. Explain the purpose of the proposed project: To replace a functionally obsolete and structurally deficient bridge	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 26 foot single span bridge with a 35 foot long single span bridge. An onsite detour will be utilized during the replacement. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
<b>4. Jurisdictional Determinations</b>	
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.	
<b>5. Project History</b>	
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.	
<b>6. Future Project Plans</b>	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

<b>C. Proposed Impacts Inventory</b>						
<b>1. Impacts Summary</b>						
1a. Which sections were completed below for your project (check all that apply):						
<input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Streams - tributaries <input type="checkbox"/> Buffers <input type="checkbox"/> Open Waters <input type="checkbox"/> Pond Construction						
<b>2. Wetland Impacts</b>						
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		
<b>2g. Total wetland impacts</b>					0 Permanent 0 Temporary	
2h. Comments:						
<b>3. Stream Impacts</b>						
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 checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stablization	Meat Camp Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25	72 perm/ bank stabilization
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Mill Race Remova/ temp filll	Meat Camp Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25	26 ft (0.01 ac) temporary
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		
<b>3h. Total stream and tributary impacts</b>					72 perm 26 Temp	

<b>3i. Comments:</b>									
<b>4. Open Water Impacts</b> 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									
<b>4f. Total open water impacts</b>							X Permanent X Temporary		
<b>4g. Comments:</b>									
<b>5. Pond or Lake Construction</b> 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									
<b>5f. Total</b>									
<b>5g. Comments:</b>									
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.

<b>6a.</b> 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:
<b>6b.</b> Buffer impact number – Permanent (P) or Temporary (T)	<b>6c.</b> Reason for impact	<b>6d.</b> Stream name	<b>6e.</b> Buffer mitigation required?	<b>6f.</b> Zone 1 impact (square feet)	<b>6g.</b> 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				
<b>6h. Total buffer impacts</b>							
<b>6i. Comments:</b>							


<b>D. Impact Justification and Mitigation</b>		
<b>1. Avoidance and Minimization</b>		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. A low flow channel has been created in both culverts; sills are present in both structures.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. The Stormwater Management Plan states that there will be no direct discharge into the stream; Sheet flow will be utilized as much as practicable and discharged onto grassed surfaces; Runoff from the proposed structures will be discharged into grass lined ditches and as far away from the stream as practicable. A trout moratorium from 10/15-4/15 and Design Standards in Sensitive Watersheds will be implemented for this project.		
<b>2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State</b>		
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: Impacts are from bank stabilization and do not constitute loss of waters of the US	
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	
<b>3. Complete if Using a Mitigation Bank</b>		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
<b>4. Complete if Making a Payment to In-lieu Fee Program</b>		
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):	0 square feet	
4e. Riparian wetland mitigation requested:	0 acres	
4f. Non-riparian wetland mitigation requested:	0 acres	
4g. Coastal (tidal) wetland mitigation requested:	0 acres	
4h. Comments:		
<b>5. Complete if Using a Permittee Responsible Mitigation Plan</b>		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

<b>6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ</b>				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:				

<b>E. Stormwater Management and Diffuse Flow Plan (required by DWQ)</b>	
<b>1. Diffuse Flow Plan</b>	
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: NA	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Stormwater Management Plan</b>	
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 type="checkbox"/> DWQ 401 Unit
<b>3. Certified Local Government Stormwater Review</b>	
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
<b>4. DWQ Stormwater Program Review</b>	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input checked="" 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 checked="" type="checkbox"/> No, Final approval pending
<b>5. DWQ 401 Unit Stormwater Review</b>	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No NA
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No NA

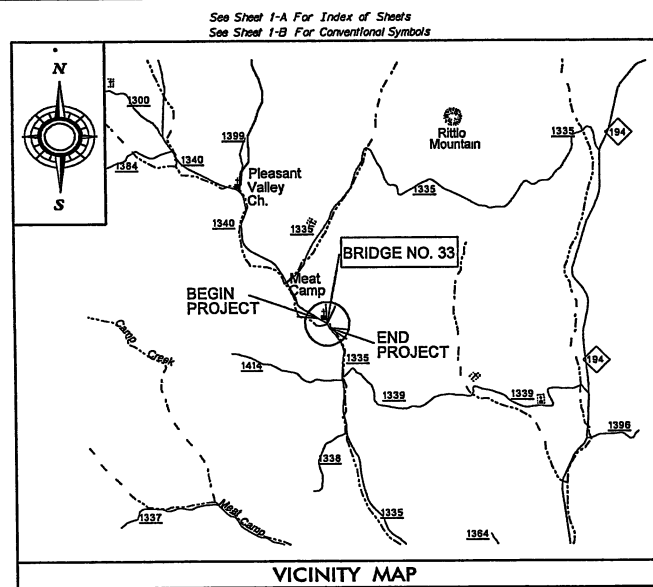
<b>F. Supplementary Information</b>	
<b>1. Environmental Documentation (DWQ Requirement)</b>	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If you answered "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
<b>2. Violations (DWQ Requirement)</b>	
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):	
<b>3. Cumulative Impacts (DWQ Requirement)</b>	
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 impacts resulting from these bridge replacements, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect and cumulative effects study will not be necessary.	
<b>4. Sewage Disposal (DWQ Requirement)</b>	
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	



<b>5. Endangered Species and Designated Critical Habitat (Corps Requirement)</b>		
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input checked="" type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS web page of T/E species for Watauga County; NHP database of element occurrences		
<b>6. Essential Fish Habitat (Corps Requirement)</b>		
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		
<b>7. Historic or Prehistoric Cultural Resources (Corps Requirement)</b>		
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 - memo from NC Dept. of Cultural Resources dated May 2, 2006.		
<b>8. Flood Zone Designation (Corps Requirement)</b>		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements:		
8c. What source(s) did you use to make the floodplain determination? NCDOT Hydraulics Unit Coordination w/ FEMA		
<u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	<u>3.7.11</u> Date

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3924	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
36271.1.1	BRZ-1335(2)	PE	
36271.2.1	BRZ-1335(2)	R/W, UTIL.	

WETLAND/STREAM  
IMPACTS

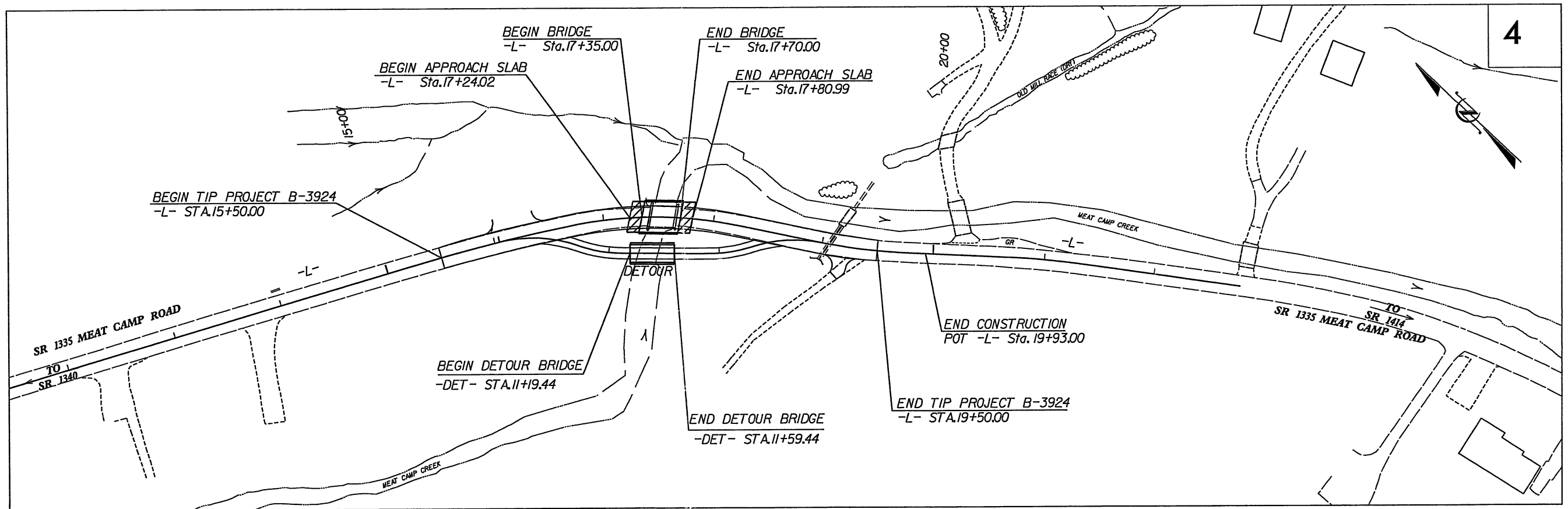


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# WATAUGA COUNTY

LOCATION: BRIDGE NO. 33 OVER MEAT CAMP CREEK  
ON SR 1335 (MEAT CAMP ROAD)

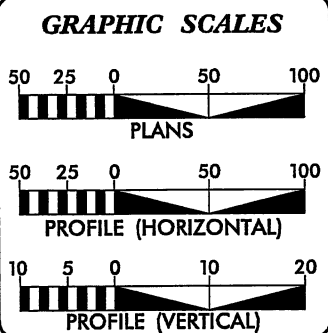
TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE AND PAVING



NCDOT CONTACT: DOUG TAYLOR, P.E., PROJECT ENGINEER - ROADWAY DESIGN

Permit Drawing  
Sheet 1 of 9  
"CLEARING ON THIS PROJECT SHALL BE ESTABLISHED BY METHOD III"

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2012	=	1880
ADT 2032	=	2680
DHV	=	12 %
D	=	60 %
T	=	3 % *
V	=	40 MPH
* TTST	=	1 %
DUAL	=	2 %
FUNC. CLASS	=	
RURAL LOCAL	=	
SUBREGIONAL TIER	=	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-3924	=	0.069 mi.
LENGTH OF STRUCTURE TIP PROJECT B-3924	=	0.007 mi.
TOTAL LENGTH OF TIP PROJECT B-3924	=	0.076 mi.

Prepared In the Office of:  
**WANG ENGINEERING COMPANY, INC.**  
CARY, N.C.  
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
SEPTEMBER 13, 2010

LETTING DATE:  
FEBRUARY 21, 2012

CLIFTON T. REGISTER, PE  
PROJECT ENGINEER

SCOTT L. KENNEDY  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

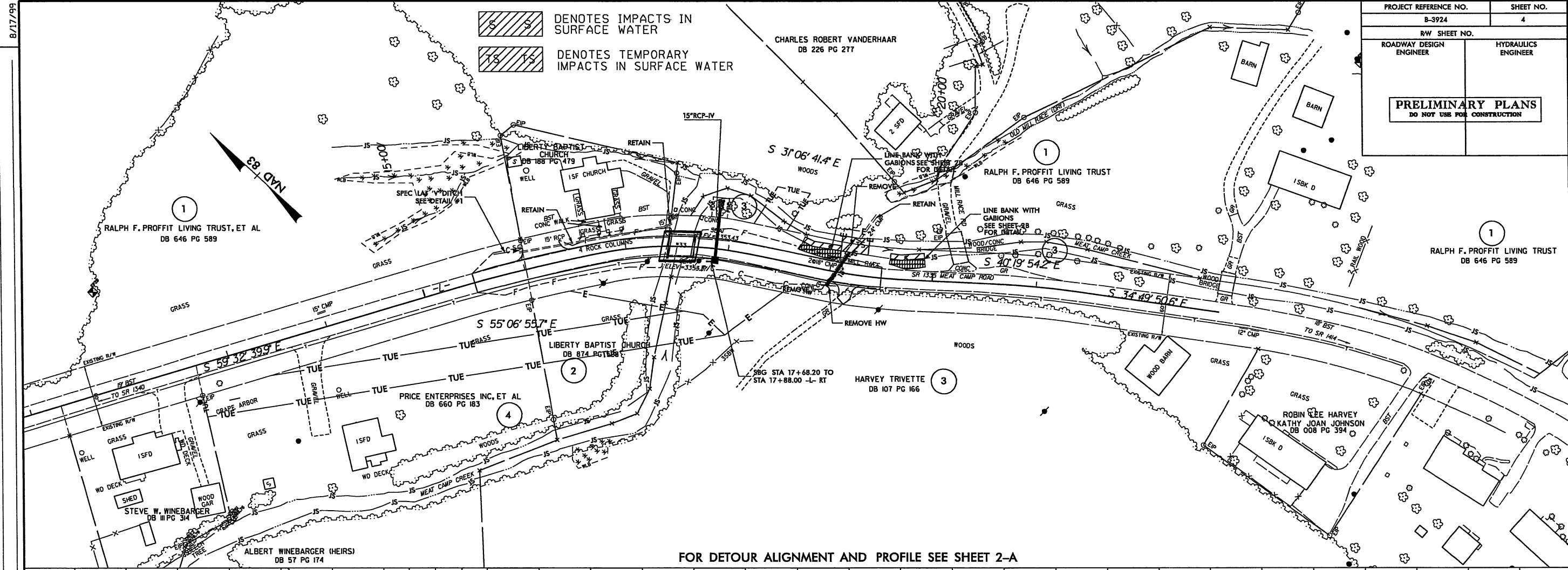
TIP PROJECT: B-3924

CONTRACT:

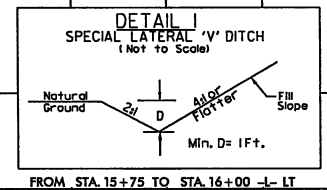
8/17/99

REVISIONS

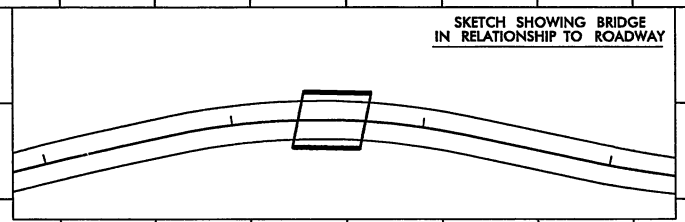
1. REVISED PLAN TO ADD TUE ON PARCELS 1, 2, & 3 OCTOBER 6, 2010.



PROJECT REFERENCE NO. B-3924		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>			

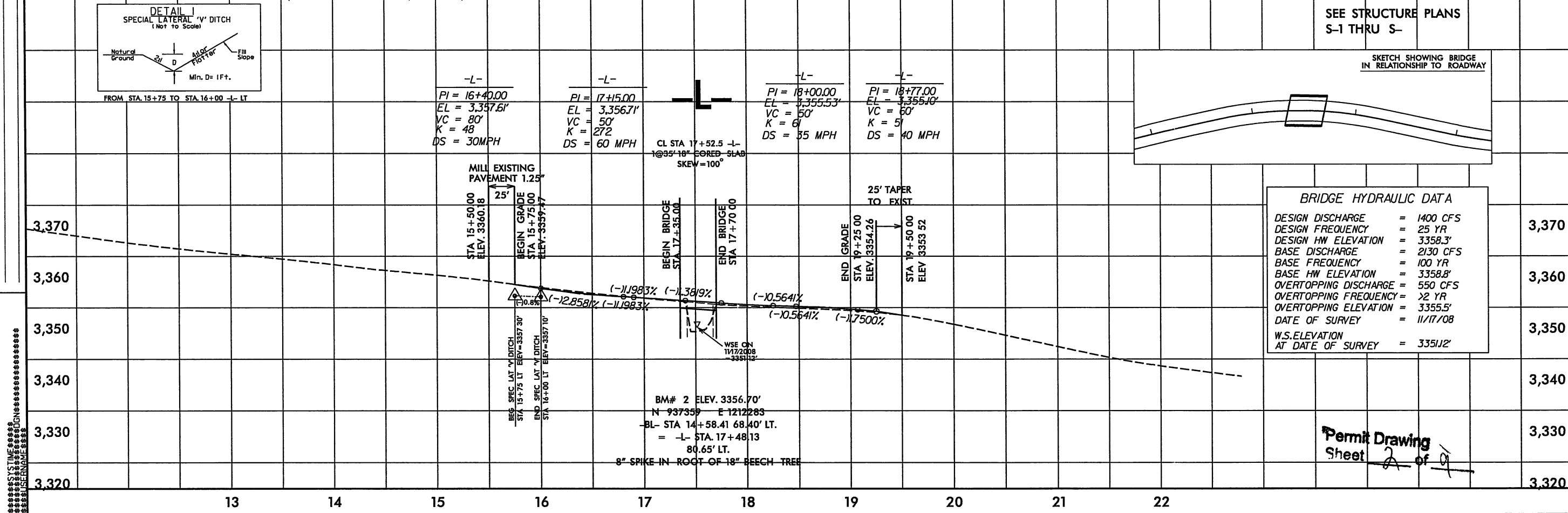


SEE STRUCTURE PLANS  
S-1 THRU S-



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1400 CFS	
DESIGN FREQUENCY	= 25 YR	
DESIGN HW ELEVATION	= 3358.3'	
BASE DISCHARGE	= 2130 CFS	
BASE FREQUENCY	= 100 YR	
BASE HW ELEVATION	= 3358.8'	
OVERTOPPING DISCHARGE	= 550 CFS	
OVERTOPPING FREQUENCY	= 25 YR	
OVERTOPPING ELEVATION	= 3355.5'	
DATE OF SURVEY	= 11/17/08	
W.S. ELEVATION AT DATE OF SURVEY	= 3351.12'	



SYTIME

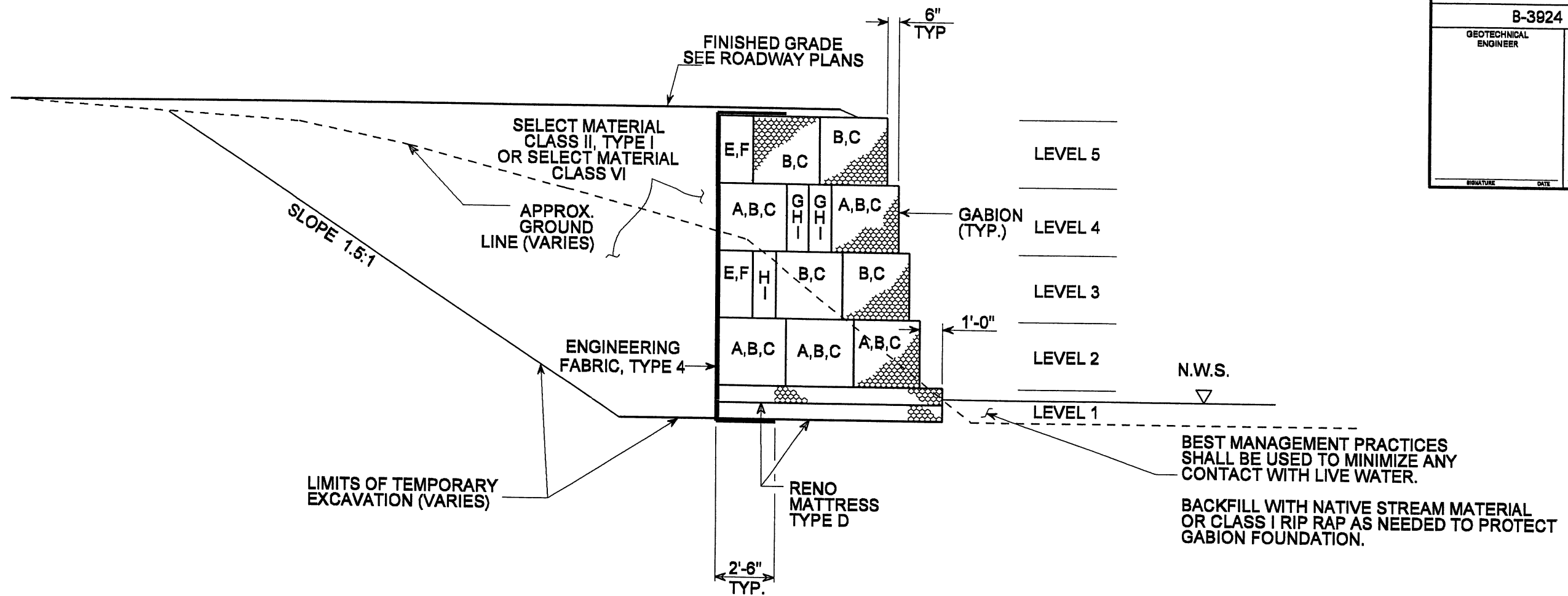
Permit Drawing  
Sheet 2 of 4











## GABION BASKET SHOULDER CONSTRUCTION

### NOTES:

1. RENO MATTRESSES ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
2. RENO MATTRESSES ARE TO BE CUT AND FITTED TO CREATE A LEVEL PLATFORM FOR THE GABIONS, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
3. GABIONS ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
4. GABIONS ARE TO BE CUT AND FITTED TO CREATE THE END BENT BACKWALL AND WINGWALL LIMITS AS DESCRIBED IN THE ELEVATION VIEW, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
5. OVERLAP FABRIC A MINIMUM 18" OR AS DIRECTED BY THE ENGINEER.

TYPICAL SIZES				
GABIONS	LENGTH	WIDTH	HEIGHT	
TYPE "A"	6' X	3' X	3'	
TYPE "B"	9' X	3' X	3'	
TYPE "C"	12' X	3' X	3'	
TYPE "D"	6' X	3' X	1.5'	
TYPE "E"	9' X	3' X	1.5'	
TYPE "F"	12' X	3' X	1.5'	
TYPE "G"	6' X	3' X	1'	
TYPE "H"	9' X	3' X	1'	
TYPE "I"	12' X	3' X	1'	
RENO MATTRESS	LENGTH	WIDTH	HEIGHT	
TYPE "D"	12' X	6' X	9"	

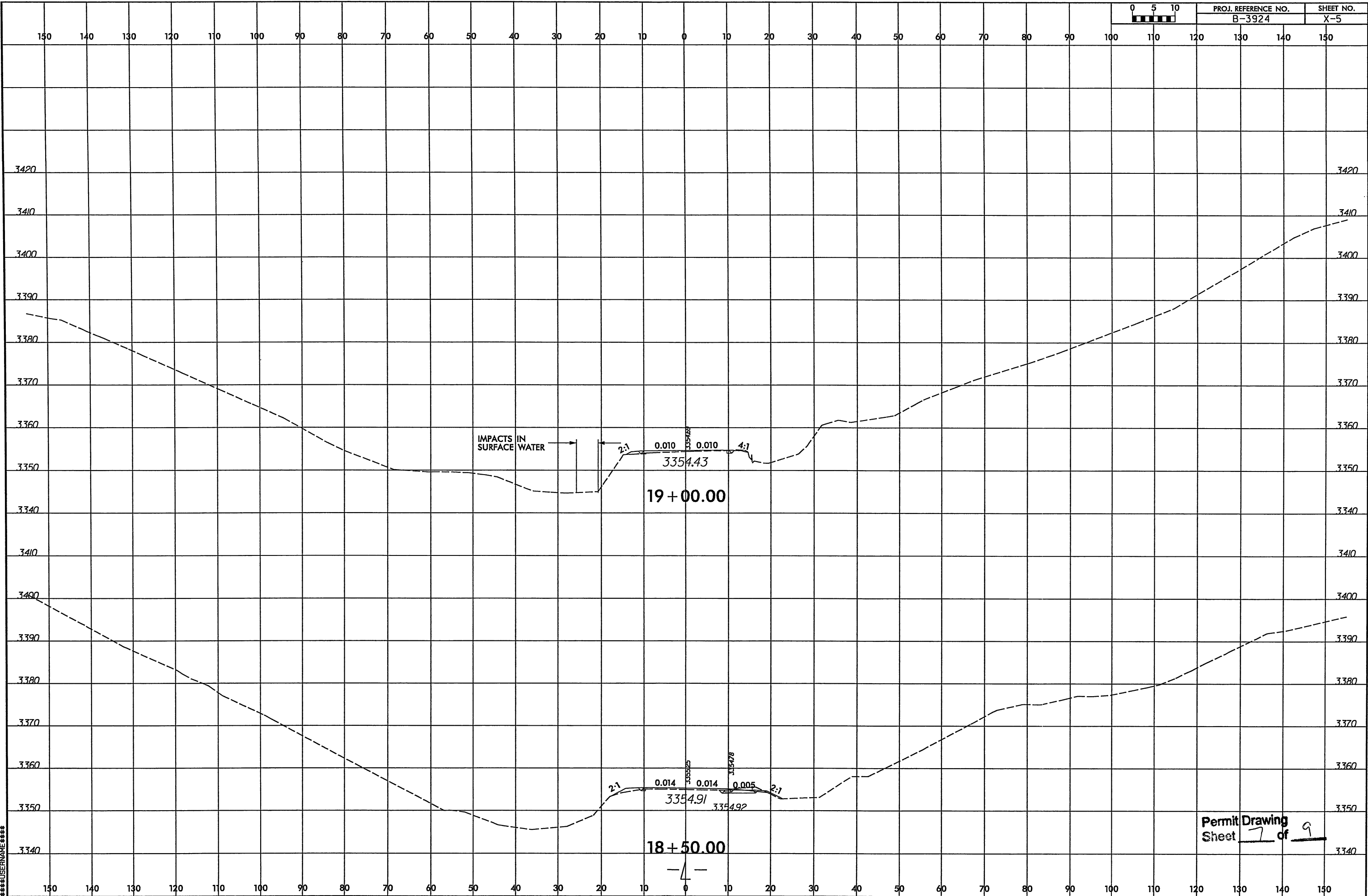
Permit Drawing  
Sheet 6 of 9

PREPARED BY: J SALVO	DATE: 1/11
REVIEWED BY: S CLARK	DATE: 1/11

**GEOTECHNICAL ENGINEERING UNIT**  
☐ EASTERN REGIONAL OFFICE  
☒ WESTERN REGIONAL OFFICE  
☐ CONTRACT OFFICE  
**STATE OF NORTH CAROLINA**  
**DEPARTMENT OF TRANSPORTATION**  
**RALEIGH**

### GABION BASKET SHOULDER CONSTRUCTION DETAILS

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		







# PROPERTY OWNERS

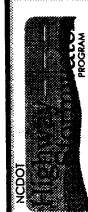
## NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	RALPH PROFFIT LIVING TRUST	2240 MEAT CAMP ROAD BOONE, NC 28607
2	LIBERTY BAPTIST CHURCH	1264 MEAT CAMP ROAD BOONE, NC 28607
3	HARVEY AND STELLA TRIVETTE	583 JEFFERSON ROAD BOONE, NC 28607

WETLAND/STREAM  
IMPACTS

Permit Drawing  
Sheet 9 of 9

NCDOT  
DIVISION OF HIGHWAYS  
WATAUGA COUNTY  
PROJECT: 36271.1.1 (B-3924)  
BRIDGE NO. 33 OVER MEAT CAMP CR  
ON SR 1335 (MEAT CAMP RD.)  
BETWEEN SR 1340  
AND SR 1339  
SHEET OF 9 / 22 / 10



Released: July 2010 (DRAFT)

North Carolina Department of Transportation  
Highway Stormwater Program  
STORMWATER MANAGEMENT PLAN

Version 1.1



Page 1 of 1

General Project Information

Project No.:	36271.1.1	Date:	9/20/2010
City/Town:	Meat Camp	Designer:	SDG
County(ies):	Watauga County	Project Manager:	WHW
River Basin(s):	New	CAMA County?	no
Primary Receiving Water:	Meat Camp Creek	TVA County?	yes
NCDWQ Surface Water Classification for Primary Receiving Water		NCDWQ Stream Index:	10-1-10
		Class:	C
		Supplemental:	Trout Waters (Tr)
Other Stream Classification:			
303(d) Stream?	no	Type(s) of Impairment:	
State Stormwater Permit Required?	no	If yes, why?	
Could the Project Impact Threatened or Endangered Species?			

Description:

Anadromous Fish Present?

Description:

Buffer Rules in Effect?

Buffer Rules:

Existing Site

Description of Existing Project Area:

Average Daily Traffic (existing):

Existing Cross Section:

Surrounding Land Use:

General Comments:

Project Description

Description of Proposed Project:

Average Daily Traffic (proposed):

Proposed Cross-Section:

Interchange Modification:

West Terminus:

East Terminus:

Project Length (lin. miles/feet):

General Comments:

Replacement of Bridge No. 33 on SR 1335 over Meat Camp Creek with temporary upstream detour

1800

Two 10 ft lanes with no paved shoulder

no

Little Creek Rd

Mill Race Rd

400 ft

Added Impervious Area (ac.):

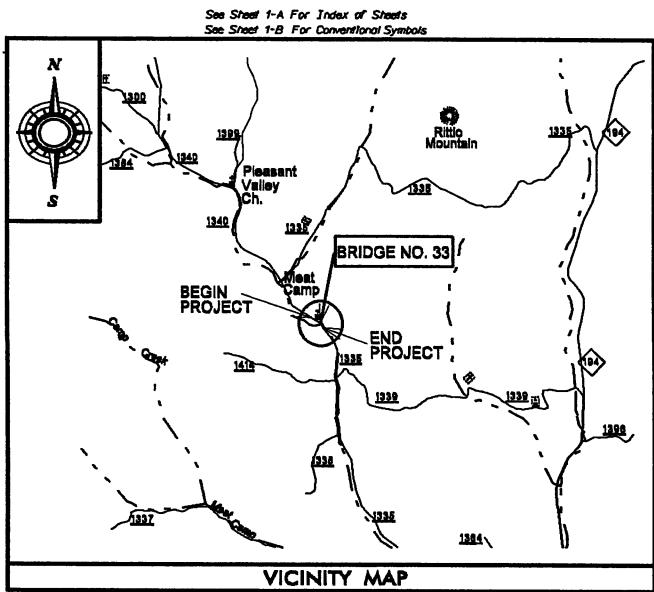
0.03 ac

09/08/99

TIP PROJECT: B-3924

CONTRACT:

07-FEB-2011 13:38  
R:\Roadway\Proj\B3924\_rdy\_tsh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WATAUGA COUNTY**

LOCATION: BRIDGE NO. 33 OVER MEAT CAMP CREEK  
ON SR 1335 (MEAT CAMP ROAD)

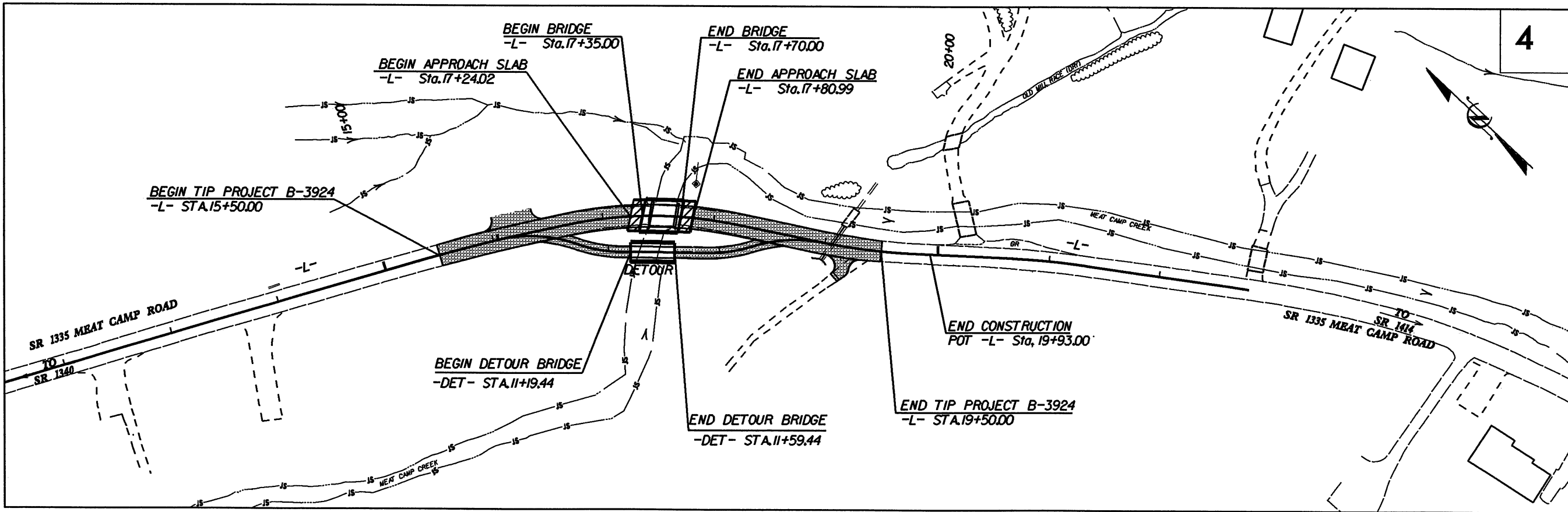
TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE AND PAVING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3924	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
36271.1.1	BRZ-1335(2)	PE	
36271.2.1	BRZ-1335(2)	RW, UTIL.	

**RECEIVED**

FEB 8 2011

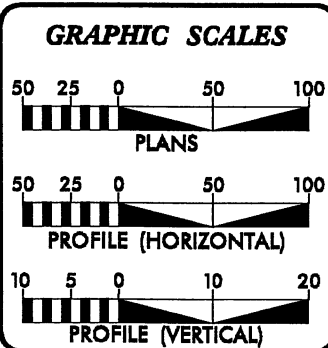
DIVISION OF HIGHWAYS  
PDEA-OFFICE OF NATURAL ENVIRONMENT



NCDOT CONTACT: DOUG TAYLOR, P.E., PROJECT ENGINEER - ROADWAY DESIGN

"CLEARING ON THIS PROJECT SHALL BE ESTABLISHED BY METHOD III"

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



**DESIGN DATA**

ADT 2012 = 1880  
ADT 2032 = 2680

DHV = 12 %  
D = 60 %  
T = 3 % \*  
V = 40 MPH

\* TTST 1 % DUAL 2 %

FUNC. CLASS =  
RURAL LOCAL  
SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-3924 = 0.069 mi.  
LENGTH OF STRUCTURE TIP PROJECT B-3924 = 0.007 mi.  
TOTAL LENGTH OF TIP PROJECT B-3924 = 0.076 mi.

Prepared in the Office of:  
**WANG ENGINEERING COMPANY, INC.**  
CARY, N.C.  
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 13, 2010  
LETTING DATE: FEBRUARY 21, 2012

CLIFTON T. REGISTER, PE  
PROJECT ENGINEER

SCOTT L. KENNEDY  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER





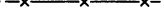







**Note: Not to Scale**  
**\*S.U.E. = Subsurface Utility Engineering**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS












PROJECT REFERENCE NO.	SHEET NO.
B-3924	1-B

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	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 

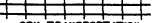


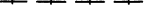

**BUILDINGS AND OTHER CULTURE:**

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	_____ 
Buffer Zone 1	_____ 
Buffer Zone 2	_____ 
Flow Arrow	_____ 
Disappearing Stream	_____ 
Spring	_____ 
Wetland	_____ 
Proposed Lateral, Tail, Head Ditch	_____ 
False Sump	_____ 


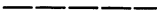















**RAILROADS:**

Standard Gauge	_____ 
RR Signal Milepost	_____ 
Switch	_____ 
RR Abandoned	_____ 
RR Dismantled	_____ 

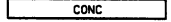


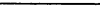





**RIGHT OF WAY:**

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	_____ 
Proposed Temporary Construction Easement	_____ 
Proposed Temporary Drainage Easement	_____ 
Proposed Permanent Drainage Easement	_____ 
Proposed Permanent Drainage / Utility Easement	_____ 
Proposed Permanent Utility Easement	_____ 
Proposed Temporary Utility Easement	_____ 
Proposed Permanent Easement with Iron Pin and Cap Marker	_____ 












**ROADS AND RELATED FEATURES:**

Existing Edge of Pavement	_____ 
Existing Curb	_____ 
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Wheel Chair Ramp	_____ 
Existing Metal Guardrail	_____ 
Proposed Guardrail	_____ 
Existing Cable Guiderail	_____ 
Proposed Cable Guiderail	_____ 
Equality Symbol	_____ 
Pavement Removal	_____ 
<b>VEGETATION:</b>	
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	_____ 
U/G 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	_____ 
U/G 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	_____ 
U/G 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:**

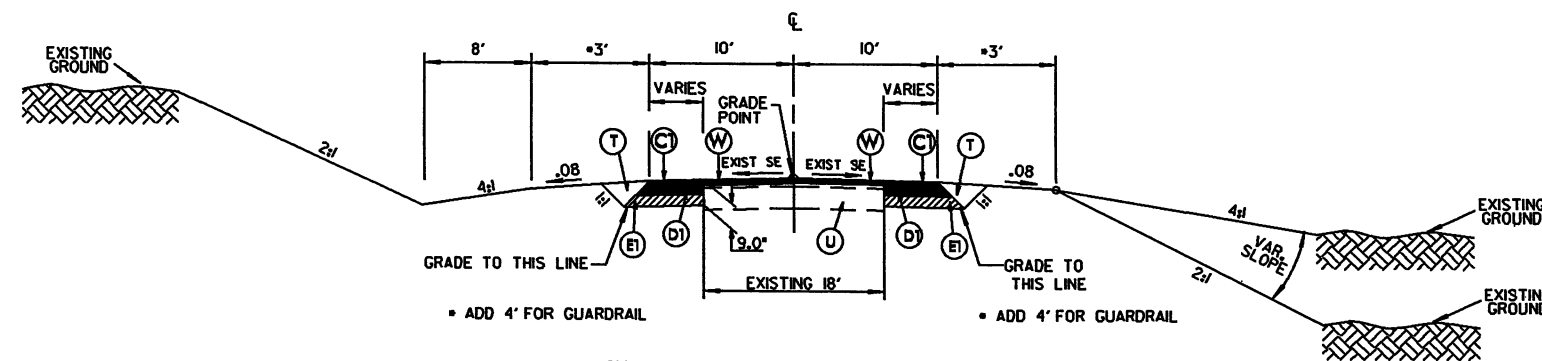
Gas Valve	_____ 
Gas Meter	_____ 
Recorded U/G Gas Line	_____ 
Designated U/G Gas Line (S.U.E.*)	_____ 
Above Ground Gas Line	_____ 

**SANITARY SEWER:**

Sanitary Sewer Manhole	_____ 
Sanitary Sewer Cleanout	_____ 
U/G 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	_____ 
U/G Tank; Water, Gas, Oil	_____ 
A/G Tank; Water, Gas, Oil	_____ 
U/G Test Hole (S.U.E.*)	_____ 
Abandoned According to Utility Records	_____ 
End of Information	_____ 

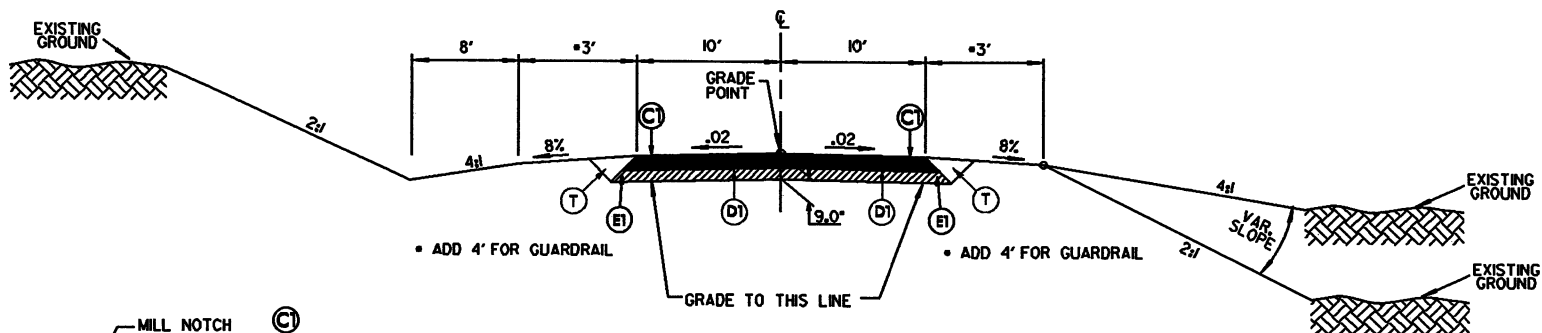


TRANSITION FROM T.S. NO. 1 TO EXIST.

-L- Sta. 19+25.00 to Sta. 19+50.00

TYPICAL SECTION NO. 1  
USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L- Sta. 18+42.00 to Sta. 19+25.00

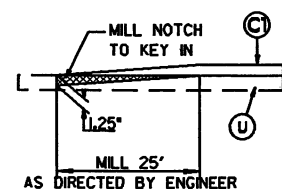


TRANSITION FROM T.S. NO. 2 TO EXIST.

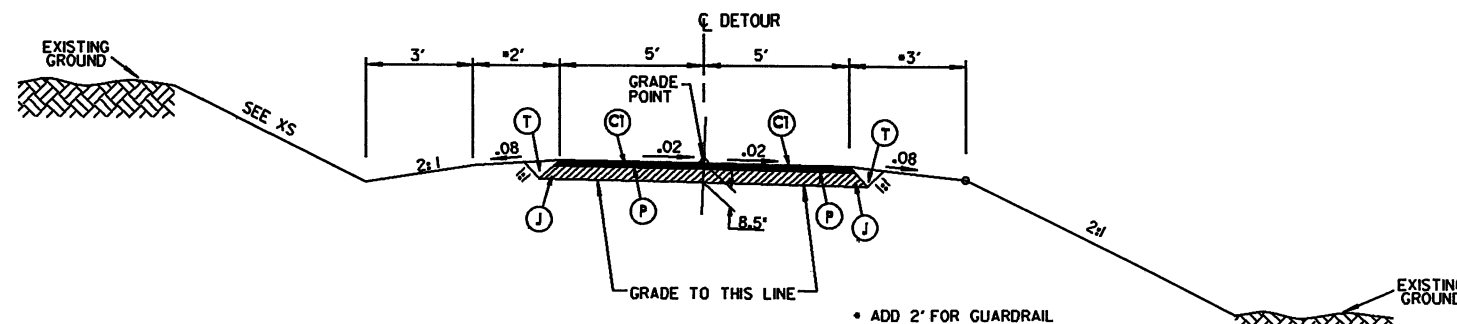
-L- Sta. 15+50.00 to Sta. 15+75.00

TYPICAL SECTION NO. 2  
USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L- Sta. 15+75.00 to Sta. 17+35.00 (BEGIN BRIDGE)  
-L- Sta. 17+70.00 (END BRIDGE) to Sta. 18+42.00



MILL EXISTING PAVEMENT 1.25' DEPTH  
-L- STA 15+50.00 TO 15+75.00

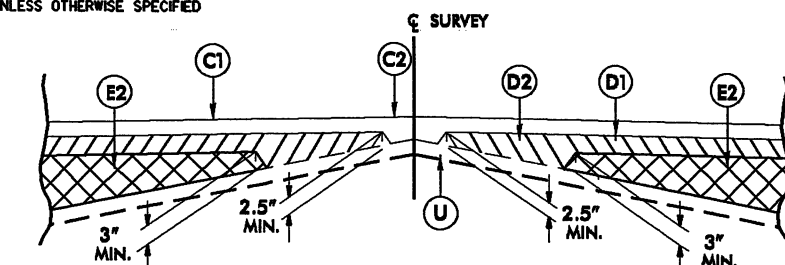


TYPICAL SECTION NO. 3  
USE TYPICAL SECTION NO. 3 AS FOLLOWS

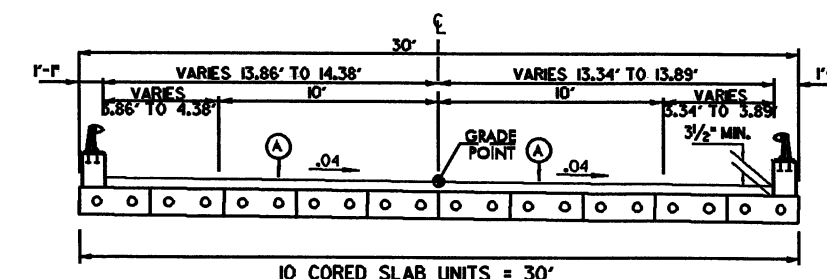
-DET- Sta. 10+50.39 to Sta. 11+19.44  
-DET- Sta. 11+59.44 to Sta. 12+45.66

PAVEMENT SCHEDULE	
A	CONCRETE WEARING SURFACE
C	PROP. APPROX. 1.25" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YD.
C1	PROP. APPROX. 2.5" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1.5" IN DEPTH.
D1	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS PER SQ. YD.
D2	PROP. VAR. DEPTH ASPH. CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 455 LBS PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
J	PROPOSED 8" AGGREGATE BASE COURSE
P	PRIME COAT
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH PAVEMENT (SEE WEDGING DETAILS)

NOTE: ALL SLOPES 1:1 UNLESS OTHERWISE SPECIFIED



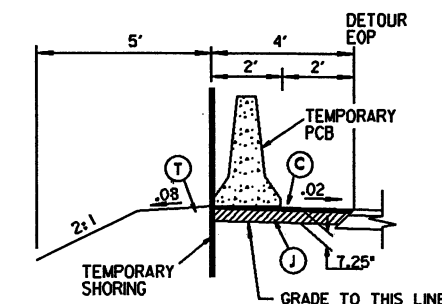
Detail Showing Method of Wedging



TYPICAL BRIDGE SECTION

-L- Sta. 17+35.00 to Sta. 17+70.00

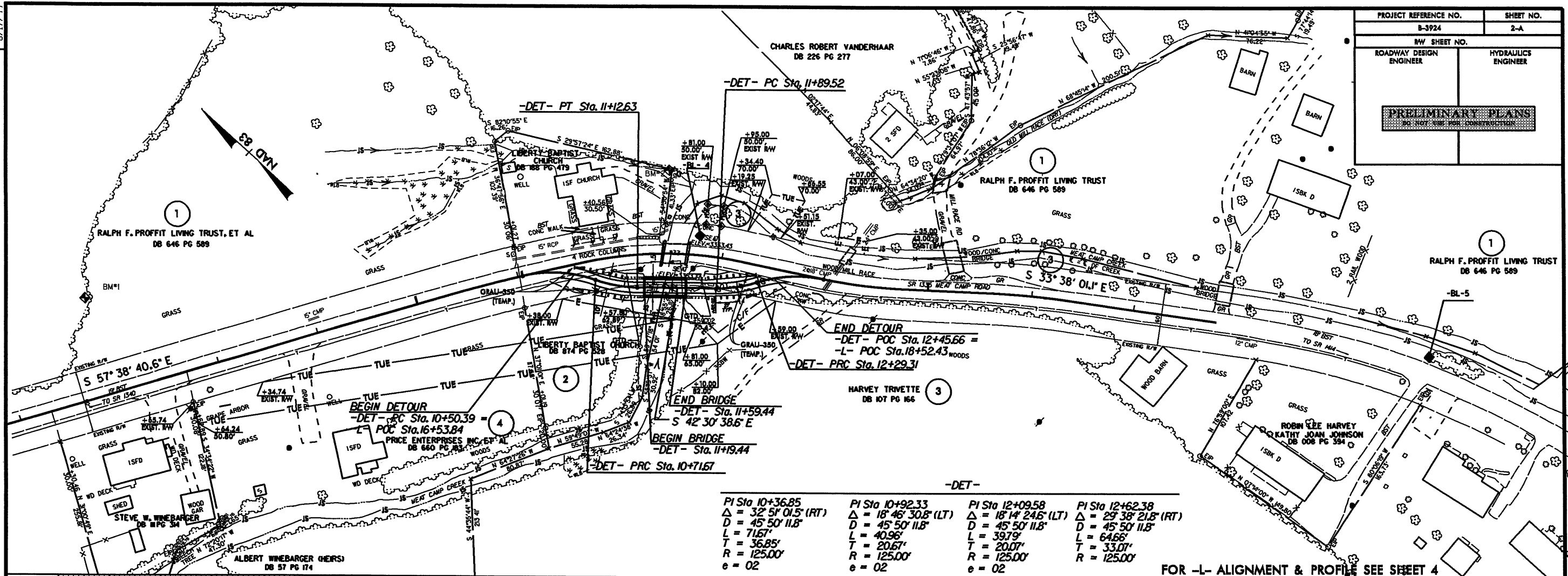
NOTE: VARIABLE WIDTH DUE TO TANGENT BRIDGE ON HORIZONTAL CURVE.



INSET TO TYPICAL SECTION NO. 3  
USE INSET

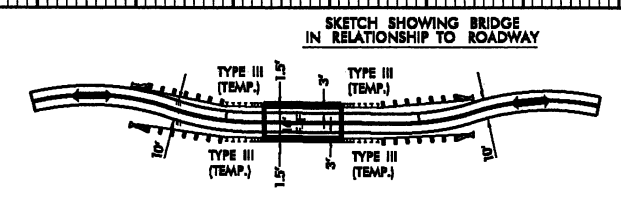
-L- Sta. 17+60.00 to Sta. 17+80.00



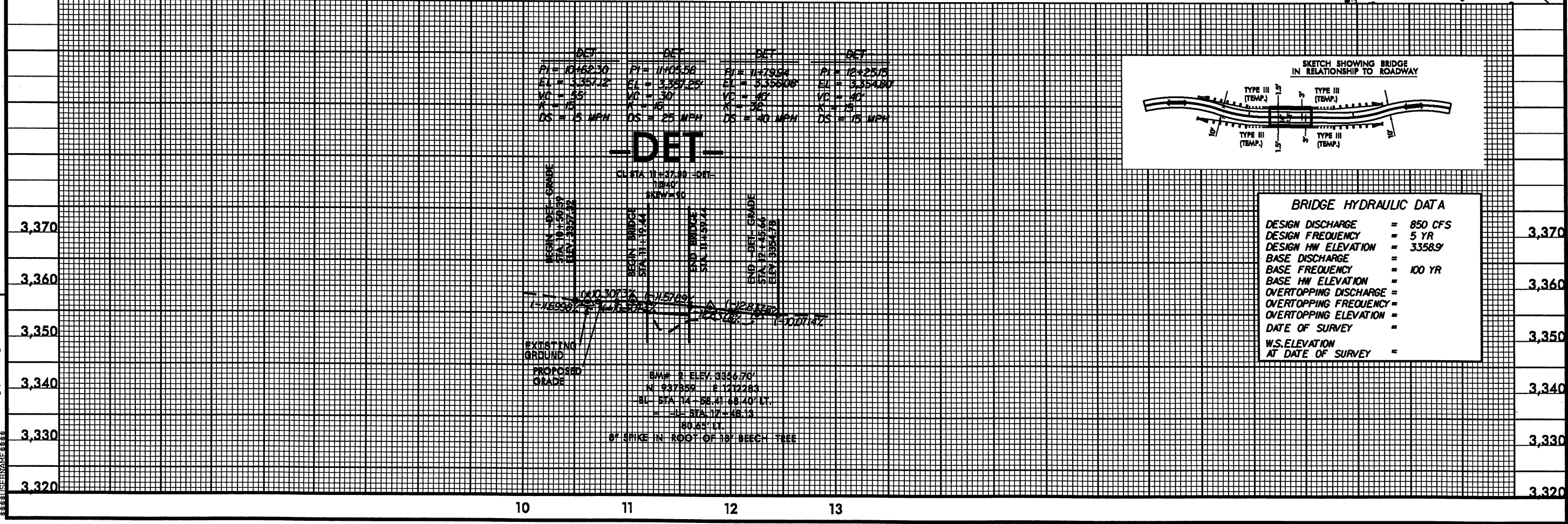


PI Sta 10+36.85	PI Sta 10+92.33	PI Sta 12+09.58	PI Sta 12+62.38
$\Delta = 32' 51" 01.5" (RT)$	$\Delta = 18' 46' 30.8" (LT)$	$\Delta = 18' 14' 24.6" (LT)$	$\Delta = 29' 38' 21.8" (RT)$
$D = 45' 50' 11.8"$	$D = 45' 50' 11.8"$	$D = 45' 50' 11.8"$	$D = 45' 50' 11.8"$
$L = 71.67'$	$L = 40.96'$	$L = 39.79'$	$L = 64.66'$
$T = 36.85'$	$T = 20.67'$	$T = 20.07'$	$T = 33.07'$
$R = 125.00'$	$R = 125.00'$	$R = 125.00'$	$R = 125.00'$
$e = 02$	$e = 02$	$e = 02$	$e = 02$

DET	DET	DET	DET
PI = 10+62.30	PI = 11+05.56	PI = 11+79.94	PI = 12+25.05
EL = 3357.12	EL = 3357.29	EL = 3356.00	EL = 3354.80
VC = 55'	VC = 30'	VC = 40'	VC = 40'
K = 15	K = 15	K = 28	K = 15
DS = 15 MPH	DS = 25 MPH	DS = 40 MPH	DS = 15 MPH



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 850 CFS
DESIGN FREQUENCY	= 5 YR
DESIGN HW ELEVATION	= 3358.9'
BASE DISCHARGE	=
BASE FREQUENCY	= 100 YR
BASE HW ELEVATION	=
OVERTOPPING DISCHARGE	=
OVERTOPPING FREQUENCY	=
OVERTOPPING ELEVATION	=
DATE OF SURVEY	=
W.S. ELEVATION AT DATE OF SURVEY	=

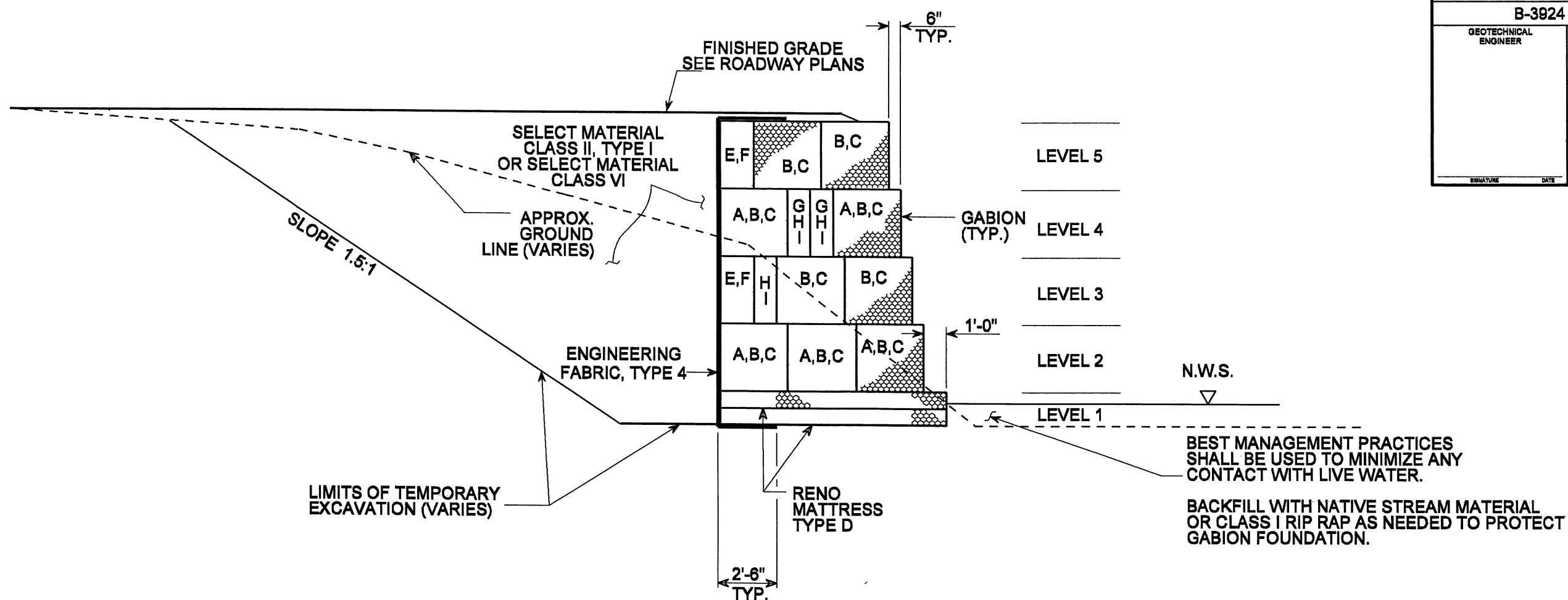


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REVISIONS

1 REVISED PLAN TO ADD TUE ON PARCELS 1, 2, & 3 OCTOBER 6, 2010.

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## GABION BASKET SHOULDER CONSTRUCTION

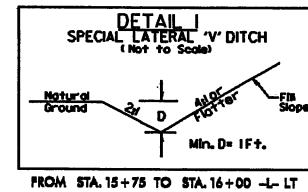
### NOTES:

1. RENO MATTRESSES ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
2. RENO MATTRESSES ARE TO BE CUT AND FITTED TO CREATE A LEVEL PLATFORM FOR THE GABIONS, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
3. GABIONS ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
4. GABIONS ARE TO BE CUT AND FITTED TO CREATE THE END BENT BACKWALL AND WINGWALL LIMITS AS DESCRIBED IN THE ELEVATION VIEW, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
5. OVERLAP FABRIC A MINIMUM 18" OR AS DIRECTED BY THE ENGINEER.

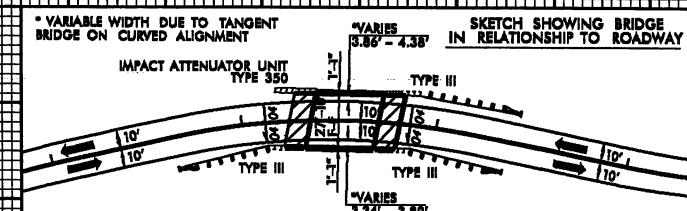
### TYPICAL SIZES

GABIONS	LENGTH	WIDTH	HEIGHT
TYPE "A"	6' X	3' X	3'
TYPE "B"	9' X	3' X	3'
TYPE "C"	12' X	3' X	3'
TYPE "D"	6' X	3' X	1.5'
TYPE "E"	9' X	3' X	1.5'
TYPE "F"	12' X	3' X	1.5'
TYPE "G"	6' X	3' X	1'
TYPE "H"	9' X	3' X	1'
TYPE "I"	12' X	3' X	1'
RENO MATTRESS TYPE "D"	12' X	6' X	9"





SEE STRUCTURE PLANS  
S-1 THRU S-

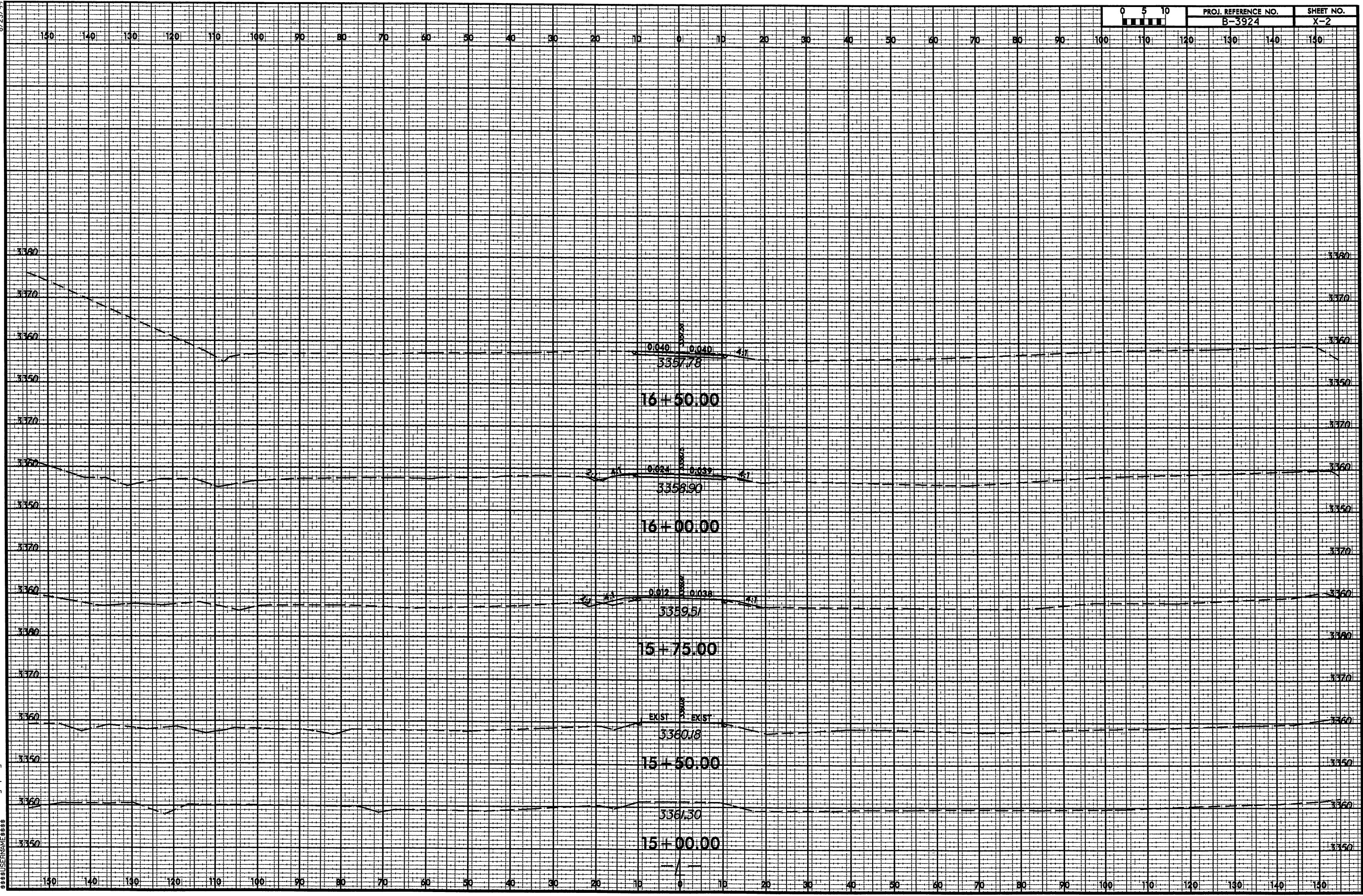


BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	=	1400 CFS
DESIGN FREQUENCY	=	25 YR
DESIGN HW ELEVATION	=	3358.3'
BASE DISCHARGE	=	2130 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	3358.8'
OVERTOPPING DISCHARGE	=	550 CFS
OVERTOPPING FREQUENCY	=	> 2 YR
OVERTOPPING ELEVATION	=	3355.5'
DATE OF SURVEY	=	11/17/08
W.S.ELEVATION AT DATE OF SURVEY	=	3351.2'

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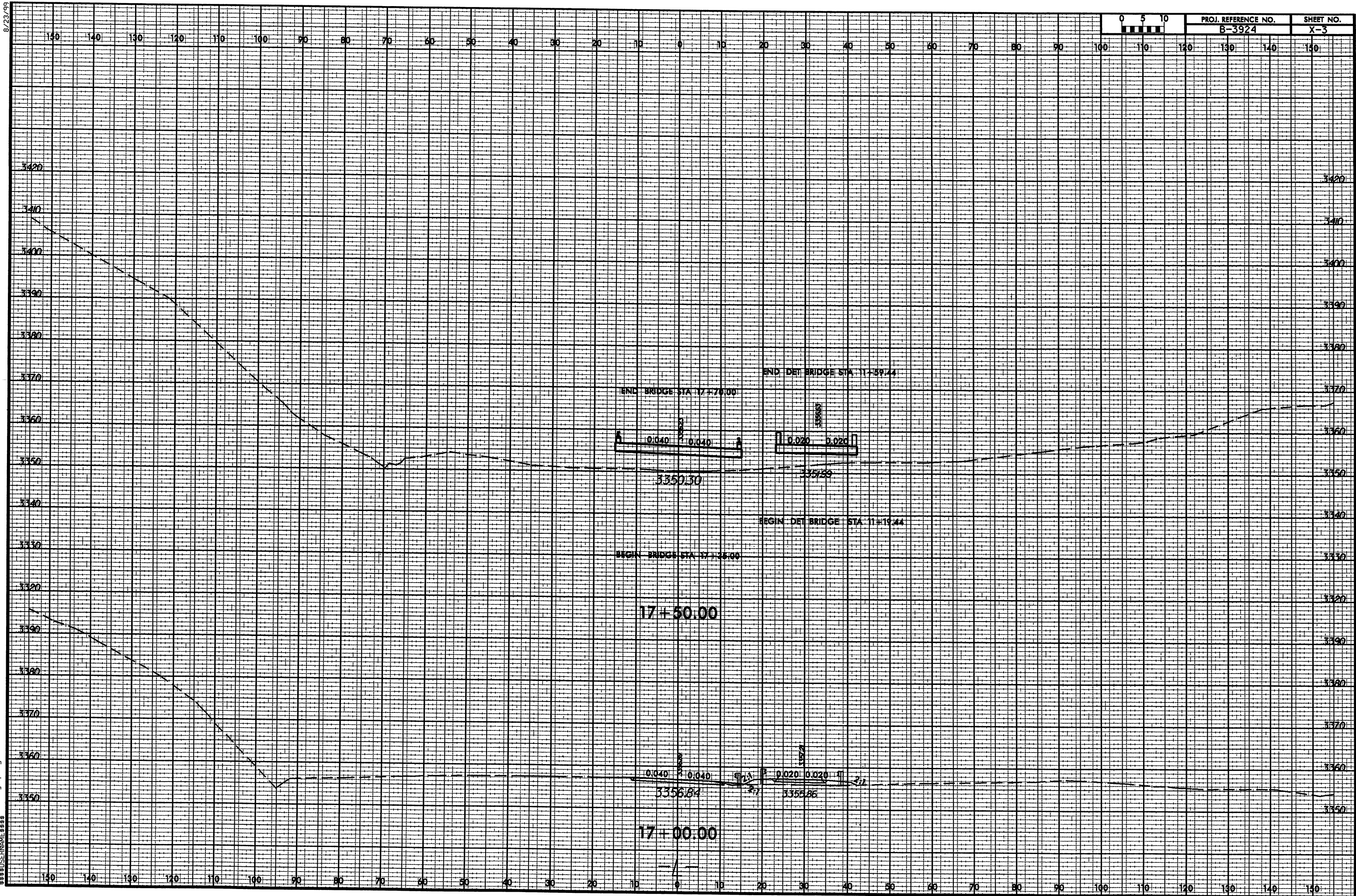
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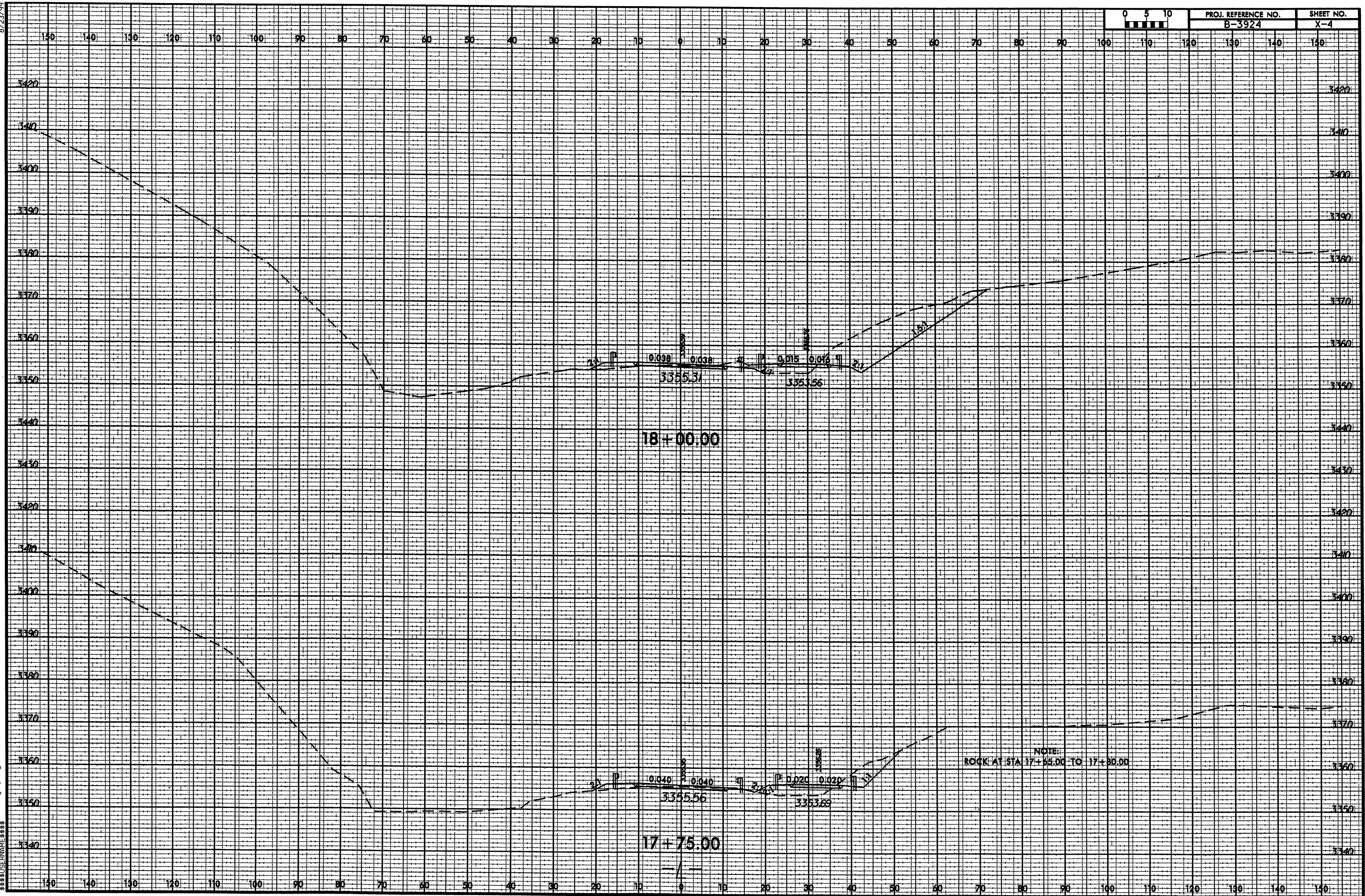


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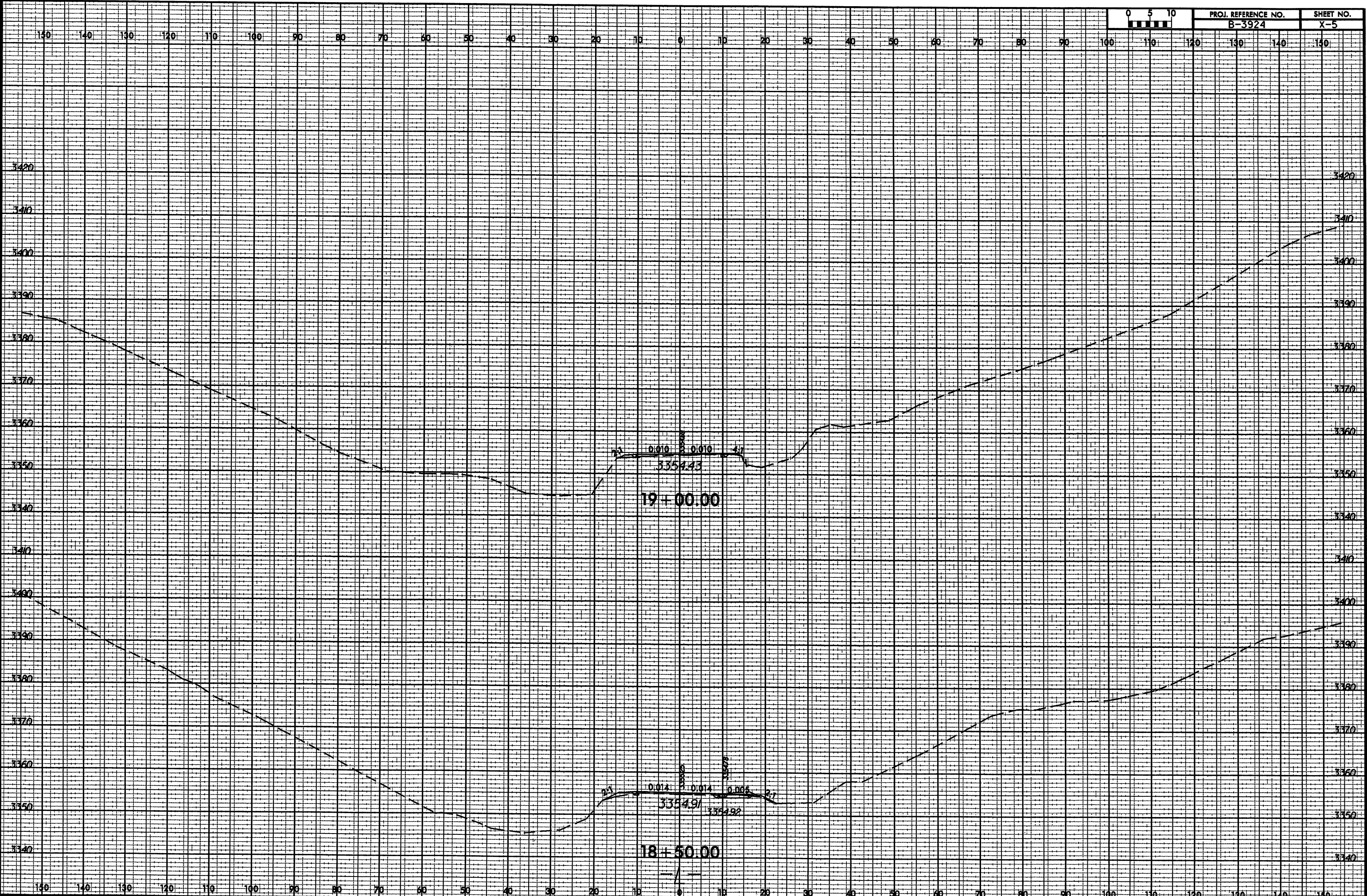




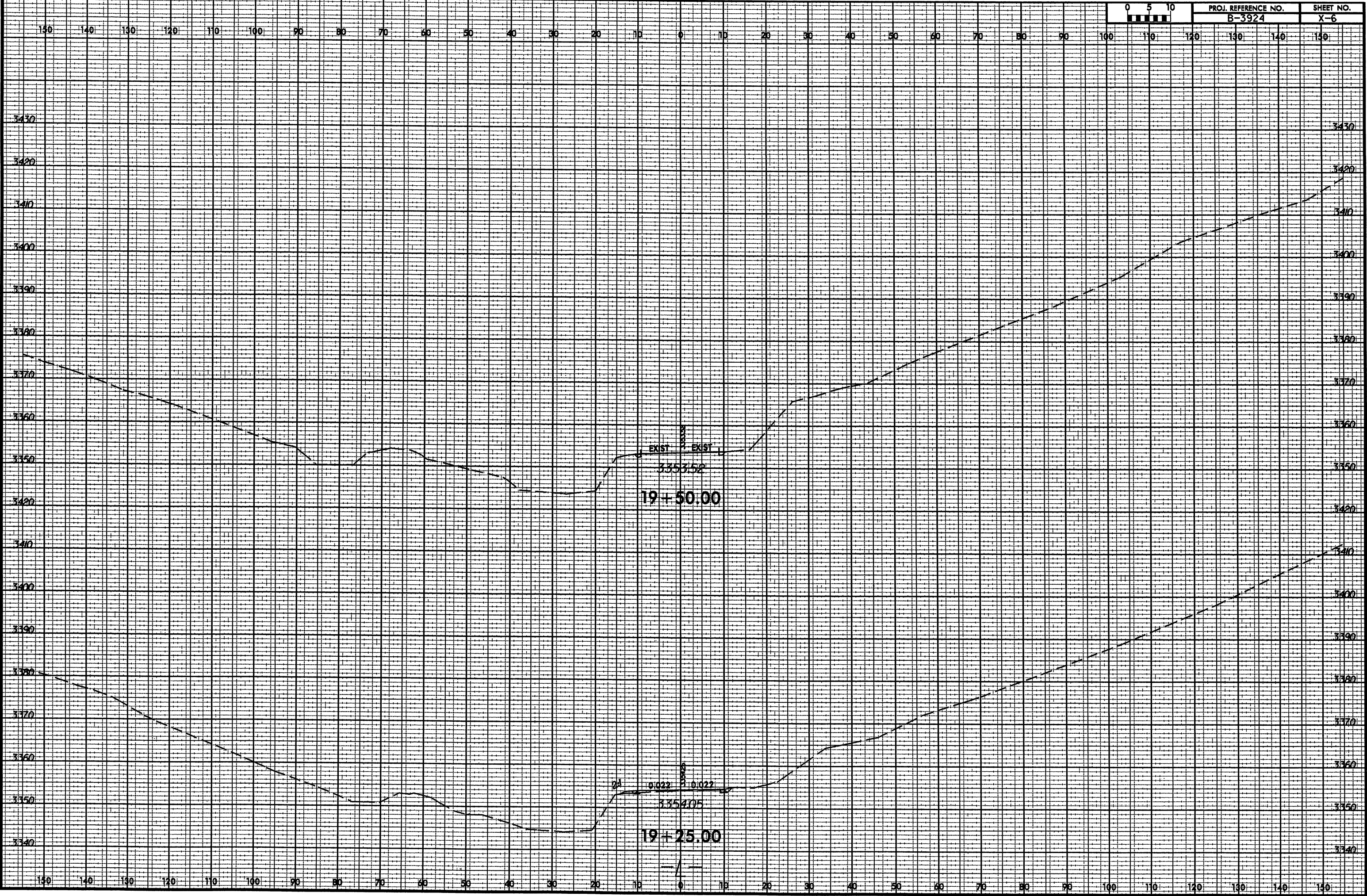


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\*\*\*SUBMIT\*\*\*











PROJ. REFERENCE NO.  
B-3924

SHEET NO.  
X-7

