



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

March 14, 2013

U. S. Army Corps of Engineers
Regulatory Field Office
69 Darlington Ave.
Wilmington, NC 28403

Attention: Mr. Ronnie Smith
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide Permits (NWP) 23 and Section 401 Water Quality Certification** for the replacement of Bridge No. 288 and Bridge No. 279 over Livingston Creek, SR 1831 (Swimming Hole Road) in Columbus County; TIP Project B-4481; Federal Aid Project No. BRZ-1831(3); Debit \$240 from WBS No. 38386.1.1.

Please find enclosed PCN, permit drawings, stormwater management plan, roadway plans, and EEP request letter for the above referenced project proposed by the North Carolina Department of Transportation (NCDOT). The EEP acceptance letter is forthcoming. A Categorical Exclusion (CE) was completed for this project on September 19, 2012 and distributed shortly thereafter. Additional copies are available upon request.

The NCDOT proposes to replace existing Bridge No. 288 over an overflow to Livingston Creek and Bridge No. 279 over Livingston Creek on SR 1831 (Swimming Hole Road) in Columbus County. The project involves replacement of the existing structurally deficient bridges and approaches with new structures. The replacement structure for Bridge No. 279 will be approximately 130 feet long providing a minimum 30 foot clear deck width. The replacement structure for Bridge No. 288 will be approximately 85 feet long providing a minimum 30 foot clear deck width. The bridges will include two 10-foot lanes and a minimum of 5-foot offsets. The approach roadway will extend approximately 140 feet from the west end of Bridge No. 279 and 124 feet from the east end of Bridge No. 288. The approaches will be widened to include a 24-foot pavement width providing two 12-foot lanes. Six-foot shoulders will be provided on each side (9-foot shoulders where guardrail is included).

Proposed permanent impacts to riparian wetlands from bridge construction are 0.30 acre of fill, 0.02 acre of excavation and 0.04 acre of mechanized clearing. Traffic will be detoured off-site during construction.

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

TELEPHONE: 919-707-6000
FAX: 919-212-5785

WEBSITE: NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

This project calls for a letting date of September 17, 2013 and a review date of July 30, 2013; however, the let date may advance as additional funding becomes available.

Regulatory Approvals

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that the project be authorized by NWP 23 for bridge construction

Section 401 Permit: We anticipate 401 General Certification numbers 3891 will apply to this project. NCDOT is requesting written concurrence from the North Carolina Department of Environmental and Natural Resources, Division of Water Quality. Authorization to debit the \$240 Permit Application Fee from WBS Element 42255.1.1 is hereby given.

A copy of this permit application and its distribution list will be posted on the NCDOT website at <https://connect.ncdot.gov/resources/Environmental>

If you have any questions or need additional information, please contact John S. Merritt at (919) 707-6140 or email at jsmerritt@ncdot.gov.

Sincerely,



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

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:	☒ Section 404 Permit ☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23	or General Permit (GP) number:
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes ☒ No
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit ☐ 401 Water Quality Certification – Express ☐ 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: ☐ Yes ☒ No
	For the record only for Corps Permit: ☐ Yes ☒ 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.	☒ Yes ☐ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes ☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes ☒ No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 288 over an overflow Swamp and Bridge No. 279 Livingston Creek on SR 1831 (Swimming Hole Rd.)
2b. County:	Columbus
2c. Nearest municipality / town:	Ransom
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4481

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) 707-6140
3g. Fax no.:	(919) 431-2002
3h. Email address:	jsmeritt@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ 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: 34.295294, Longitude: -78.293434
1c. Property size:	28.36 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Livingston Creek
2b. Water Quality Classification of nearest receiving water:	C, Sw
2c. River basin:	Cape Fear River Basin
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: Mixed undeveloped and agricultural	
3b. List the total estimated acreage of all existing wetlands on the property: 13.14	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 1,400	
3d. Explain the purpose of the proposed project: To replace a structurally deficient bridges.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing two bridges on the existing alignment using 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: A JD is requested with this application.	☐ Yes ☒ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☒ Preliminary ☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): John Merritt	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?	☐ Yes ☒ No ☐ Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ 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 ☒ P ☐ T	Fill	riparian	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.30	
Site 1 ☒ P ☐ T	Excavation	riparian	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.02	
Site 1 ☒ P ☐ T	Mechanized Clearing	riparian	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.04	
Site 1 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
2g. Total wetland impacts					0.36	
2h. Comments: There will be 0.53 ac. of hand clearing in wetlands. Additionally, there will be of 0.05 acre of temporary fill in wetlands in the hand clearing areas for the installation of erosion control measures, including Temporary Silt Fence and/or Special Sediment Control Fence.						
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 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
3h. Total stream and tributary impacts					0.0 Perm 0.0 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 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
4f. Total open water impacts				

4g. Comments: There will be 11.0 sq. ft. of permanent fill due to proposed bridge piers

5. Pond or Lake Construction

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

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

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?			☐ Neuse ☐ Catawba			☐ Tar-Pamlico ☐ Randleman		☐ 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 ☐ P ☐ T			☐ Yes ☐ No						
B2 ☐ P ☐ T			☐ Yes ☐ No						
B3 ☐ P ☐ T			☐ Yes ☐ 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 bridges are longer than the existing bridges; the proposed bridges will be at approximately the same grade as the existing structures; an off site detour will be used. Slopes of 3:1 will be constructed in wetlands.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Sub regional tier design guidelines for bridge projects were used to develop this project. Best Management Practices for the Protection of Surface Waters include replacement of bridges along existing alignment, minimization of fill slopes and use of hand clearing as opposed to mechanized clearing wherever possible.		
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?	☒ Yes ☐ No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☒ Corps	
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: EEP		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments is attach:		
4.		
4a. Approval letter from in-lieu fee program is attached.	☐ Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	0.72 acre	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments: The EEP request letter is attached and EEP acceptance letter is forthcoming.		
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?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments:	☐ Yes ☐ 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?	☒ Yes ☐ 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?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ 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):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HWQ ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ No N/A

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?	☒ Yes ☐ 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)?	☒ Yes ☐ 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:	☒ Yes ☐ 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)?	☐ Yes ☒ No
2b. Is this an after-the-fact permit application?	☐ Yes ☒ 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?	☐ Yes ☒ 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 bridges 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?	☐ Yes	☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☐ Yes	☒ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☐ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS County Site, NC Natural Heritage site, field survey's for bald eagle, rough-leaved loosestrife, Cooley's meadowrue and the wood stork.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ 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)?	☐ Yes	☒ 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?	☒ Yes	☐ No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	3.14.13 Date



MITIGATION REQUEST FORM TRI-PARTY MOA (NCDOT)



Revised 3/24/2008

Fill in requested information, print out the form, sign and date, and either mail to EEP, 1652 Mail Service Center, Raleigh, NC 27699-1652, or fax to 919-715-2219. Attachments are acceptable for clarification purposes.

Electronic submissions are permissible; however, an acceptance letter cannot be sent until the original signed form has been received.

NCDOT CONTACT INFORMATION		REGULATORY CONTACT INFORMATION	
Agency/Division	NCDOT-Highways	USACE Office	Regulatory Field Office
Branch	PDEA-NEU	USACE Contact	Ronnie Smith
Mailing Address	1598 Mail Service Center	Mailing Address	Post Office Box 1890
City, State, Zip	Raleigh, NC 27699-1598	City, State, Zip	Wilmington, NC 28401-1890
Project Manager	John Merritt	USACE Fax Number	(910) 251-4025
Telephone Number	(919) 707-6000	NCDWQ Contact	
E-Mail Address	jsmerritt@dot.state.nc.us	Mailing Address	
Supervisor	Chris Rivenbark	City, State, Zip	
Telephone Number	(919) 707-6000	NCDWQ Fax Number	

PROJECT LOCATION INFORMATION AND IMPACTS				
TIP Number(s)		B-4481		
TIP Description		BRIDGE 279 OVER UT TO LIVINGSTON CREEK ON SR 1831		
Current Let Date		9/17/13		
NCDOT Highway Division		Division 6		
County(ies)		Columbus		
EEP Ecoregion(s)		Southern Inner Coastal Plain		
River Basin(s)		Cape Fear		
Cataloging Unit(s) (8-digit)		03030005		
Total Stream (feet)	Warm			
	Cool			
	Cold			
	TOTAL			
Total Riparian Wetland Impact (acres)		0.36		
Total Non-Riparian Wetland Impact (acres)				
Total Coastal Marsh Impact (acres)				
Total Buffer Impact	Zone 1 (square feet)			
	Zone 2 (square feet)			

OTHER INFORMATION	
USACE Action ID Number (if known)	
NCDWQ Project Number (if known)	
NCDCM Project Number (if known)	
Comments:	

IMPORTANT	Signature of Applicant or Agent:
Check below if this request is a:	
☒ New Mitigation Request	
☐ Revision to a current acceptance	
	Date: _____



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released September 2011)

Project/TIP No.: B-4481 (38386.1.1)

County(ies): Columbus

Page 1 of 1

General Project Information

Project No.:	B-4481 (38386.1.1)	Project Type:	Roadway Widening	Date:	2/26/2013		
NCDOT Contact:	Galen Cail, PE	Contractor / Designer:	Ryan Mullins, PE				
Address:	1020 Birch Ridge Road Raleigh NC 27610	Address:	1020 Birch Ridge Road Raleigh, NC 27610				
	Phone:		919-707-6711	Phone:	919-707-6740		
	Email:		gcail@ncdot.gov	Email:	rmullins@ncdot.gov		
City/Town:	Delco	County(ies):	Columbus				
River Basin(s):	Cape Fear	CAMA County?	No				
Primary Receiving Water:	Livingston Creek	NCDWQ Stream Index No.:	18-64				
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:	Class C					
	Supplemental:	Swamp Waters (Sw)					
Other Stream Classification:							
303(d) Impairments:	None						
Buffer Rules in Effect	N/A						

Project Description

Project Length (lin. Miles or feet):	0.2 miles	Surrounding Land Use:	Wooded
	Proposed Project		Existing Site
Project Built-Upon Area (ac.)	0.61 ac.		0.47 ac.
Typical Cross Section Description:	10' Travel Lanes, 6' Grass Shoulders, 3:1 Side Slopes Typical, 2:1 Side Slopes with rock plating on select sections.		
Average Daily Traffic (veh/hr/day):	Design/Future: 740	Existing:	500

General Project Narrative: The project consists of relacing Bridge# 279 and Bridge # 288 on SR 1831 over Livingston Creek with approximately 150' of approach work on the west side of the structure and 150' on the east side. The approach work will consist of raising the existing roadway grade and providing grass shoulders and guardrails. Bridge #279 existing 6 span structure (103' total length) will be replaced with a 3 span (1@30', 1@65', 1@35') total 130' - 21" and 24" cored slab bridge. Bridge #288 existing 4 span structure (70' total length) will be replaced with a 2 span (1@55', 1@30') total 85' - 21" cored slab beidge. Bridge #279 reduces the number of bents in Livingston Creek from 3 to 1. Bridge #288 reduces the number of bents in water from 3 bents to 1.

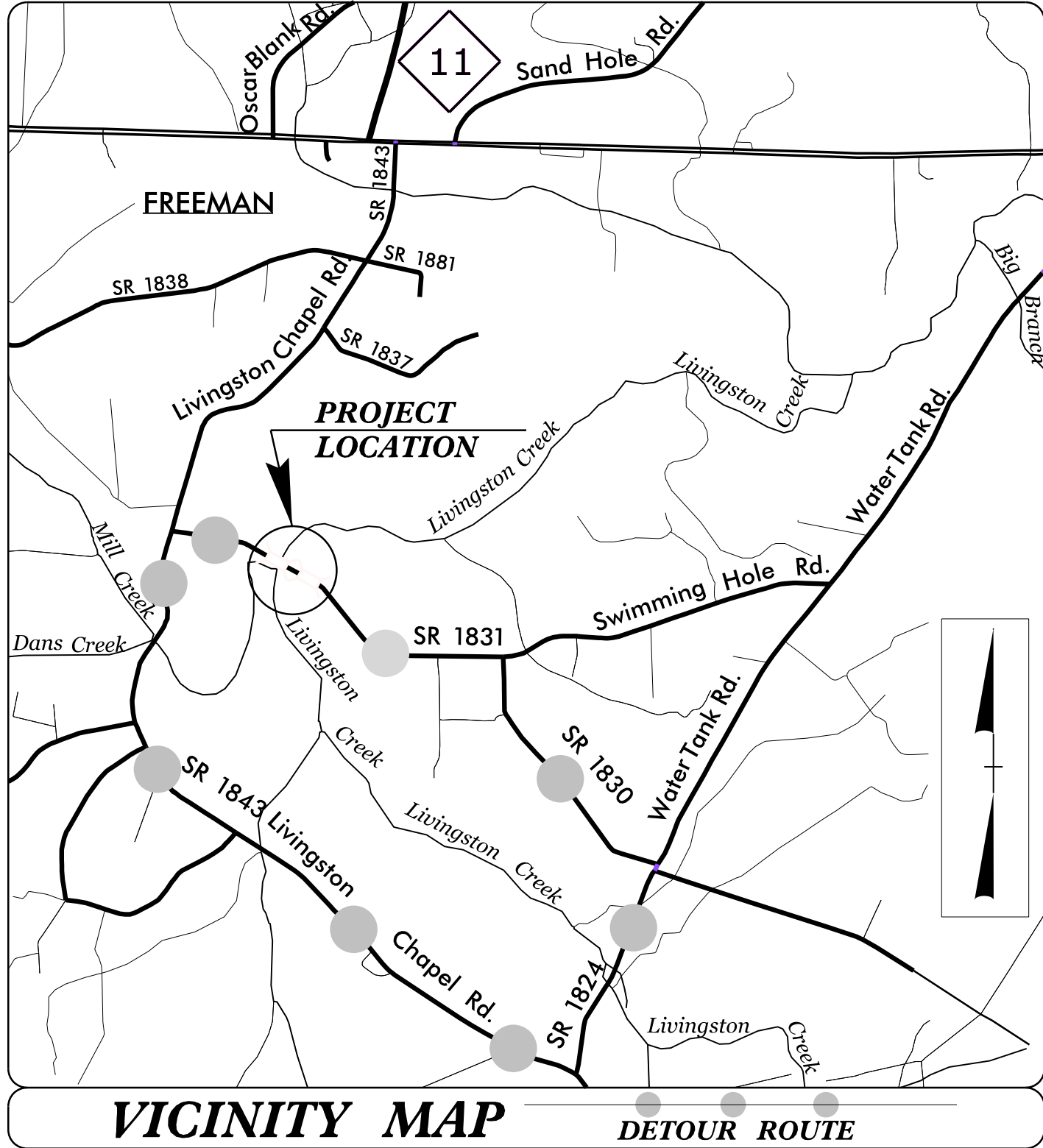
Best Mgmt. Practices:

- Promotion of sheet flow and infiltration with grassed shoulders except where shoulder berm gutter to 2GI's on northwest, southwest, northeast, and southeast quadrants of bridge #279. As well as, shoulder berm gutter to 2GI's on northeast and southeast quadrants of bridge #288.
- Drainage systems outlet to rip rap pads.
- Eliminated Deck Drains on bridge.
- Removal of existing road fill under bridges will improve bridge conveyance and reduce bridge opening velocities.
- 2:1 side slopes with rock plating used in section on right side to minimize impacts to existing ephemeral drainage channel and wetlands.

References

09/08/99

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



VICINITY MAP

DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

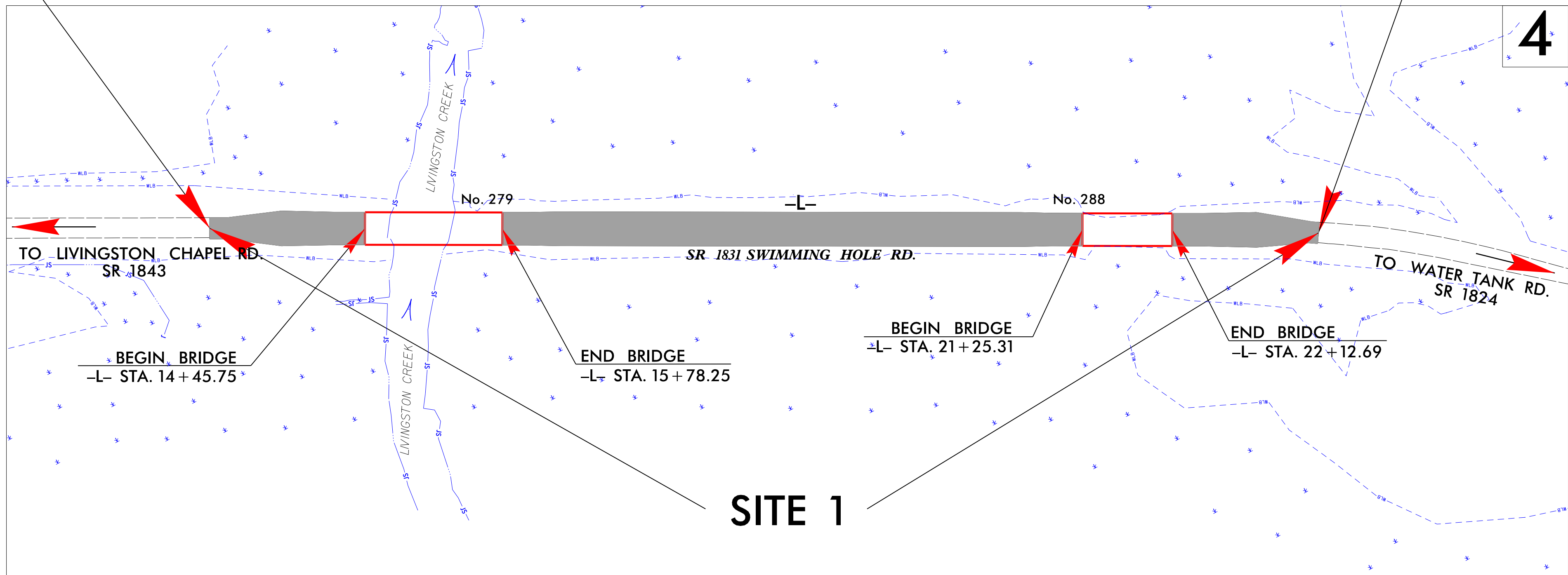
LOCATION: BRIDGE NO. 279 & NO. 288 OVER LIVINGSTON CREEK AND APPROACHES ON SR 1831 (SWIMMING HOLE ROAD)

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

WETLAND AND SURFACE WATER IMPACTS PERMIT

BEGIN TIP PROJECT B-4481
-L- STA 13+00.00

END TIP PROJECT B-4481
-L- STA. 23+50.00



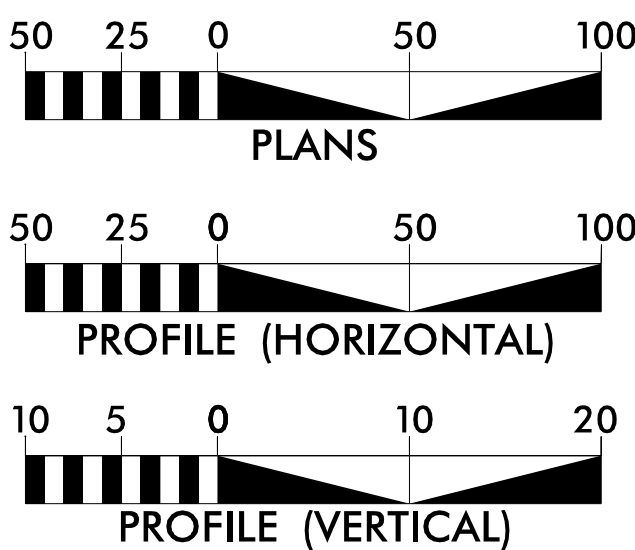
SITE 1

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 500
ADT 2033 = 740
DHV = 11 %
D = 65 %
T = 3 % *
V = 60 MPH
DUAL 2% * TTST =1%
FUNC CLASS = RURAL LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4481 = 0.157 MI.
LENGTH STRUCTURES TIP PROJECT B-4481 = 0.042 MI.
TOTAL LENGTH TIP PROJECT B-4481 = 0.199 MI.

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

2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
JANUARY 18, 2013

LETTING DATE:
SEPTEMBER 17, 2013

REKHA PATEL, PE
PROJECT ENGINEER

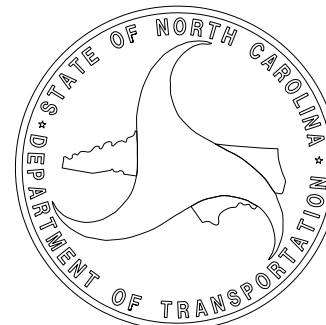
BRIAN P. ROBINSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

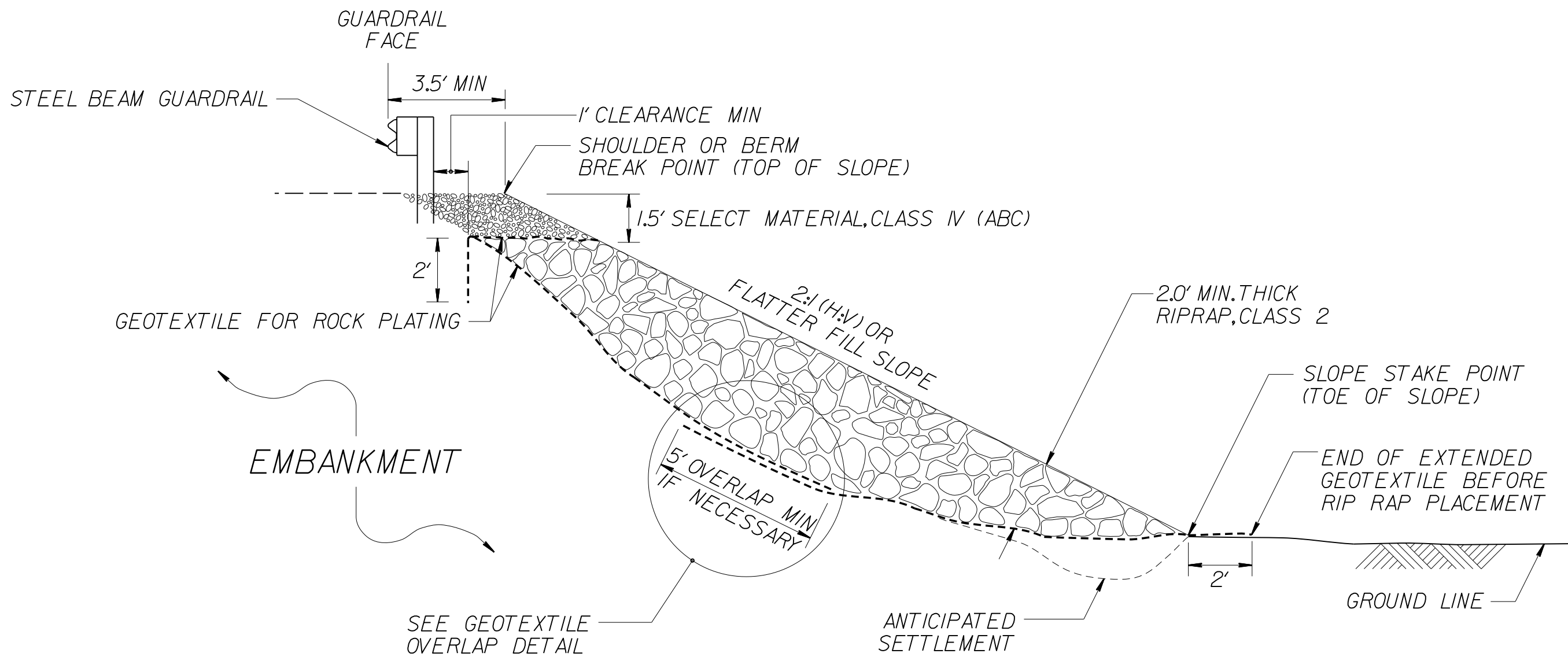
SIGNATURE: P.E.



TIP PROJECT: B-4481

CONTRACT:

PERMIT DRAWING
SHEET 2 OF 10



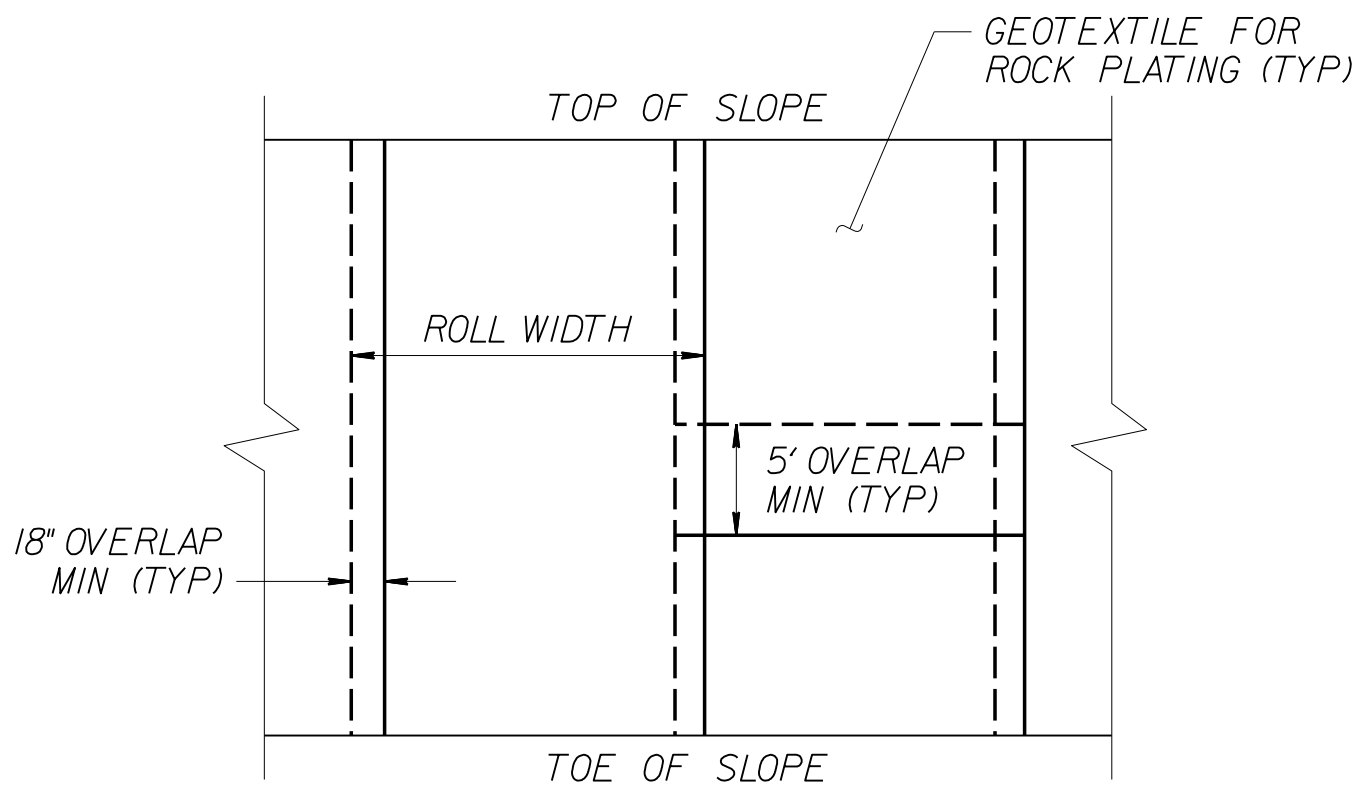
TYPICAL SECTION FOR SPECIAL ROCK PLATING

FOR SPECIAL ROCK PLATING, SEE SPECIAL ROCK PLATING SPECIAL PROVISION.

SPECIAL ROCK PLATING SHALL BE TIED INTO THE BRIDGE END BENT RIP RAP SLOPE PROTECTION.

TOE PROTECTION LOCATIONS		
BEGIN	END	LOCATION
15+88± -L-	21+14± -L-	RT
20+25± -L-	21+14± -L-	LT
22+23± -L-	23+00± -L-	LT, RT

ESTIMATED QUANTITIES	
GEOTEXTILE FOR ROCK PLATING, TYPE 2	3,080 SY
PLAIN RIP RAP, CLASS 2	1,880 TONS
SELECT MATERIAL, CLASS IV	390 TONS



GEOTEXTILE OVERLAP DETAIL
(PLAN VIEW)

GEOTECHNICAL ENGINEERING UNIT

☒ EASTERN REGIONAL OFFICE

☐ WESTERN REGIONAL OFFICE

☐ CONTRACT OFFICE

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

SPECIAL ROCK PLATING
DETAIL

REVISIONS

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

3/13/2013
rmullins
R:\Hydraulics\PERMITS_Environmental\Drawings\B4481_GEO_RDWY_Special_RP.dgn

PREPARED BY: J. PARK	DATE: 09/2012
REVIEWED BY: J. BATTS	DATE: 09/2012

8/17/99

REVISIONS

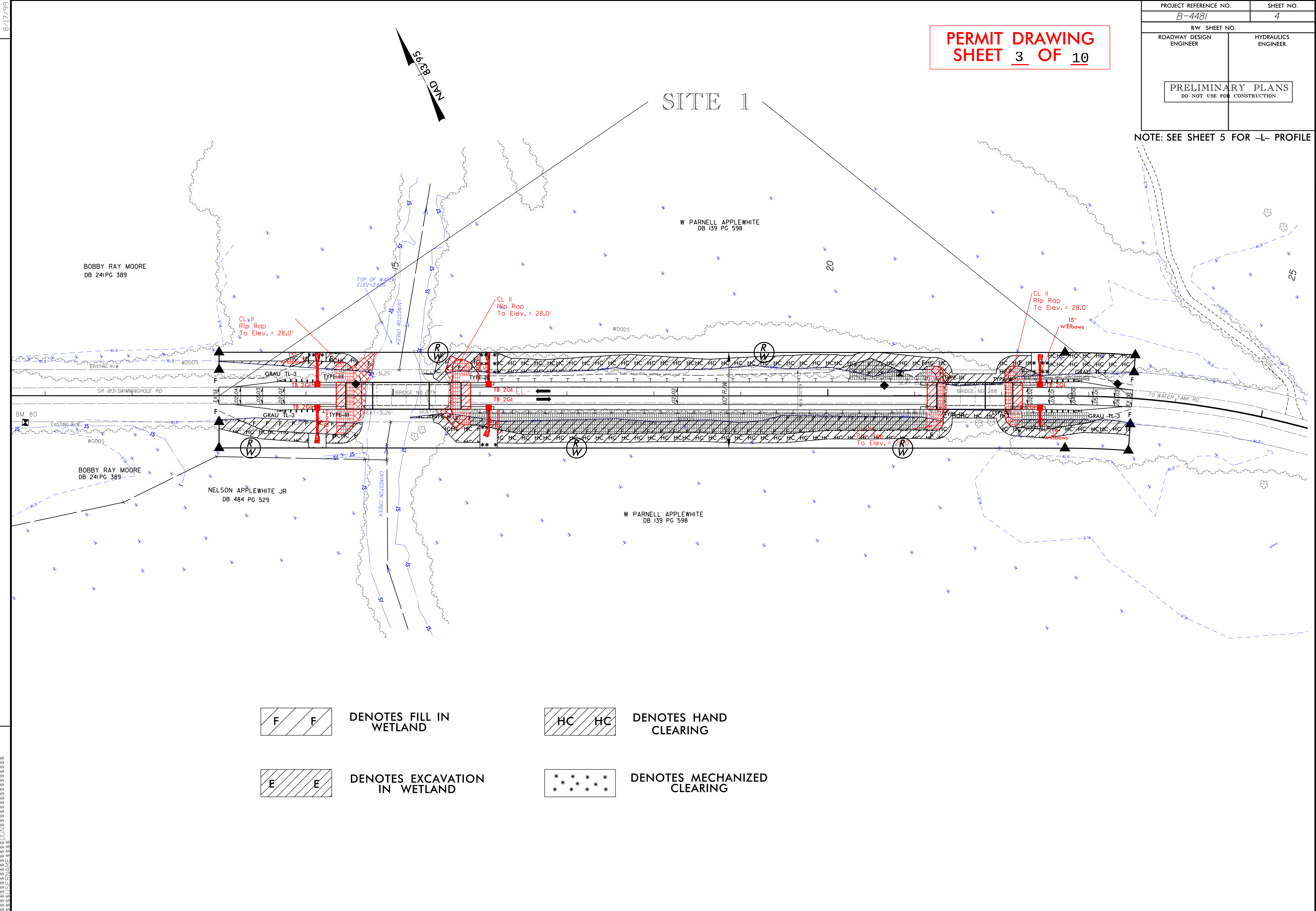
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\$\$\$\$\$UNDESIGNED\$\$\$\$\$
\$\$\$\$\$UNDESIGNED\$\$\$\$\$
\$\$\$\$\$UNDESIGNED\$\$\$\$\$

PROJECT REFERENCE NO.		SHEET NO.	
B-4481		4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

NOTE: SEE SHEET 5 FOR -L- PROFILE

PERMIT DRAWING
SHEET 3 OF 10



8/17/99

REVISIONS

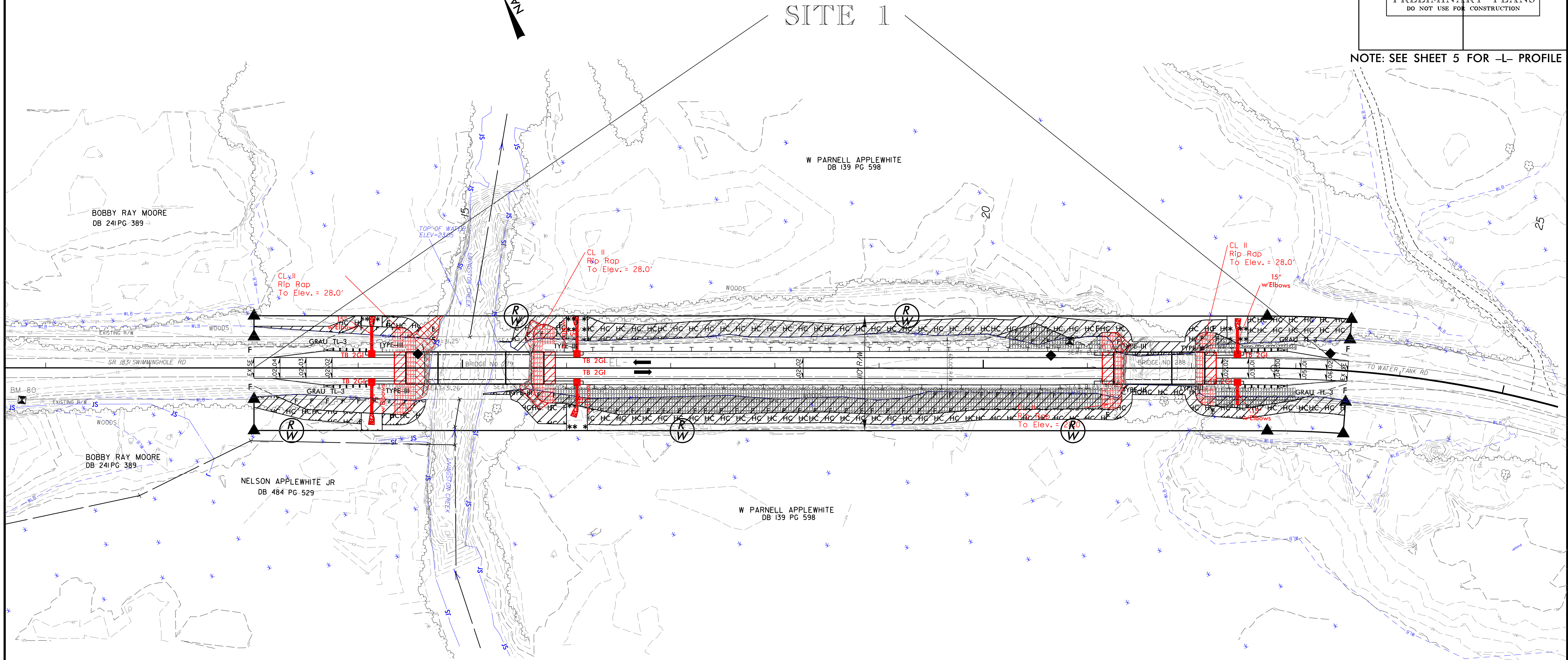
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mullins
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\$\$\$\$\$USHRN\$\$\$\$\$

PROJECT REFERENCE NO.		SHEET NO.	
B-4481		4	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

NOTE: SEE SHEET 5 FOR -L- PROFILE

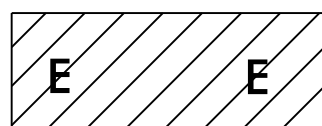
PERMIT DRAWING
SHEET 4 OF 10



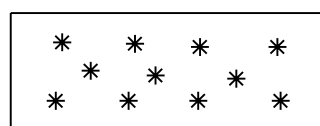
DENOTES FILL IN
WETLAND



DENOTES HAND
CLEARING



DENOTES EXCAVATION
IN WETLAND



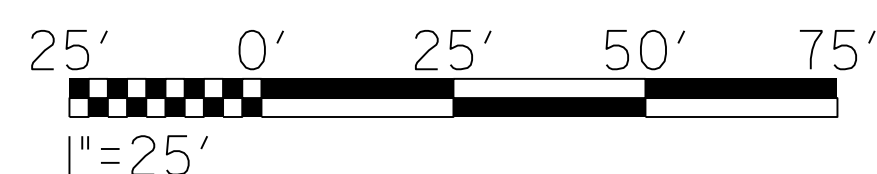
DENOTES MECHANIZED
CLEARING

W PARNELL APPLEWHITE
DB 139 PG 598

**DENOTES EXCAVATION
IN WETLAND**

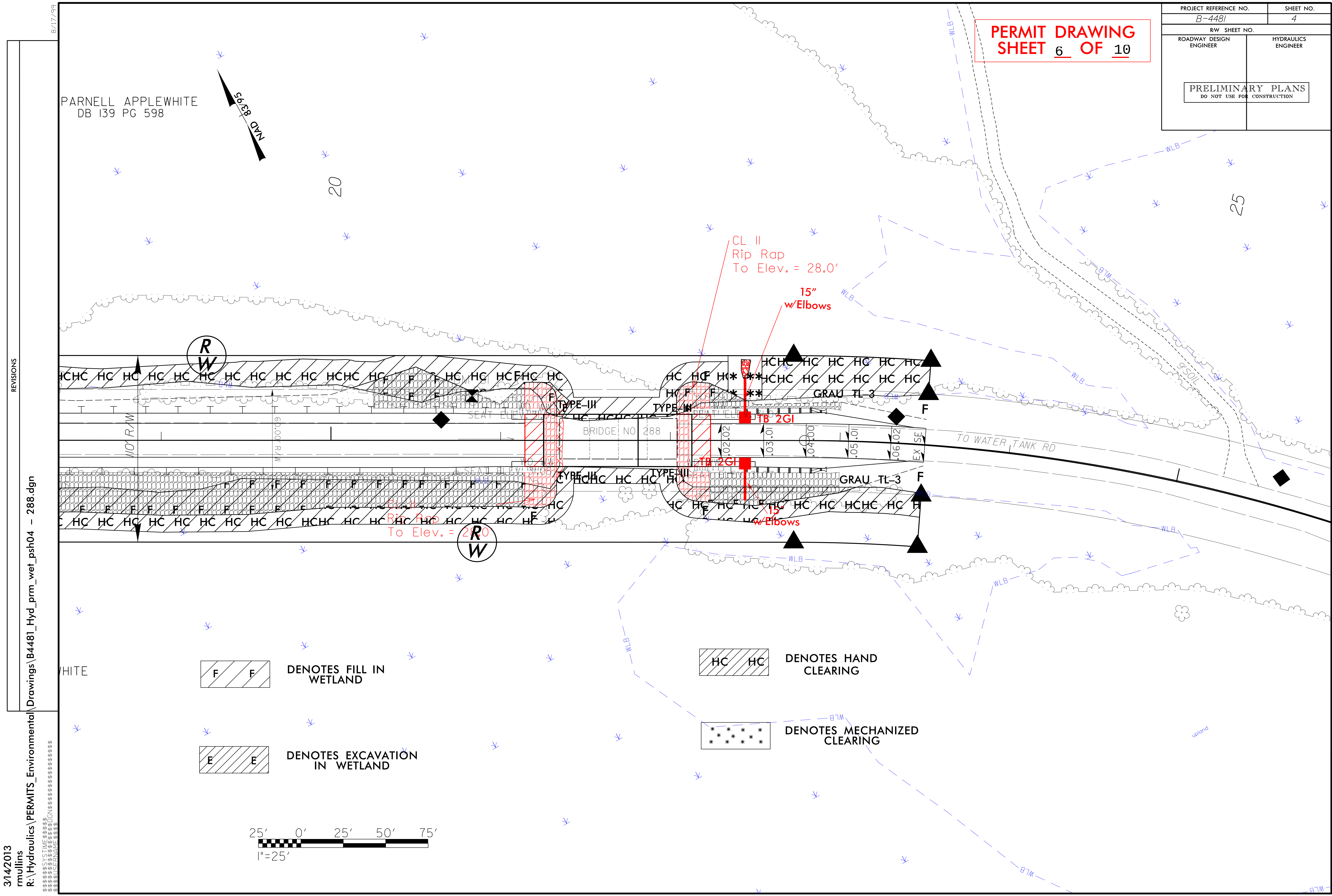
DENOTES HAND
CLEARING

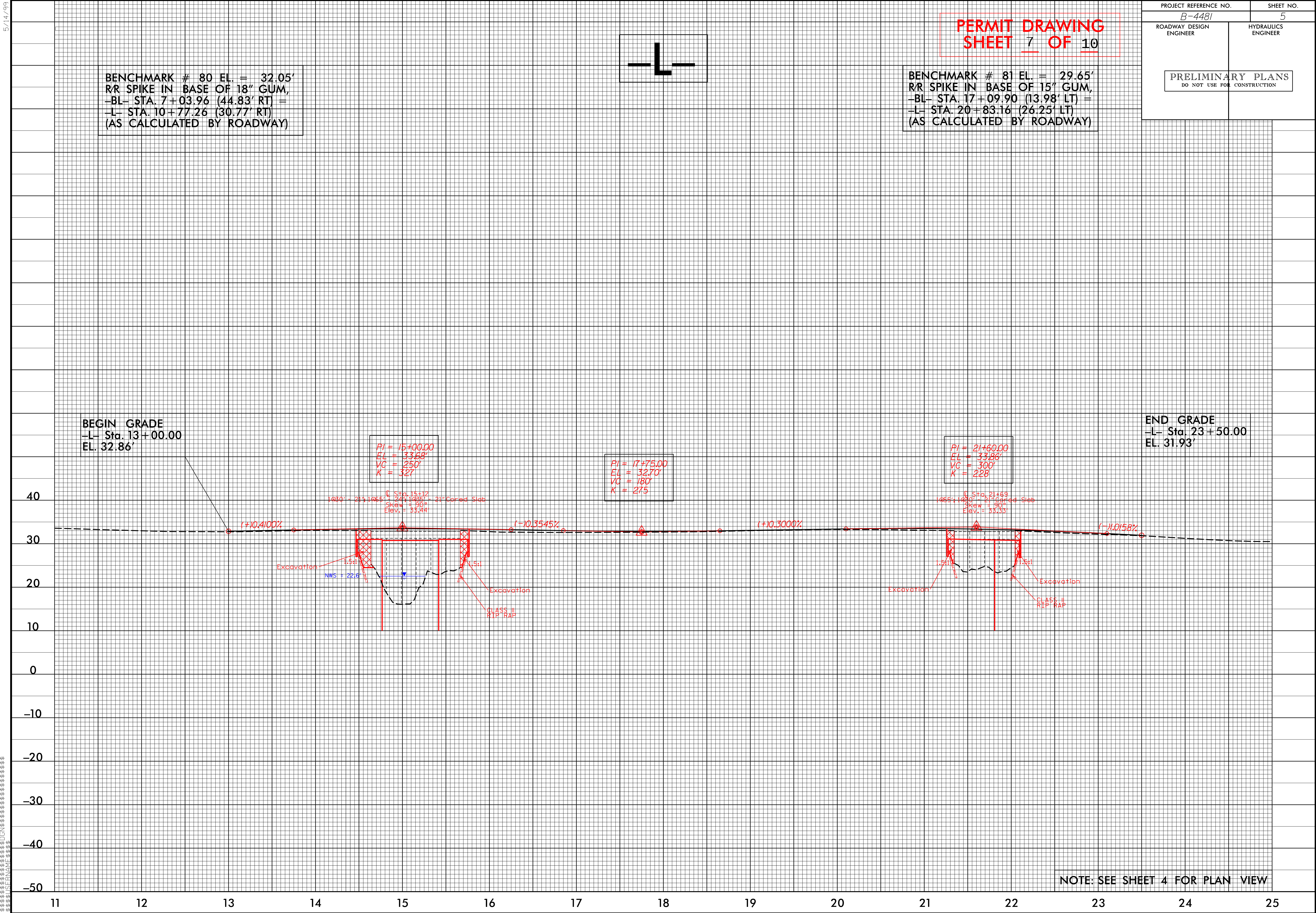
DENOTES MECHANIZED
CLEARING

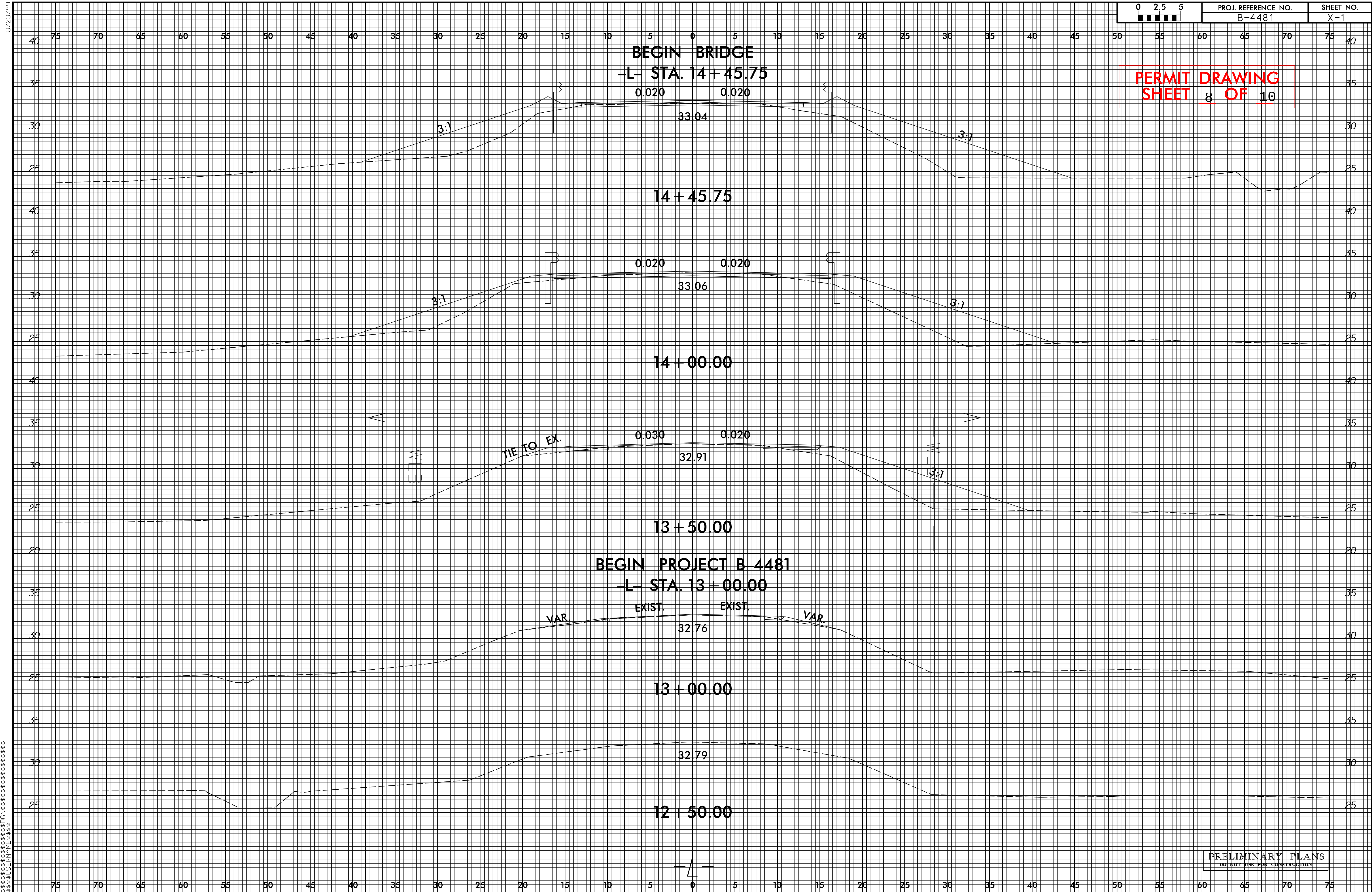


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3/13/2013
rmullins





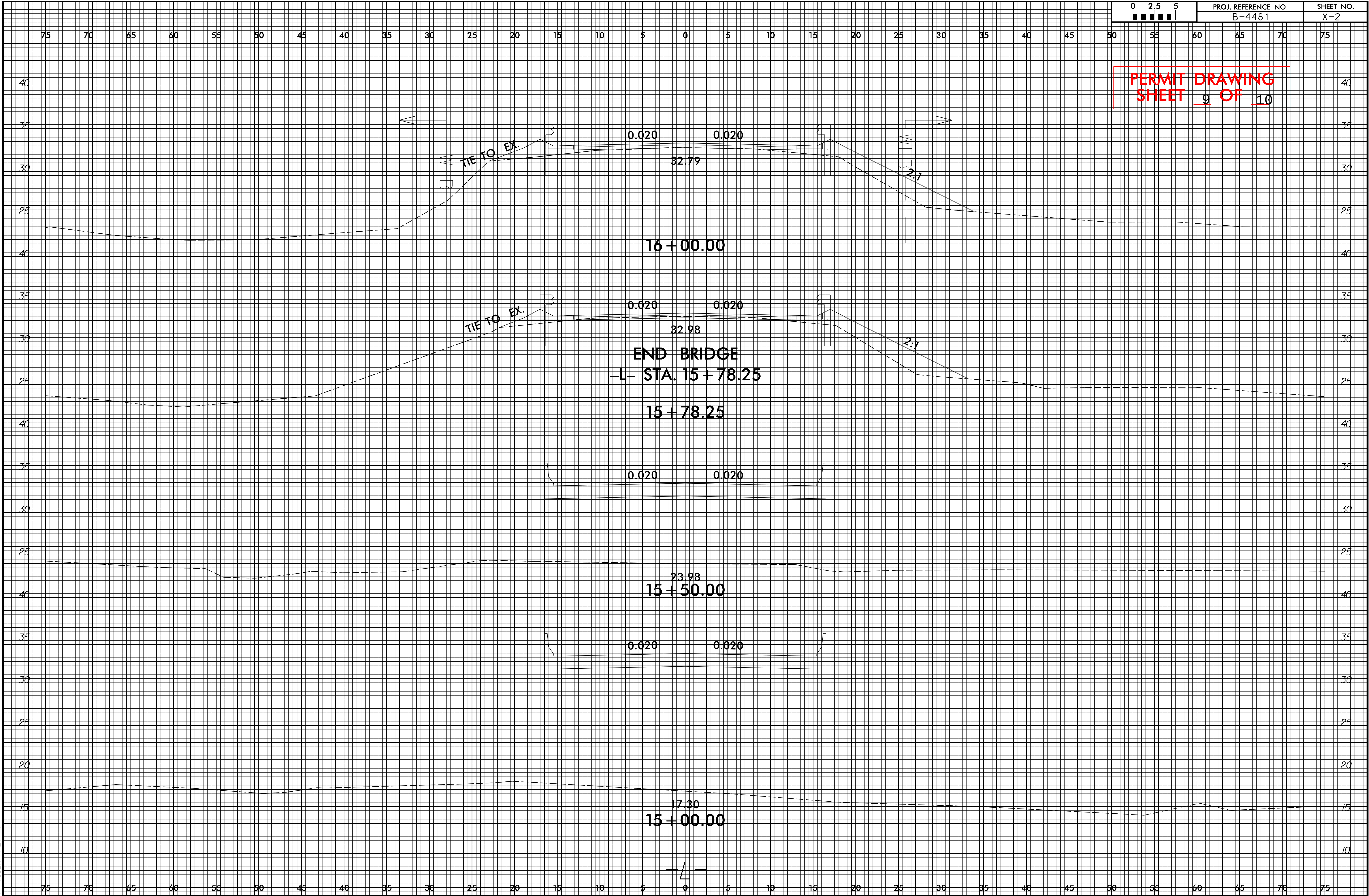


3/4/2013
miller
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\$\$\$\$SYTIME\$\$\$\$
\$\$\$\$CNC\$\$\$\$
\$\$\$\$USFRANLE\$\$\$\$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4481	X-2

PERMIT DRAWING
SHEET 9 OF 10



WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	13+00 to 23+50 -Lt&Rt-		0.300		0.020	0.040	0.530					
TOTALS:			0.30		0.02	0.04	0.53					

Impacts Due to Proposed Bridge Piers = 11.0 sq. ft.

0.05 acre of Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

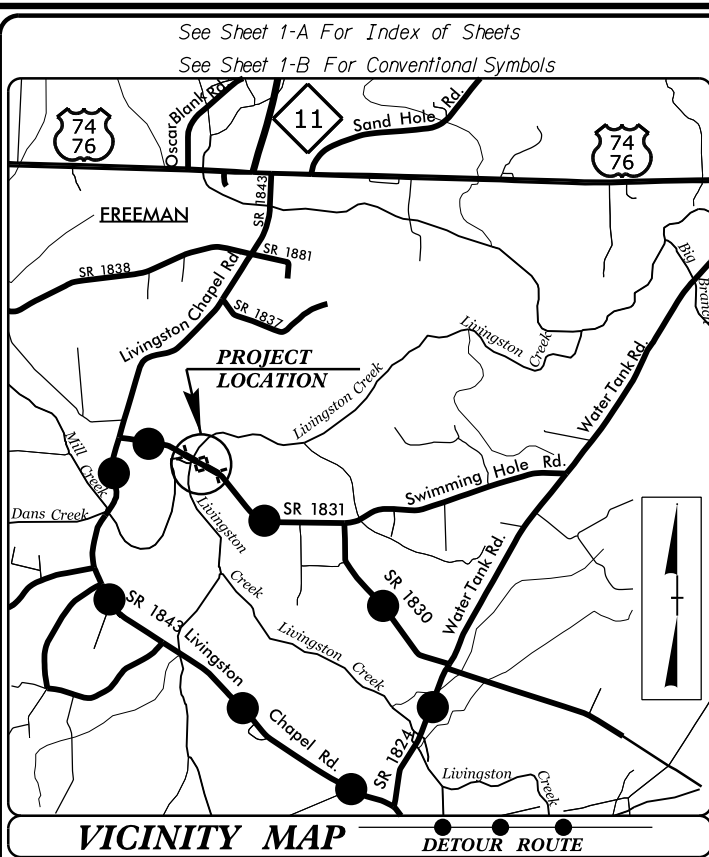
COLUMBUS COUNTY
WBS - 38386.1.1 (B-4481)

SHEET3/12/2013

09/08/19 23-JAN-2013 08:56 R:\Roadway\Proj\B4481_Rdy_+tsh.dgn \$\$\$USERNAME\$\$\$

TIP PROJECT: B-4481

CONTRACT:



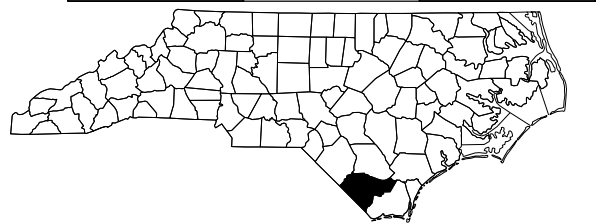
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

LOCATION: BRIDGE NO. 279 & NO. 288 OVER LIVINGSTON CREEK AND APPROACHES ON SR 1831 (SWIMMING HOLE ROAD)

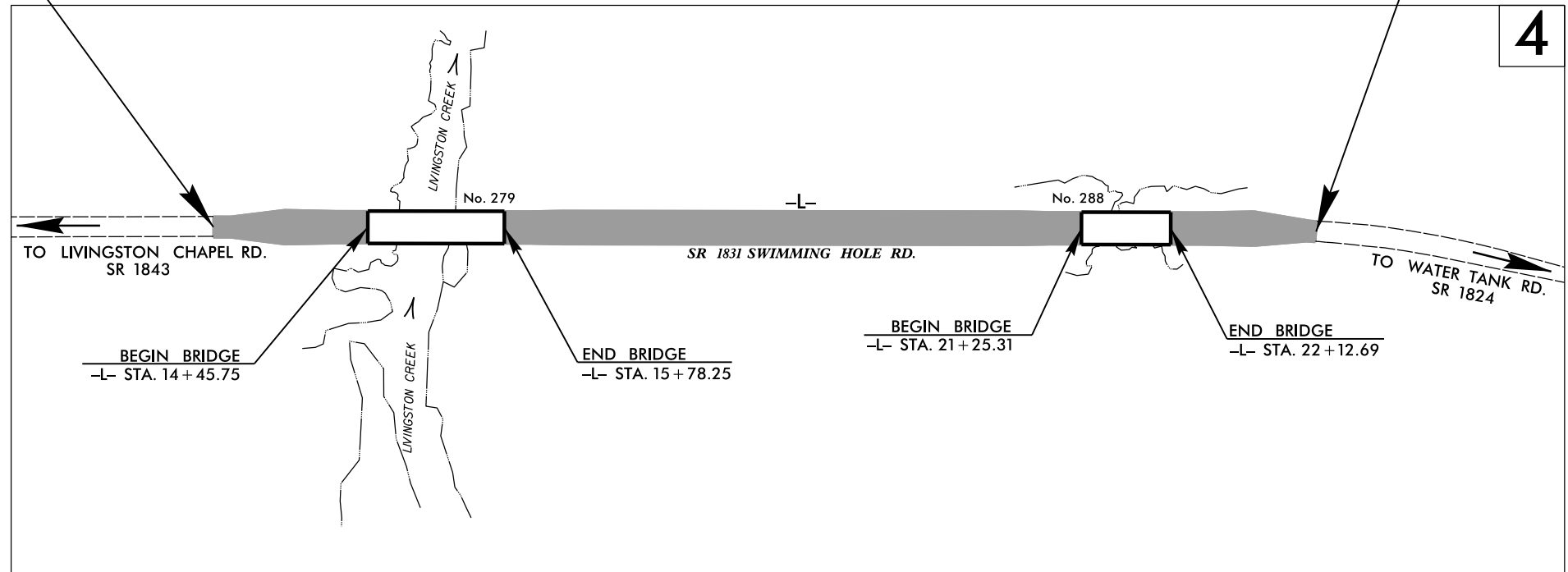
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4481	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38386.1.1	BRZ-1831(3)	PE	
38386.2.1	BRZ-1831(3)	R/W & UTIL	



END TIP PROJECT B-4481
-L- STA. 23 + 50.00

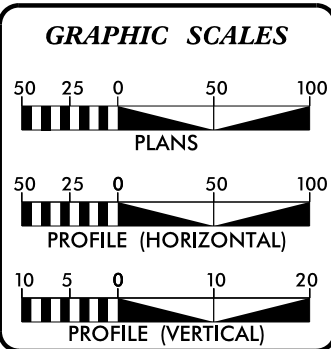
BEGIN TIP PROJECT B-4481
-L- STA 13 + 00.00



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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

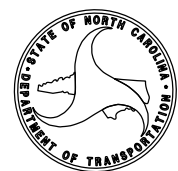
ADT 2013	=	500
ADT 2033	=	740
DHV	=	11 %
D	=	65 %
T	=	3 % *
V	=	60 MPH
DUAL	2% * TTST = 1%	
FUNC CLASS	=	RURAL LOCAL
SUB REGIONAL TIER		

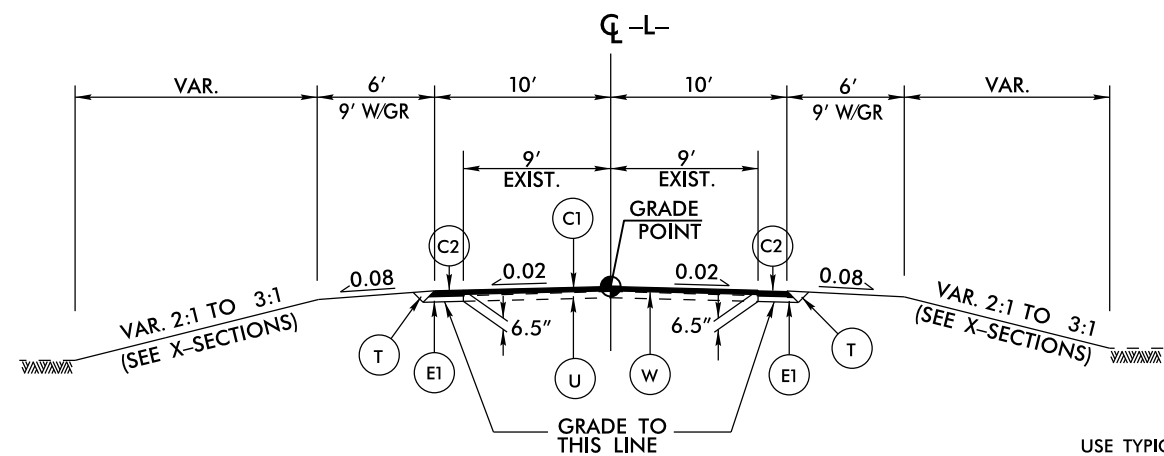
PROJECT LENGTH

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TOTAL LENGTH TIP PROJECT B-4481	=	0.199 MI.

Prepared In the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610	
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JANUARY 18, 2013	REKHA PATEL, PE PROJECT ENGINEER
LETTING DATE: SEPTEMBER 17, 2013	BRIAN P. ROBINSON PROJECT DESIGN ENGINEER

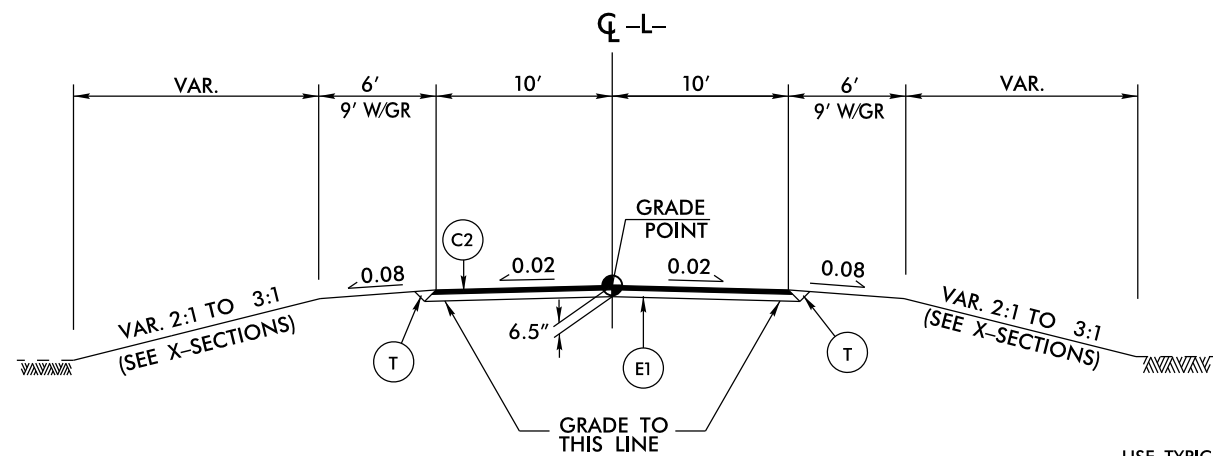
HYDRAULICS ENGINEER	
SIGNATURE: _____	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE: _____	P.E.





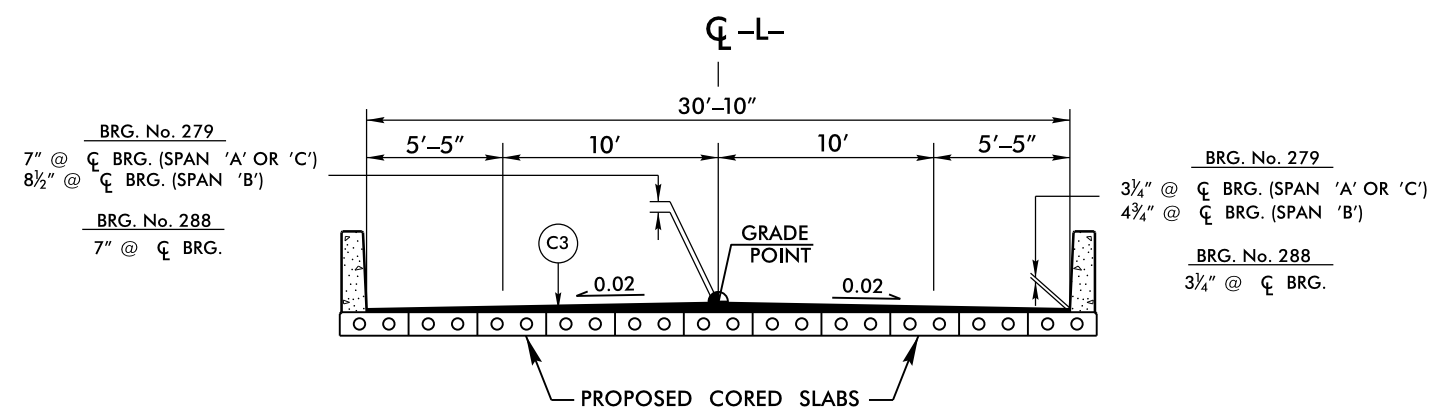
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 13+00.00 TO STA. 14+00.00
-L- STA. 16+50.00 TO STA. 20+50.00
-L- STA. 22+75.00 TO STA. 23+50.00



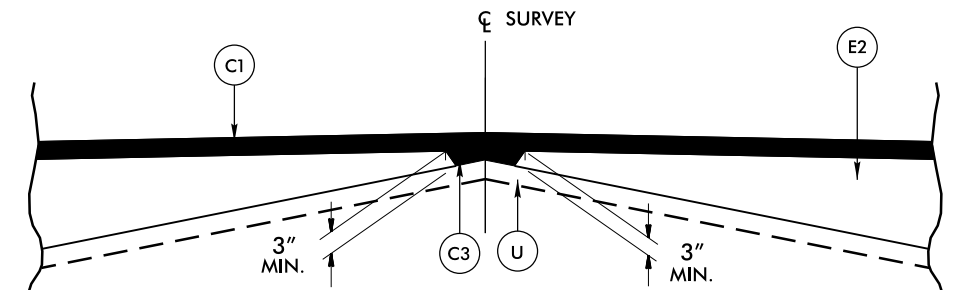
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 3
-L- STA. 14+00.00 TO STA. 14+45.75 (BEGIN BRIDGE)
-L- STA. 15+78.25 (END BRIDGE) TO STA. 16+50.00
-L- STA. 20+50.00 TO STA. 21+25.31 (BEGIN BRIDGE)
-L- STA. 22+12.69 (END BRIDGE) TO STA. 22+75.00



TYPICAL SECTION ON STRUCTURE
(SEE STRUCTURE PLANS)

USE TYPICAL ON STRUCTURE
-L- STA. 14+45.75 (BEGIN BRIDGE)
STA. 15+78.25 (END BRIDGE)
-L- STA. 21+25.31 (BEGIN BRIDGE)
STA. 22+12.69 (END BRIDGE)



DETAIL SHOWING METHOD OF WEDGING

PROJECT REFERENCE NO.		SHEET NO.	
B-4481		2	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE 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 1.0" IN DEPTH OR GREATER THAN 1.5" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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

