STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

March 12, 2012

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

ATTN: Liz Hair
NCDOT Coordinator

Subject: **Application for Regional General Permit 198200031 and General 401** for the proposed replacement of Bridge No. 95 over South Fork Catawba River on SR 2019 (Rocky Ford Road) in Catawba County, Federal Aid Project No. BRZ-2019(2); Division 12; TIP No. B-4458; WBS 38375.1.1; Debit $240.00

Dear Ms. Hair:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 95, a 76-foot double-span bridge over South Fork Catawba River on Rocky Ford Road (SR 2019), with a 200-foot triple-span bridge to the south on new location. No in-stream work is required for bridge removal. There will be 132 linear feet of permanent impacts from the use of riprap for bank stabilization at ditch outfalls and at the proposed bridge. There are 42.4 square feet of permanent impacts in surface water due to proposed bridge interior bents. There are 0.02 acres of temporary impacts in surface waters associated with causeways required for construction of the new structure.

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 attachments, 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 October 31, 2011. Documents were distributed shortly thereafter. Additional copies are available upon request.

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

TELEPHONE: 919-707-5100
FAX: 919-212-5785

WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

This project calls for a letting date of November 20, 2012 and a review date of October 2, 2012; however the let date may advance as additional funding becomes available.
A copy of this permit application and its distribution list will be posted on the NCDOT website at: http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html. If you have any questions or need additional information, please call Jennifer Harrod at (919) 707-6124.

Sincerely,

E. L. Lusk

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

Cc: NCDOT Permit Application Standard Distribution List
File

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:	or General Permit (GP) number: 198200031	
1c. Has the N WP 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. 95 over the South Fork Catawba River on SR 2019 (Rocky Ford Road).
2b. County:	Catawba
2c. Nearest municipality / town:	Startown
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-4458

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC i f applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6124
3g. Fax no.:	(919) 212-5785
3h. Email address:	jwharrod@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
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:	*not applicable*
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):	*not applicable*	
1b. Site coordinates (in decimal degrees):	Latitude: 35.613309 (DD.DDDDDD)	Longitude: - 81.289333 (-DD.DDDDDD)
1c. Property size:	3.5 acres	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	South Fork Catawba River	
2b. Water Quality Classification of nearest receiving water:	WS-V	
2c. River ba sin:	Catawba	
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: Rural residential and agricultural land		
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: 233 ft.		
3d. Explain the purpose of the proposed project: To replace a structurally deficient bridge.		
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 76-foot double-span bridge with a 200-foot triple-span bridge to the south on new location. Traffic will be maintained on the existing bridge during construction. 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:	☐ 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):	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			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 3 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ 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 ☒ P ☐ T	Rip Rap Bank Stabilization	South Fork Catawba River	☒ PER ☐ INT	☒ Corps ☐ DWQ	50	114 ft
Site 1 ☐ P ☒ T	Fil (work pad)	South Fork Catawba River	☒ PER ☐ INT	☒ Corps ☐ DWQ	50	0.02 ac
Site 1 ☒ P ☐ T	Fill (interior bents)	South Fork Catawba River	☒ PER ☐ INT	☒ Corps ☐ DWQ	50	<0.01 ac
Site 2 ☒ P ☐ T	Rip Rap Bank Stabilization	UT to South Fork Catawba River	☒ PER ☐ INT	☒ Corps ☐ DWQ	4	18 ft
					3h. **Total stream and tributary impacts**	132 Perm 0.02 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	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?	☐ 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 bridge is a triple-span structure that is 124 feet longer than the existing bridge; traffic will be maintained on the existing bridge during construction; 3:1 fill slopes where practicable; the placement of the new bridge minimizes impacts to the UT-South Fork Catawba River.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

A temporary causeway will be utilized to construct the new structure; surficial bridge runoff will not be directed into the South Fork Catawba River or the UT via deck drains, stormwater will be managed via roadside ditches. Design Standards in Sensitive Watersheds will be adhered to.

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: permanent impacts are due to the use of rip rap for bank stabilization and is not considered a loss of waters of the U.S. by the USACE.
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: 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.	☐ 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:	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?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If not, 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 ☐ HQW ☐ 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 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?	☐ Yes	☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☐ Yes	☒ No
5c. If yes, ind icate 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? Only one Endangered and Threatened species is listed for Catawba County, the Dwarf-flowered heartleaf. A survey was conducted by NCDOT biologists on May 1, 2007 utilizing 2 person-hours, finding no suitable habitat due to a semi-dense understory and lack of slopes, rendering a biological conclusion of "No Effect". A search of the NHP database yielded no occurrences of Dwarf-flowered heartleaf within 1 mile of the project study area.		
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	E. L. Luck Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	3.12.12 Date

North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

Version 1

General Project Information

Project No.:	38375.1.1		**Date:**	6/1/2010		
City/Town:	Newton/Startown		**Designer:**	DDC		
County(ies):	Catawba County		**Project Manager:**	JWT		
River Basin(s):	Catawba		**CAMA County?**	no	**TVA County?**	no
Primary Receiving Water:	South Fork Catawba River		**NCDWQ Stream Index:**	11-129-(0.5)		
NCDWQ Surface Water Classification for Primary Receiving Water		**Primary:**	Water Supply V (WS-V)			
		Supplemental:				
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?			no			
Description:	No occurrences within 1mile of project					
Anadromous Fish Present?	**no**					
Description:						
Buffer Rules in Effect?	no		**Buffer Rules:**			

Existing Site

Description of Existing Project Area:	Rural setting. Existing crossing on dirt/gravel road. Existing bridge is low-water type with wheel guards only.
Average Daily Traffic:	ADT 2011: 914
Existing Cross Section:	Existing roadway at or near natural ground with roadside swales or ditches
Surrounding Land Use:	Pastural (horse & cattle usage), Open grassed fields, Wooded along stream corridor
General Comments:	Sharp horizontal curve in roadway at west end of existing bridge. Water OT's frequently at existing crossing.

Project Project

Description of Proposed Project:	Replace Bridge No. 95 over the South Fork Catawba River on SR 2019.		
Average Daily Traffic:	ADT 2030: 2070, T=3%, V=50MPH		
Proposed Cross-Section:	Fill w/ guardrail in 2:1 fill sections. Paved/grassed shoulder with ditches		
Interchange Modification:	no	**Median Type:**	N/A
Terminus:			
Terminus:			
Project Length (lin. miles/feet):	0.478 Mi.	**Added Impervious Area (ac.):**	SEE PLANS
General Comments:	Proposed bridge to be relocated to new location downstream (south) of existing crossing. Increase vertical profile (from existing) by 5'+/- to attain a 10 yr hydraulic design. Horizontal alignment incorporates large horizontal curves to improve upon existing alignment. No bmps incorporated on project. Although BMPs were not used on this project, the proposed bridge does not incorporate deck drains.		

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

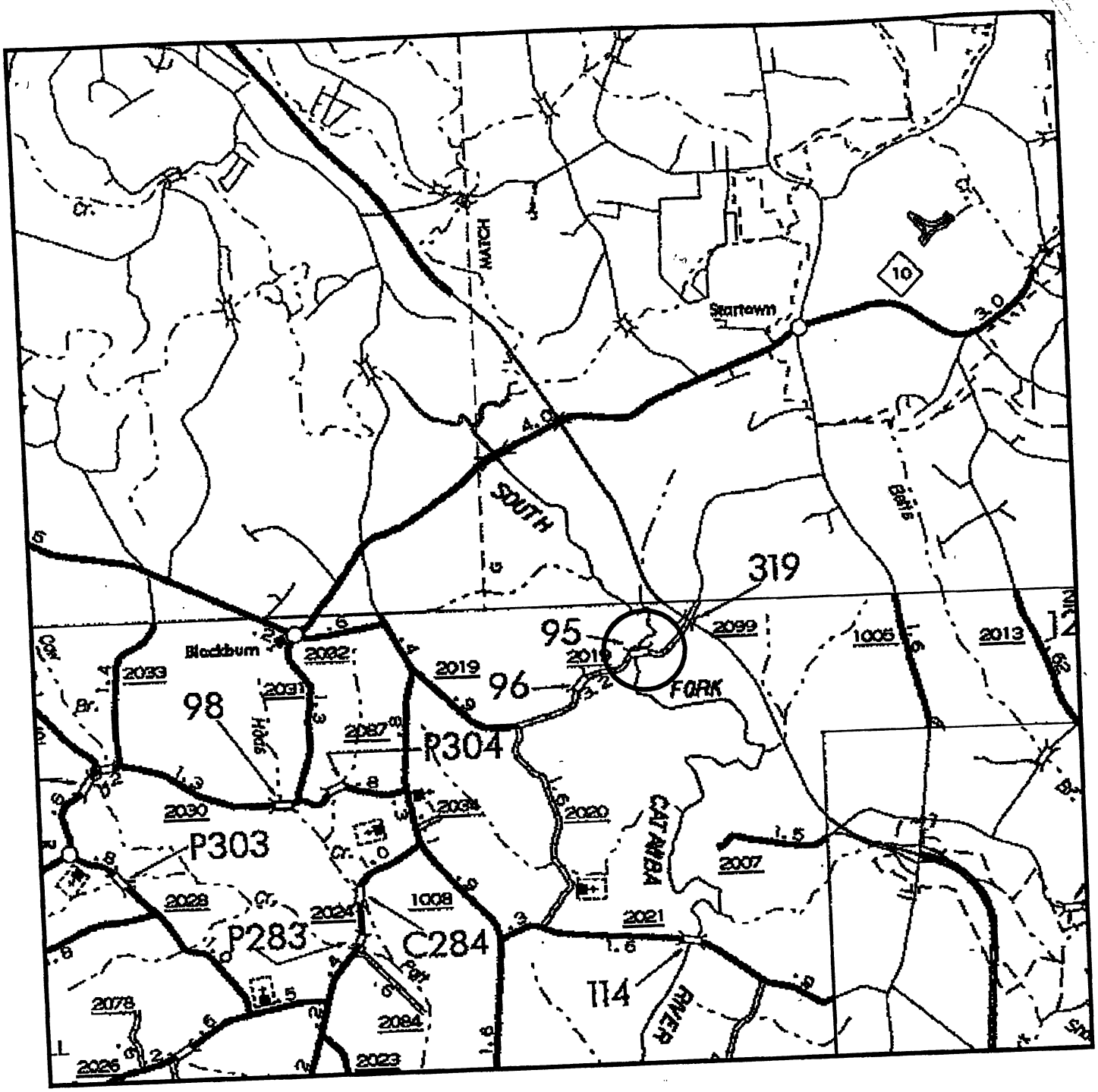
Version 1

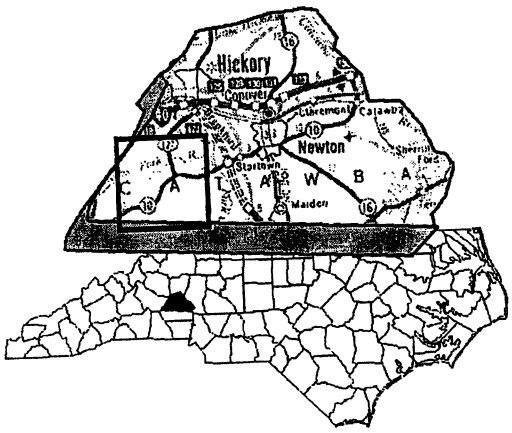
Environmental Summary

Riparian Buffer and Jurisdictional Stream Impacts and Associated BMPs

Station	Stream Name	Stream Type	Jurisdict. Stream	Buffer?	Classific-ation?	Proposed Structure	BMP Type	Checklist Complete?	DA (ac.)	Q_2 (ft^3/s)	Q_{10} (ft^3/s)	WQv^c (ft^3/s)
19+70 -L-	South Fork Catawba River	Perennial	RPW	No	Water Supply V (WS-V)	1@65', 1@70', & 1@65' 24" Cored Slab	no					

General Comments:





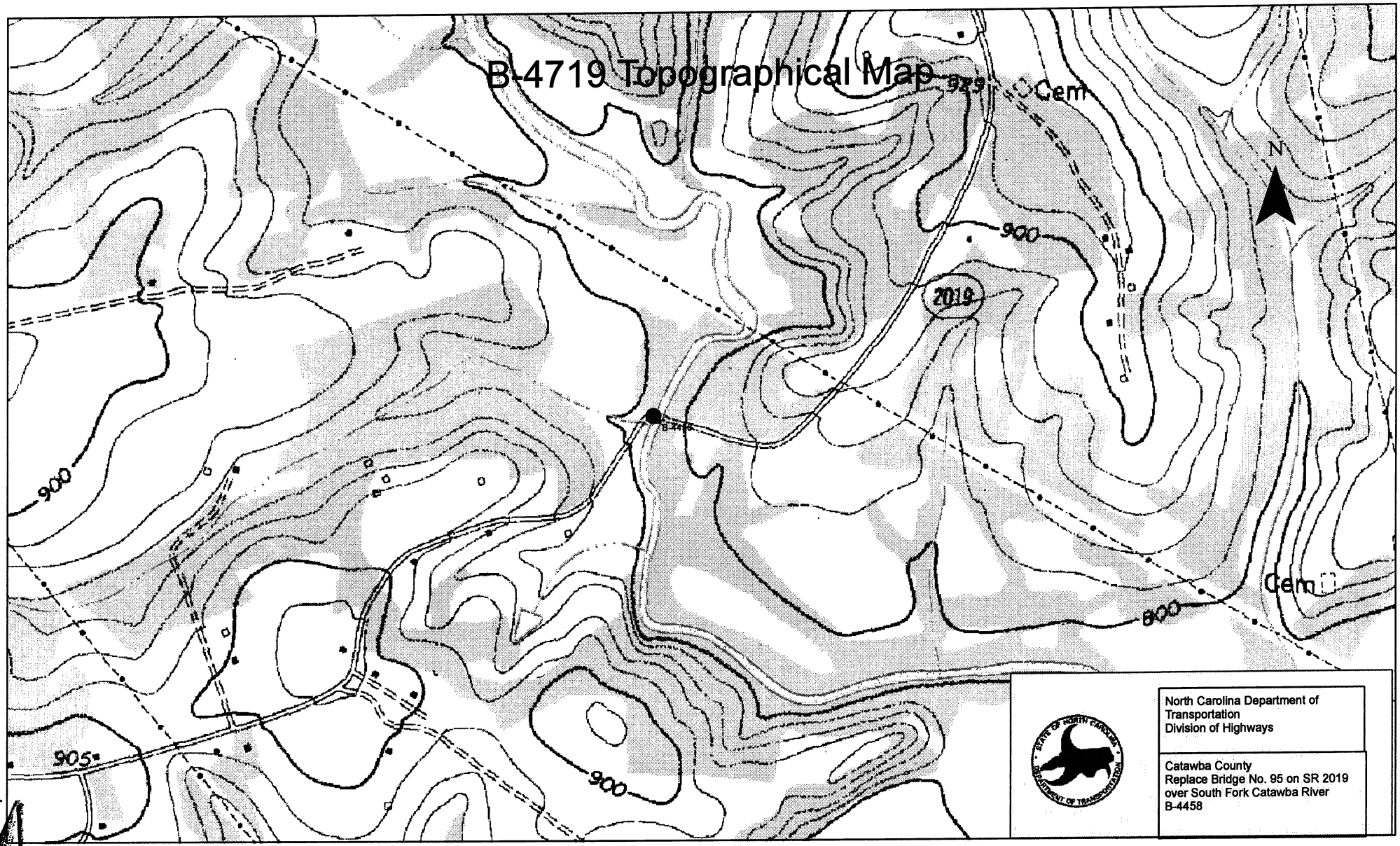
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH

CATAWBA COUNTY
REPLACE BRIDGE NO. 95 ON SR 2019
OVER SOUTH FORK CATAWBA RIVER
B-4458

Figure 1

Permit Drawing
Sheet 1 of 12

B-4719 Topographical Map



North Carolina Department of Transportation
Division of Highways

Catawba County
Replace Bridge No. 95 on SR 2019
over South Fork Catawba River
B-4458

Miles
0 0.125 0.25 0.5

Permit Drawing
Sheet 2 of 12

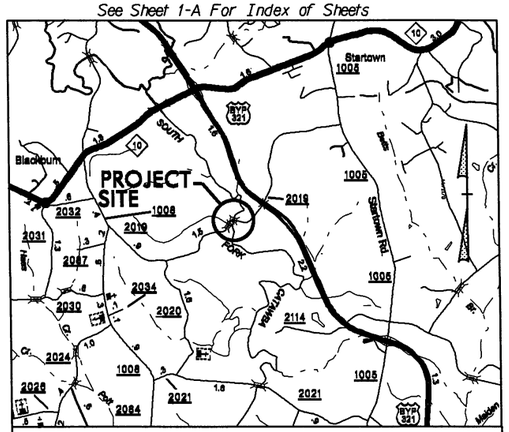
09/08/50

TIP PROJECT: B-4458

CONTRACT:

$$$$$$$SYSTIME$$$$$$$
$$$$$$$$$$$$$$$$EDGN$$$$$$$$$$$$$$$$
$$$$$$$$$$$USERNAME$$$$$$$$$$$

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CATAWBA COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4458	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38375.1.1	BRZ-2019 (2)	PE
38375.2.1	BRZ-2019 (2)	RW, UTIL

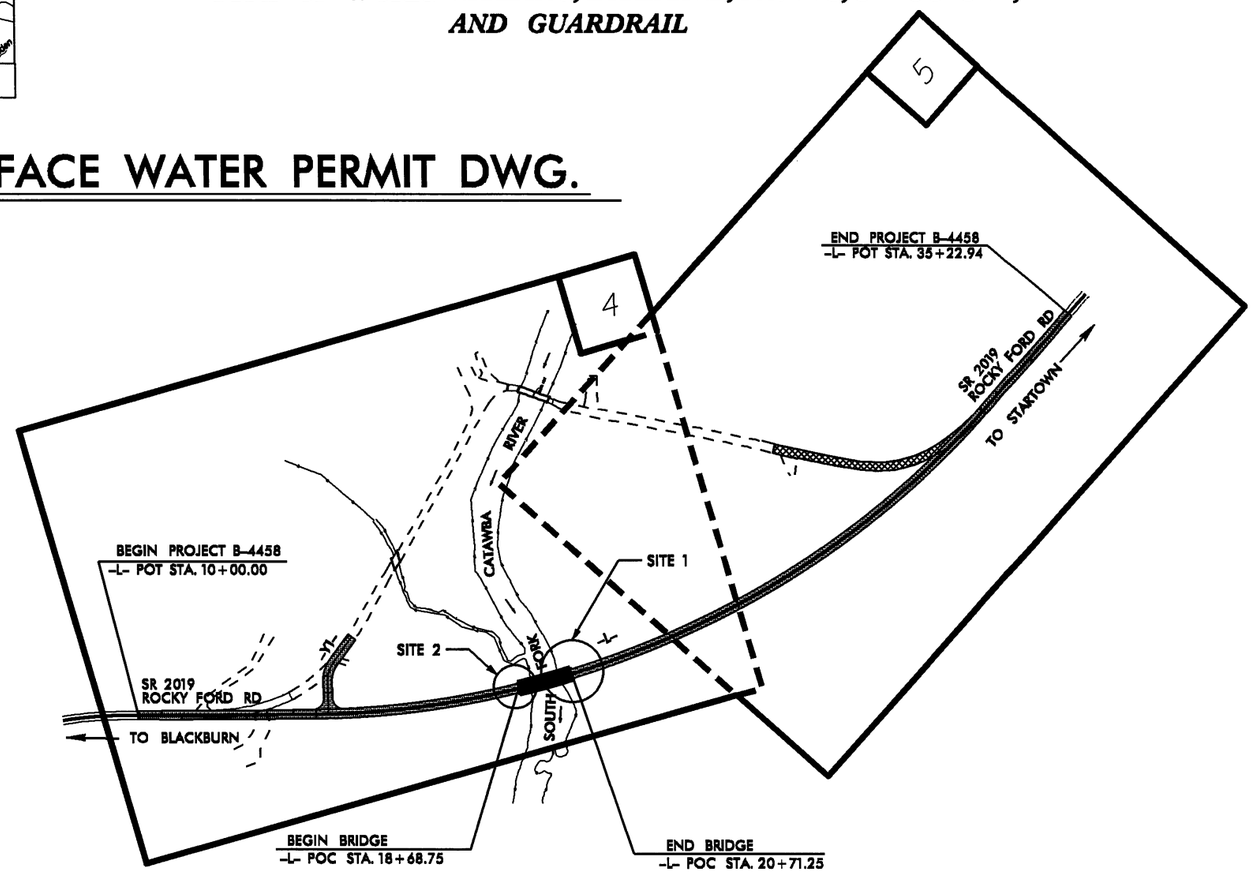
ENGLISH

LOCATION: BRIDGE NO 95 ON ROCKY FORD RD (SR 2019) OVER THE SOUTH FORK CATAWBA RIVER

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

N
NC GRID
NAD 83

WETLAND/SURFACE WATER PERMIT DWG.



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 1008
ADT 2030 = 2700
DHV = 14 %
D = 55 %
T = 3 % *
V = 50 MPH
FUNC. CLASS = LOCAL
* TTST 1% DUAL 2%
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4458 = 0.440 MI
LENGTH STRUCTURE TIP PROJECT B-4458 = 0.038 MI
TOTAL LENGTH TIP PROJECT B-4458 = 0.478 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 18, 2011

LETTING DATE: NOVEMBER 20, 2012

JASON MOORE, PE
PROJECT ENGINEER

BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

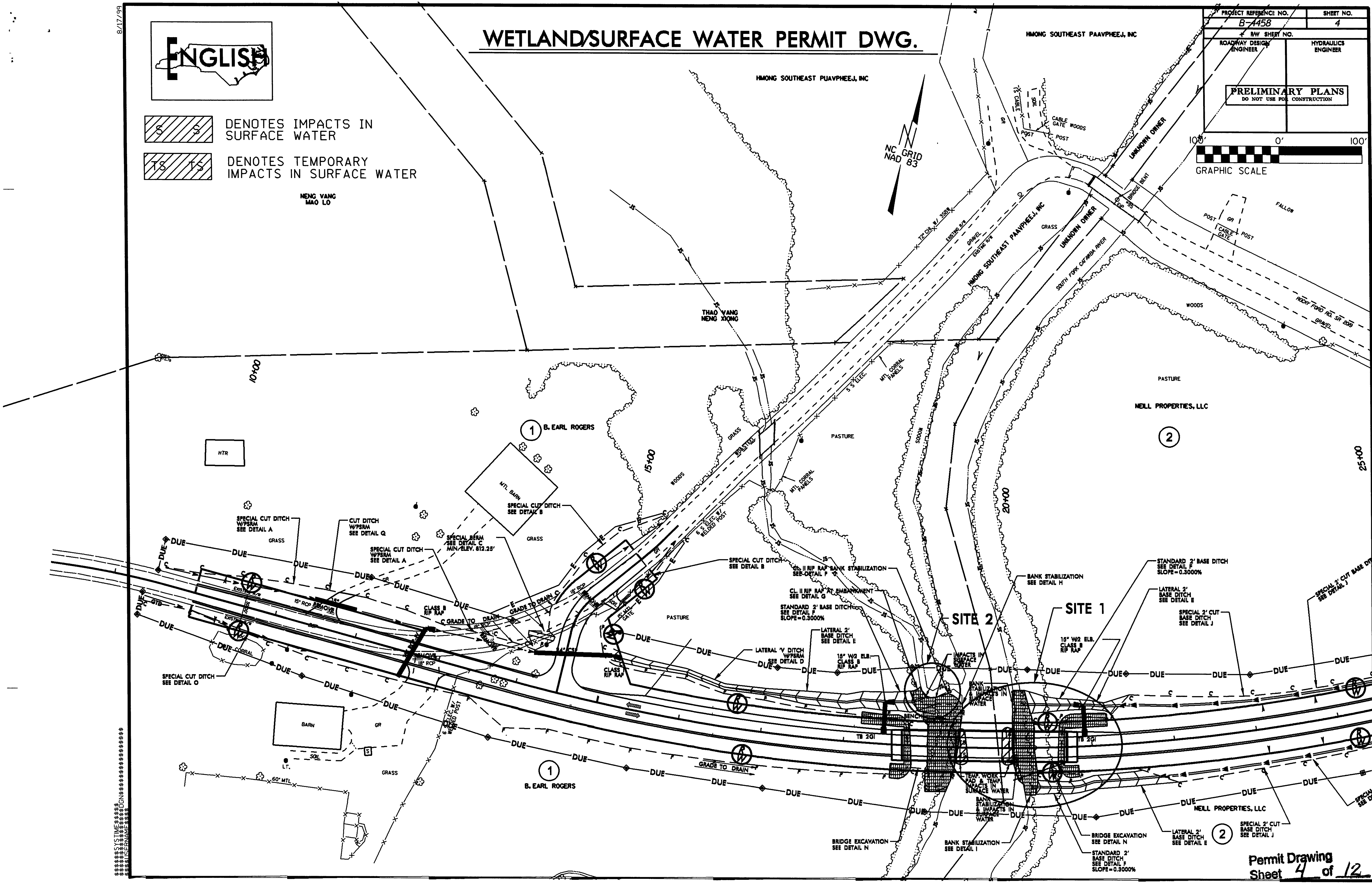
ROADWAY DESIGN ENGINEER

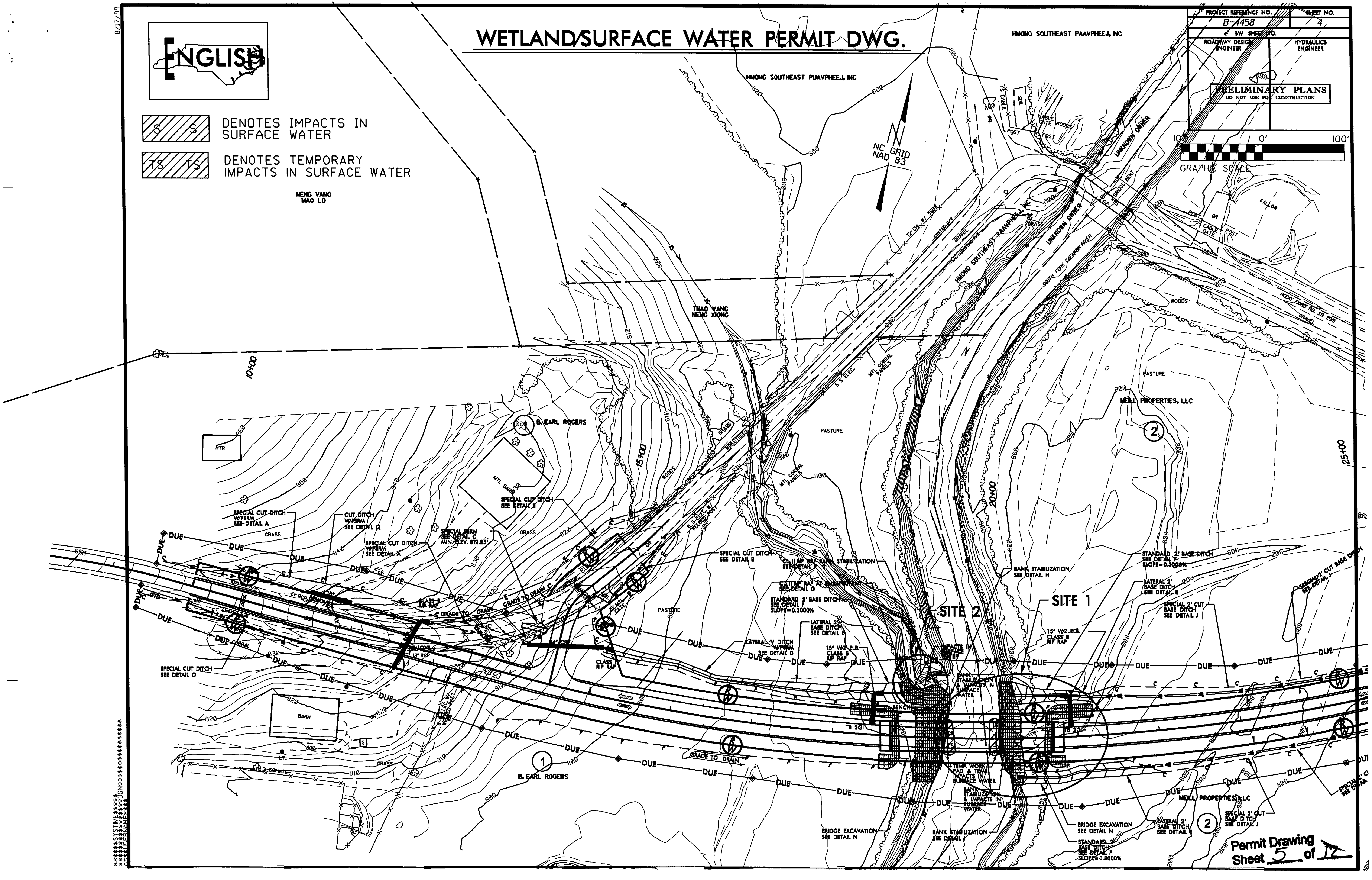
SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

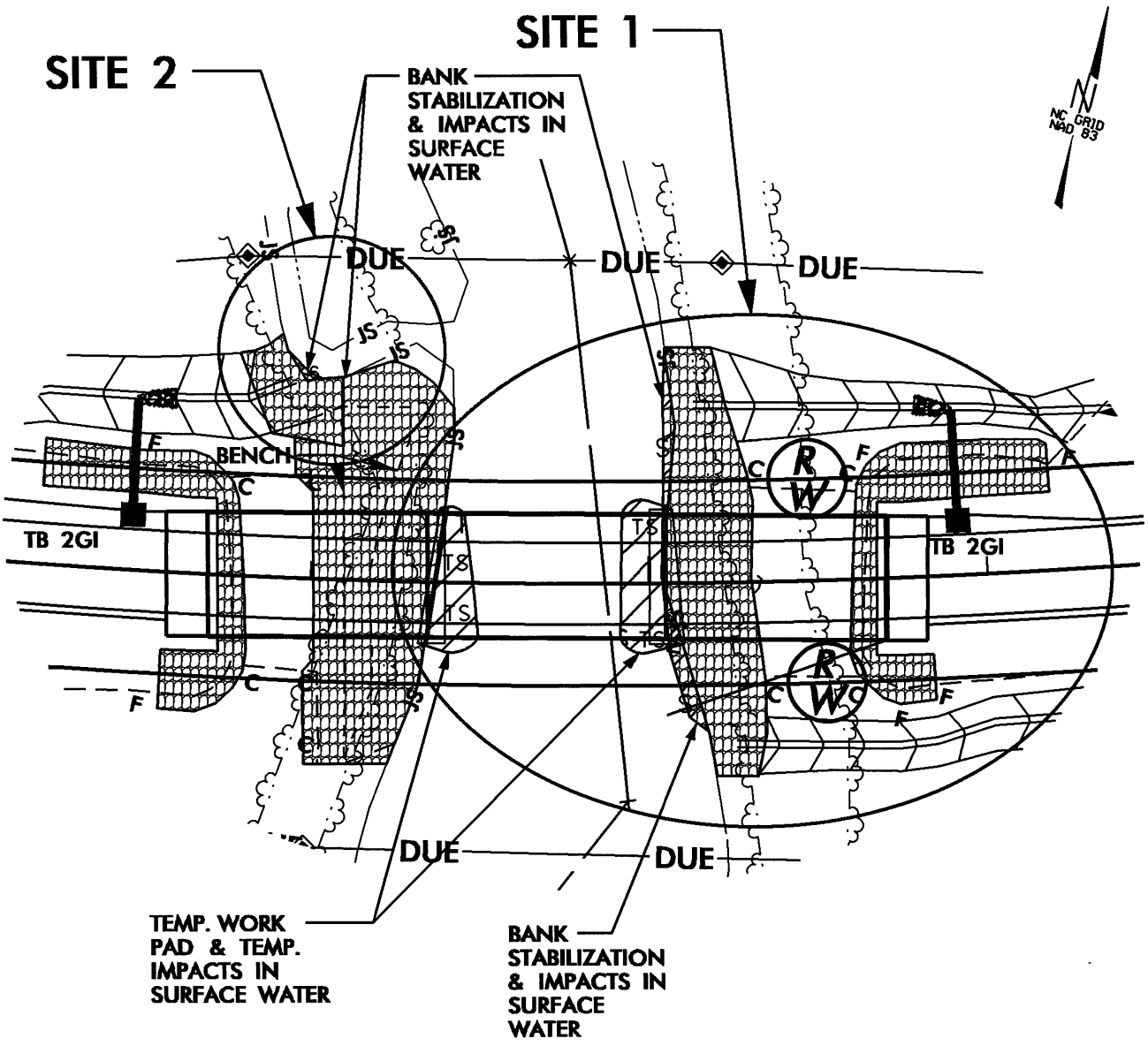
P.E.
STATE HIGHWAY DESIGN ENGINEER

Sheet 3 of 12


8/17/99
WETLAND/SURFACE WATER PERMIT DWG.
ENGLISH
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
PROJECT REFERENCE NO. B-4458
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
100' 0' 100'
GRAPHIC SCALE
NC GRID NAD 83
NENG VANG
MAO LO
HMONG SOUTHEAST PUAVPHEEJ, INC
HMONG SOUTHEAST PAAVPHEEJ, INC
THAO VANG
NENG XIONG
B. EARL ROGERS
NEILL PROPERTIES, LLC
UNKNOWN OWNER
SOUTH FORK CATAWBA RIVER
ROCKY FORD RD. SR 2019
10+00
15+00
20+00
25+00
HTR
MTL BARN
BARN
PASTURE
WOODS
GRASS
FALLOW
SPECIAL CUT DITCH W/PSRM SEE DETAIL A
CUT DITCH W/PSRM SEE DETAIL Q
SPECIAL BERM SEE DETAIL C MIN. ELEV. 812.25'
SPECIAL CUT DITCH SEE DETAIL B
SPECIAL CUT DITCH SEE DETAIL O
CL. II RIP RAP BANK STABILIZATION SEE DETAIL P
CL. II RIP RAP AT EMBANKMENT SEE DETAIL G
STANDARD 2' BASE DITCH SEE DETAIL F SLOPE=0.3000%
LATERAL 2' BASE DITCH SEE DETAIL E
LATERAL 'V' DITCH W/PSRM SEE DETAIL D
15" W2 ELB. CLASS B RIP RAP
BANK STABILIZATION SEE DETAIL H
BANK STABILIZATION SEE DETAIL I
BRIDGE EXCAVATION SEE DETAIL N
SPECIAL 2' CUT BASE DITCH SEE DETAIL J
IMPACTS IN SURFACE WATER
BANK STABILIZATION & IMPACTS IN SURFACE WATER
TEMP. WORK PAD & TEMP. IMPACTS IN SURFACE WATER
SITE 1
SITE 2
GRADE TO DRAIN
CLASS B RIP RAP
CLASS RIP RAP
Permit Drawing Sheet 4 of 12



8/17/99
ENGLISH
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
WETLAND/SURFACE WATER PERMIT DWG.
PROJECT REFERENCE NO.
B-4458
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
100'
0'
100'
GRAPHIC SCALE
NC GRID NAD 83
HMONG SOUTHEAST PAAVPHEEJ, INC
HMONG SOUTHEAST PUAVPHEEJ, INC
HMONG SOUTHEAST PAAVPHEEJ, INC
NENG VANG
MAO LO
THAO VANG
NENG XIONG
B. EARL ROGERS
UNKNOWN OWNER
UNKNOWN OWNER
SOUTH FORK CATAWBA RIVER
ROCKY FORD RD. SR 2019
NEILL PROPERTIES, LLC
PASTURE
WOODS
FALLOW
GRASS
BARN
HTR
MTL BARN
MTL CORRAL PANELS
10+00
15+00
20+00
25+00
SPECIAL CUT DITCH W/PSRM SEE DETAIL A
CUT DITCH W/PSRM SEE DETAIL Q
SPECIAL CUT DITCH W/PSRM SEE DETAIL A
SPECIAL BERM SEE DETAIL C MIN. ELEV. 812.25'
SPECIAL CUT DITCH SEE DETAIL B
SPECIAL CUT DITCH SEE DETAIL O
SPECIAL CUT DITCH SEE DETAIL B
CL. II RIP RAP BANK STABILIZATION SEE DETAIL F
CL. II RIP RAP AT EMBANKMENT SEE DETAIL G
STANDARD 2' BASE DITCH SEE DETAIL F SLOPE=0.3000%
LATERAL 2' BASE DITCH SEE DETAIL E
LATERAL 'V' DITCH W/PSRM SEE DETAIL D
15" W/2 ELB. CLASS B RIP RAP
CLASS I RIP RAP
CLASS B RIP RAP
GRADE TO DRAIN
SITE 2
SITE 1
IMPACTS IN SURFACE WATER
BANK STABILIZATION SEE DETAIL H
BANK STABILIZATION & IMPACTS IN SURFACE WATER
TEMP. WORK PAD & TEMP. IMPACTS IN SURFACE WATER
BANK STABILIZATION & IMPACTS IN SURFACE WATER
BRIDGE EXCAVATION SEE DETAIL N
BANK STABILIZATION SEE DETAIL I
BRIDGE EXCAVATION SEE DETAIL N
STANDARD 2' BASE DITCH SEE DETAIL F SLOPE=0.3000%
STANDARD 2' BASE DITCH SEE DETAIL F SLOPE=0.3000%
LATERAL 2' BASE DITCH SEE DETAIL E
SPECIAL 2' CUT BASE DITCH SEE DETAIL J
SPECIAL 2' CUT BASE DITCH SEE DETAIL J
SPECIAL 2' CUT BASE DITCH SEE DETAIL J
Permit Drawing Sheet 5 of 12



SITES ENLARGEMENT

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50′ 0′ 50′

GRAPHIC SCALE

NCDOT

DIVISION OF HIGHWAYS

CATAWBA COUNTY

PROJECT: 38375.1.1 (B-4458)

BRIDGE NO 95 ON ROCKY FORD RD. (SR 2019) OVER THE SOUTH FORK CATWBA REVER

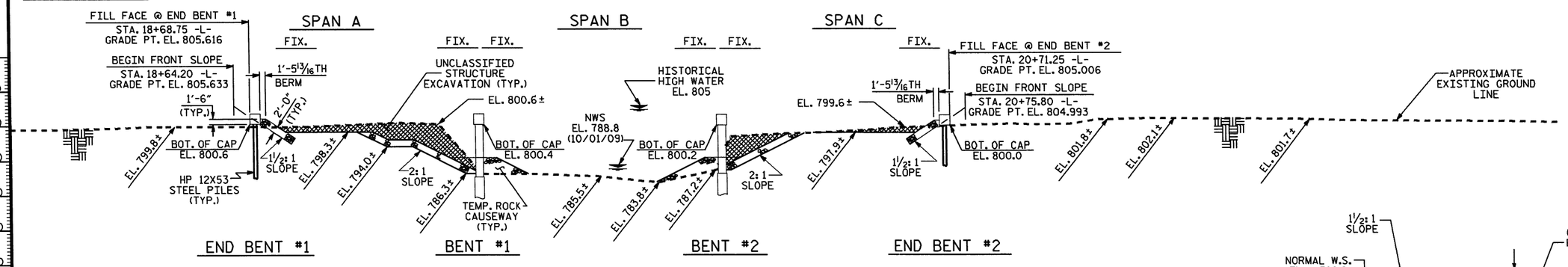
SHEET 8 OF 10 **02/08/12**

Permit Drawing Sheet 12 of 12

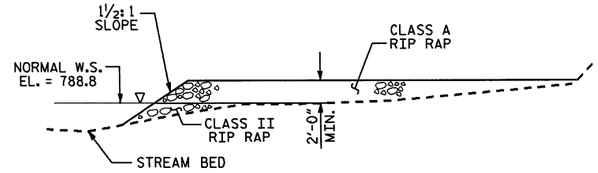
F. A. PROJECT BRZ-2019(2)

-5.8375% △ -0.3000%
STA. 16+00.00 -L-
EL. = 806.42
VC=550'

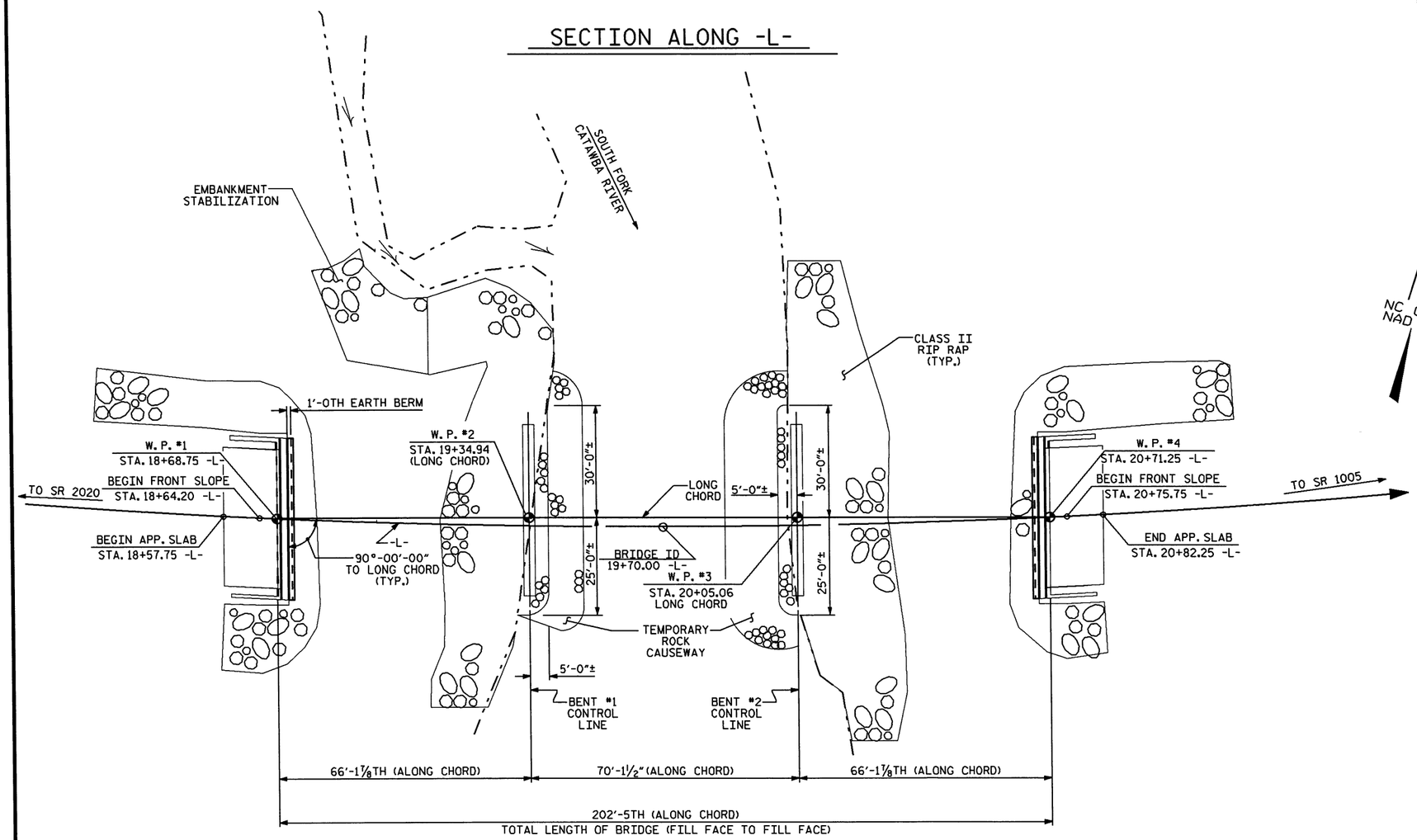
GRADE DATA



SECTION ALONG -L-



DETAILS OF TEMPORARY ROCK CAUSEWAY



PLAN

PILES NOT SHOWN IN PLAN VIEW

HORIZONTAL CURVE DATA

PI STA.= 23+75.75
△ = 48°-09'-38.4" (LT)
D= 2°-36'-15.7"
L= 1,849.24'
T= 983.20'
R= 2,200.00'

NC GRID NAD 83

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

PROJECT NO. B-4458
CATAWBA COUNTY
STATION: 19+70.00 -L-

REPLACES BRIDGE NO. 95

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRELIMINARY
GENERAL DRAWING
FOR BRIDGE OVER SOUTH FORK CATAWBA RIVER ON SR 2019 (ROCKY FORD RD.) BETWEEN SR 2020 AND SR 1005

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

DRAWN BY : R. G. EMERSON DATE : 10/10
CHECKED BY : W. K. F. DATE : 10/10

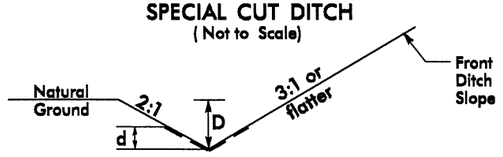
SYSTIME DGN USERNAME

Permit Drawing Sheet 7 of 12

PROJECT REFERENCE NO.	SHEET NO.
B-4458	2-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

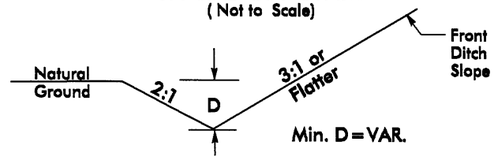


Min. D=1.5 Ft.
Max d=1.5 Ft.

Type of Liner= PSRM

-L- STA. 9+58 TO STA. 11+50(LT)
-L- STA. 12+50 TO STA. 14+12(LT)
-L- STA. 28+00 TO STA. 29+00(RT)

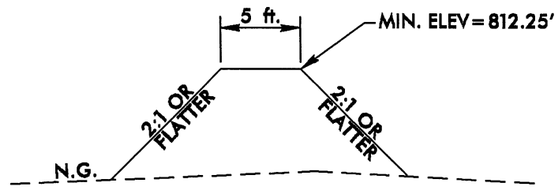
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D=VAR.

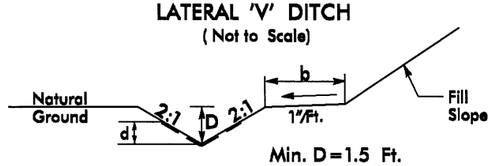
-L- STA. 34+00 TO STA. 35+84(LT)
-L- STA. 34+00 TO STA. 35+84(RT)
-Y1- STA. 9+45 TO STA. 10+50(RT)
-Y1- STA. 9+50 TO STA. 10+50(LT)

DETAIL C
SPECIAL BERM
(Not to Scale)



-Y1- STA. 11+37.5(RT)

DETAIL D
LATERAL 'V' DITCH
(Not to Scale)

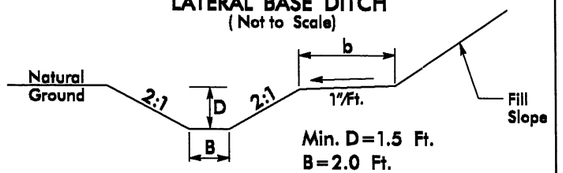


Min. D=1.5 Ft.
Max. d=1.5 Ft.
b=5.0 Ft.

Type of Liner= PSRM

-L- STA. 15+06 TO STA. 17+00(LT)

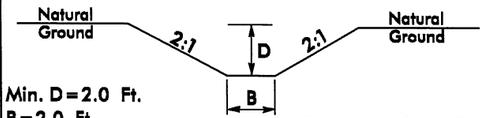
DETAIL E
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

-L- STA. 17+00 TO STA. 18+64(LT)
-L- STA. 20+70 TO STA. 21+50(RT)
-L- STA. 20+77 TO STA. 21+50(LT)

DETAIL F
STANDARD BASE DITCH
(Not to Scale)

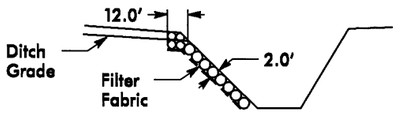


Min. D=2.0 Ft.
B=2.0 Ft.

DDE=238 CU. YDS.

-L- STA. 18+64 TO STA. 18+93.5(LT)
-L- STA. 20+13.50 TO STA. 20+77(LT)
-L- STA. 20+24.50 TO STA. 20+70(RT)

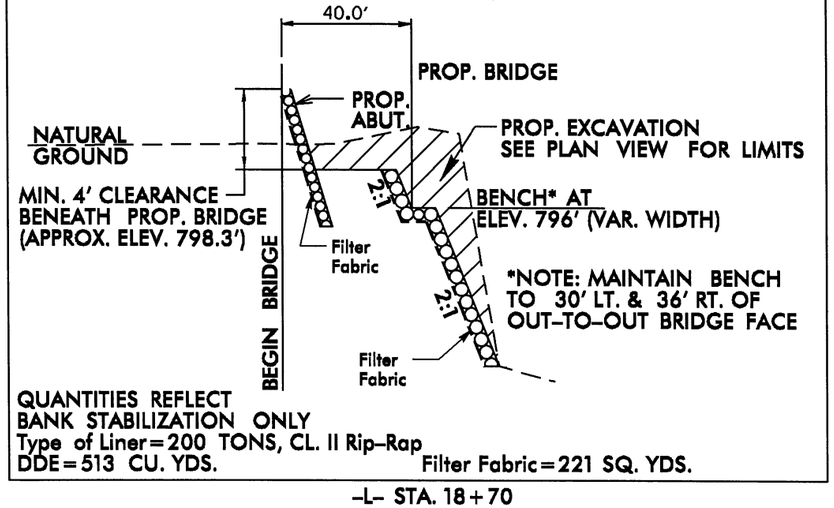
DETAIL G
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner=52 TONS,CL. II Rip-Rap
Filter Fabric=58 SQ. YDS. DDE=37 CU. YDS.

-L- STA. 18+82(LT) TO STA. 18+98(LT)

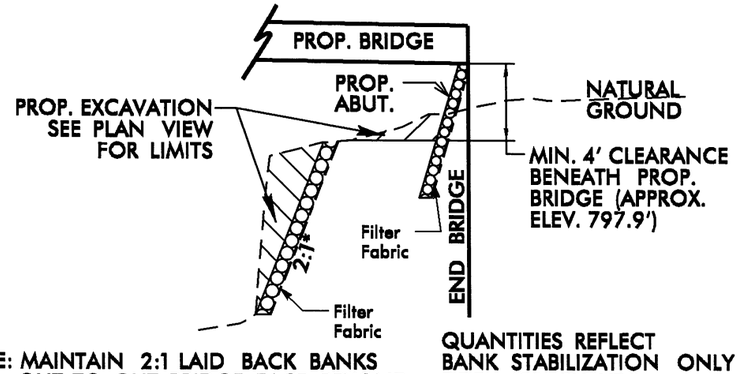
DETAIL H
ABUTMENT EXCAVATION & BANK STABILIZATION
(NOT TO SCALE)



QUANTITIES REFLECT BANK STABILIZATION ONLY
Type of Liner=200 TONS, CL. II Rip-Rap
DDE=513 CU. YDS. Filter Fabric=221 SQ. YDS.

-L- STA. 18+70

DETAIL I
ABUTMENT EXCAVATION & BANK STABILIZATION
(NOT TO SCALE)



*NOTE: MAINTAIN 2:1 LAID BACK BANKS FROM OUT-TO-OUT BRIDGE FACE. BEYOND PROP. BRIDGE, TRANSITION TO EXISTING CHANNEL BANKS AT EXTENTS DEPICTED IN PLAN VIEW.

QUANTITIES REFLECT BANK STABILIZATION ONLY
DDE=439 CU. YDS.
Type of Liner=305 TONS, CL. II Rip-Rap
Filter Fabric=363 SQ. YDS.

-L- STA. 20+70

SEE SHEETS 4 & 5 FOR PLANS

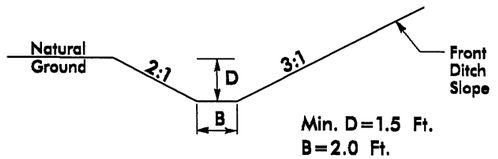
Permit Drawing
Sheet 2 of 12

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4458	2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

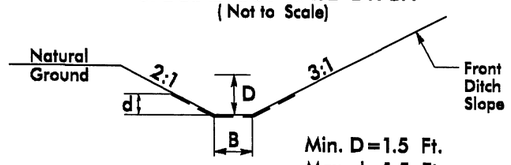
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL J
SPECIAL CUT BASE DITCH
(Not to Scale)



–L– STA. 21+50 TO STA. 24+50(LT)
–L– STA. 21+50 TO STA. 24+50(RT)

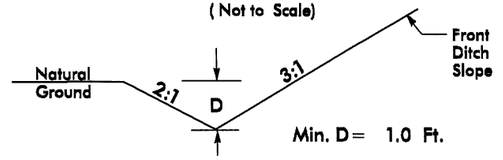
DETAIL K
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= PSRM

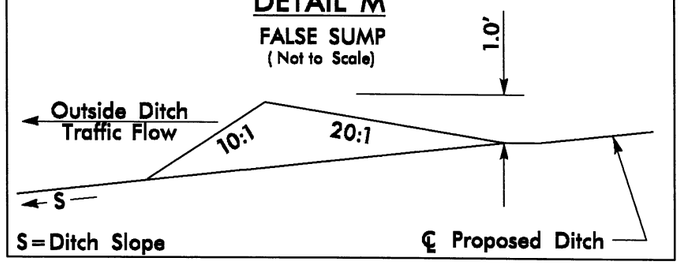
–L– STA. 24+50 TO STA. 26+50(RT)

DETAIL L
SPECIAL CUT DITCH
(Not to Scale)



–L– STA. 24+50 TO STA. 26+50(LT)

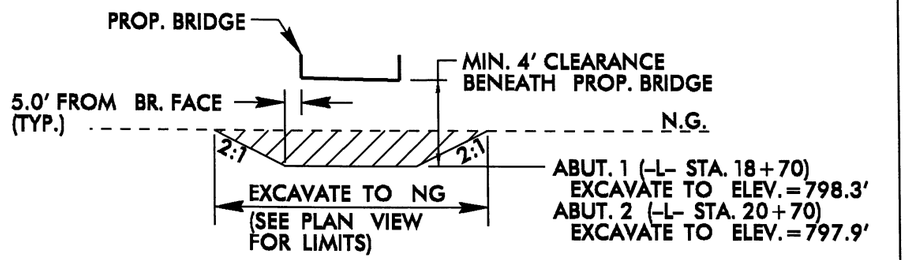
DETAIL M
FALSE SUMP
(Not to Scale)



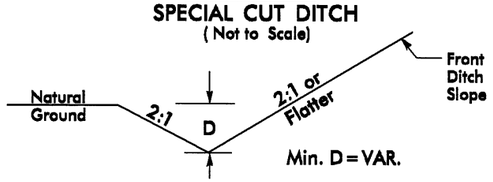
–L– STA. 30+40(LT)

EXCAVATION DETAIL N

DENOTES EXCAVATION
EST. 274 C.Y. TOTAL

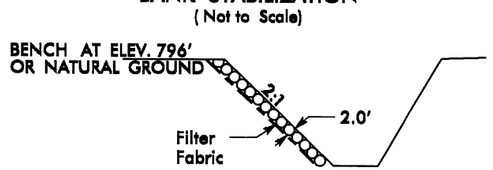


DETAIL O
SPECIAL CUT DITCH
(Not to Scale)



–L– STA. 9+42 TO STA. 11+50(RT)

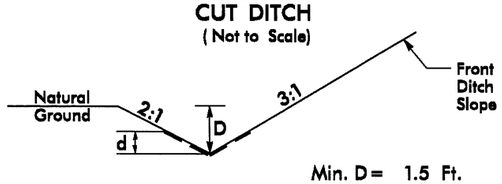
DETAIL P
BANK STABILIZATION
(Not to Scale)



Type of Liner=69 TONS,CL. II Rip-Rap
Filter Fabric=77 SQ. YDS. DDE=62 CU. YDS.

–L– STA. 19+09(LT) TO STA. 19+42(LT)

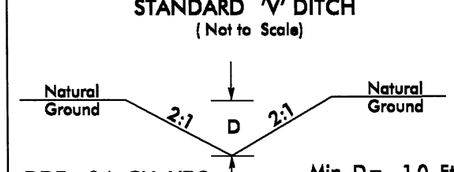
DETAIL Q
CUT DITCH
(Not to Scale)



Type of Liner= PSRM

–L– STA. 11+50 TO STA. 12+50(LT)
–L– STA. 26+50 TO STA. 28+00(RT)
–L– STA. 29+00 TO STA. 33+00(RT)
–L– STA. 31+00 TO STA. 34+00(LT)

DETAIL R
STANDARD 'V' DITCH
(Not to Scale)



–L– STA. 27+90 (LT)

SEE SHEETS 4 & 5 FOR PLANS

Permit Drawing
Sheet 9 of 12

5/14/99

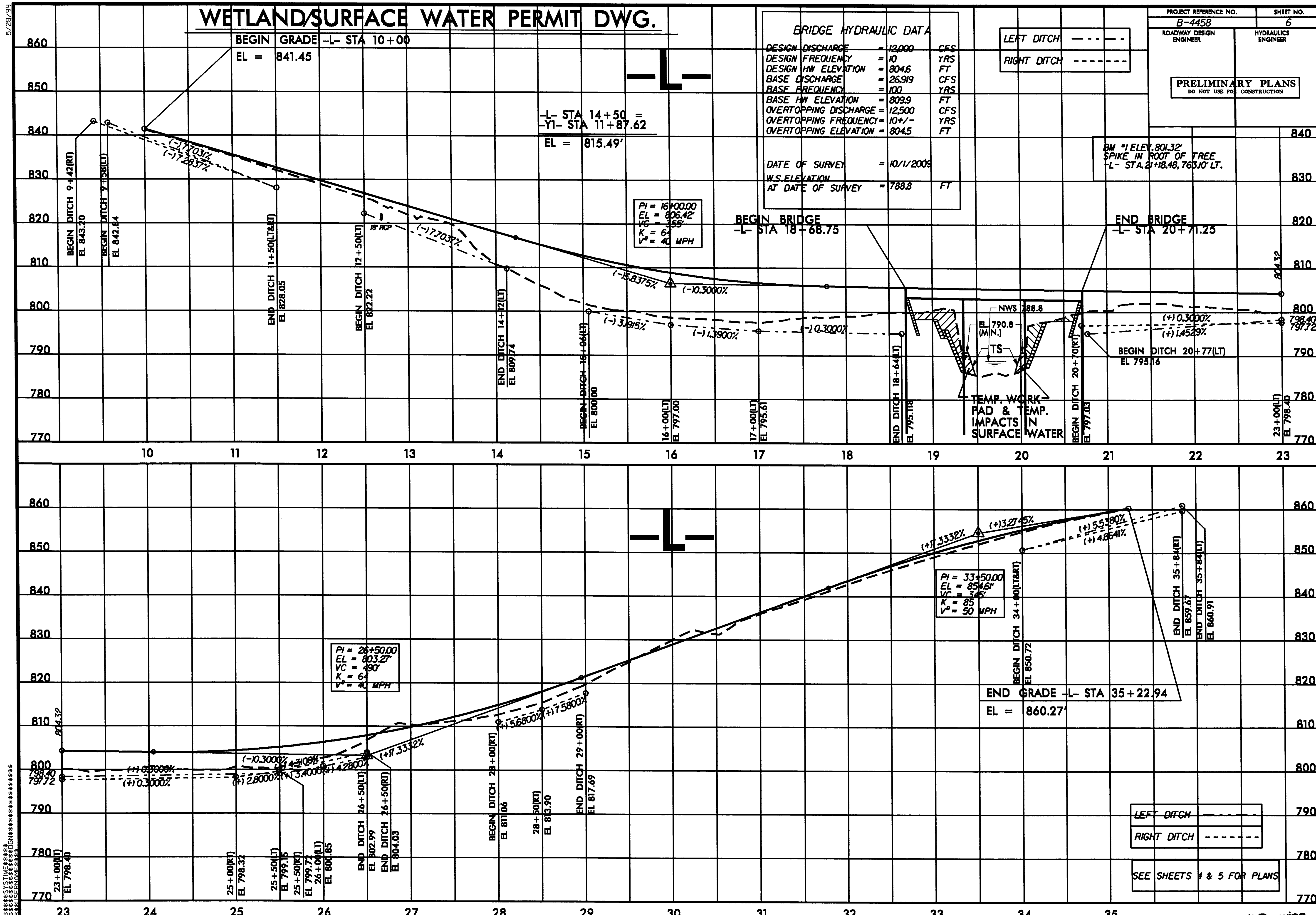
WETLAND/SURFACE WATER PERMIT DWG.

PROJECT REFERENCE NO.	SHEET NO.
B-4458	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	12,000	CFS
DESIGN FREQUENCY	=	10	YRS
DESIGN HW ELEVATION	=	804.6	FT
BASE DISCHARGE	=	26,919	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	809.9	FT
OVERTOPPING DISCHARGE	=	12,500	CFS
OVERTOPPING FREQUENCY	=	10+/-	YRS
OVERTOPPING ELEVATION	=	804.5	FT
DATE OF SURVEY	=	10/1/2009	
W.S. ELEVATION AT DATE OF SURVEY	=	788.8	FT



Permit Drawing
Sheet 10 of 12

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	Rogers Braudus Earl & Linda D.	3523 Rocky Ford Rd. Newton NC 28658-8854
2	Neill Properties, LLC	PO Box 3916 Hickory nc 28603-3916

NCDOT

DIVISION OF HIGHWAYS

CATAWBA COUNTY

PROJECT: 38375.1.1 (B-4458)

BRIDGE 95 OVER THE

SOUTH FORK CATAWBA RIVER

ON ROCKY FORD RD (SR 2019)

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: CAMA Permanent Fill In Wetlands (ac)	404 Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanen SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- STA 20+03 TO	BANK STABILIZATION							<0.01		114'		
	-L- STA 20+17												
1	-L- STA 19+34 TO	TEMP. WORK PAD								0.02			
	-L- STA 20+10												
2	-L- STA 18+91 TO	BANK STABILIZATION							<0.01		18'		
	-L- STA 19+10												
TOTALS:			0.00	0.00	0.00	0.00	0.00	0.00	<0.01	0.02	132	0.00	0.00

NOTE:

Permanent impacts in surface water due to proposed bridge interior bents = 42.4 Sq. ft.

N.C.D.O.T.
DIVISION OF HIGHWAYS
CATAWBA COUNTY
PROJECT: 38375.1.1 (B-4458)
BRIDGE NO. 95 ON ROCKY
FORD RD. (SR 2019) OVER
THE SOUTH FORK CATAWBA RIVER

SHEET 10 OF 1((02/08/2012)

ATN Revised 3/31/05

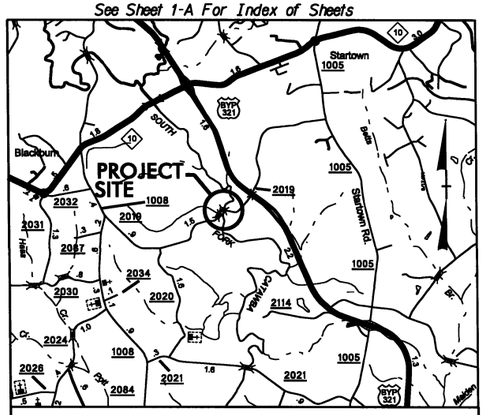
Permit Drawing Sheet 12 of 18

09/08/99

TIP PROJECT: B-4458

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CATAWBA COUNTY

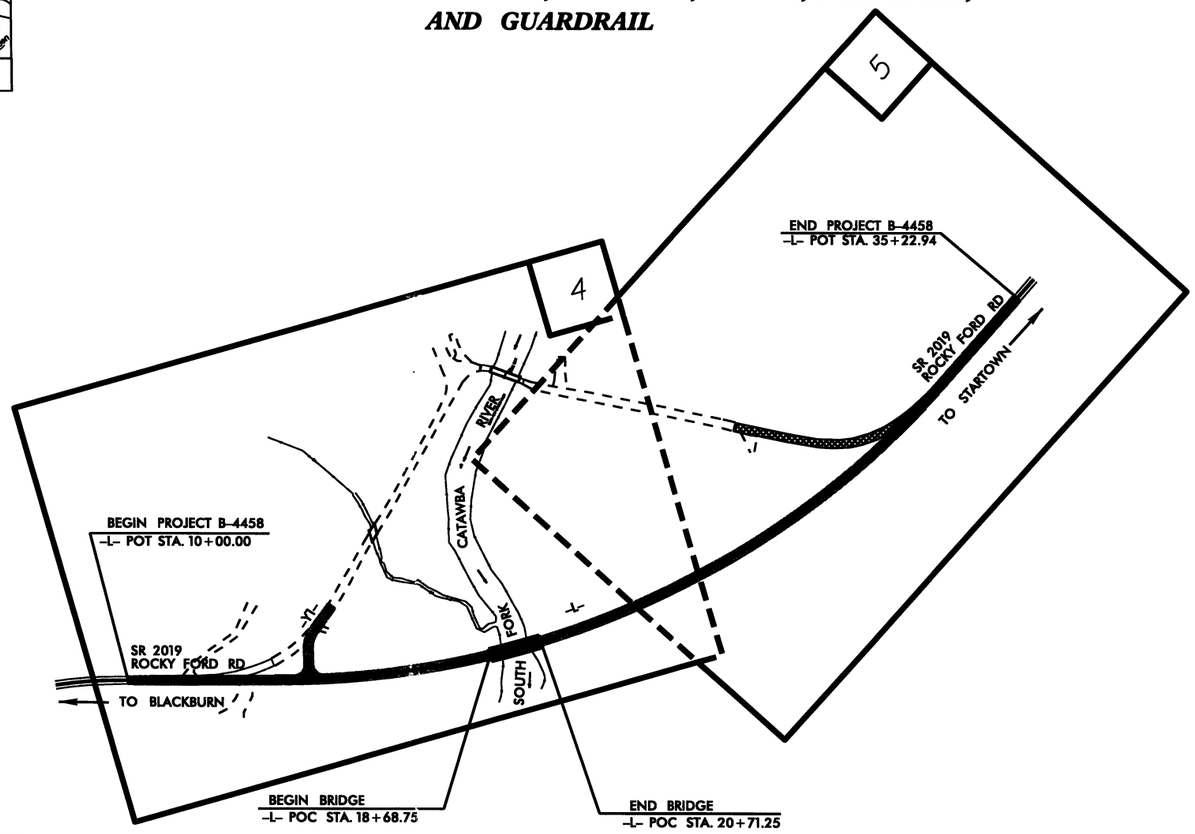
LOCATION: BRIDGE NO 95 ON ROCKY FORD RD (SR 2019) OVER THE SOUTH FORK CATAWBA RIVER

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4458	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
38375.1.1	BRZ-2019 (2)	PE
38375.2.1	BRZ-2019 (2)	R/W, UTIL

NC GRID
NAD 83



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 1008
ADT 2030 = 2700
DHV = 14 %
D = 55 %
T = 3 % *
V = 50 MPH
FUNC. CLASS = LOCAL
* TTST 1% DUAL 2%
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4458 = 0.440 MI

LENGTH STRUCTURE TIP PROJECT B-4458 = 0.038 MI

TOTAL LENGTH TIP PROJECT B-4458 = 0.478 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 18, 2011

LETTING DATE:
NOVEMBER 20, 2012

JASON MOORE, PE
PROJECT ENGINEER

BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

17-NOV-2011 11:24
R:\Roadway\Proj\b4458_rdy_tsh.dgn
$$$$USERNAME$$$$

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-4458	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — EPM
- Parcel/Sequence Number — 23
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FWL
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

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

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

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

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

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

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

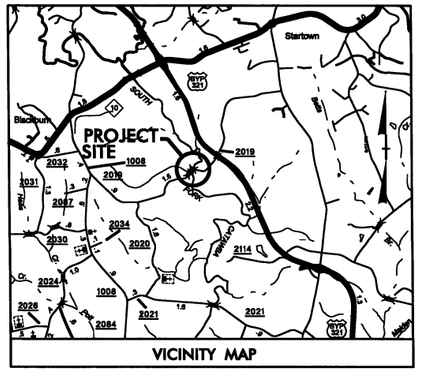
MISCELLANEOUS:

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

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4458	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4458



BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL3	BL-3	685285.1370	1318532.8263	850.85	8+38.52	13.46 LT
BL4	BL-4	685321.0416	1319075.8174	817.44	13+80.27	37.82 LT
BL5	BL-5	685649.7024	1319324.1235	800.53	16+76.01	349.86 LT
BL6	BL-6	686023.2718	1319551.2938	800.72	20+72.32	664.88 LT
B44582	GPS B4458-2	685847.3240	1320500.4940	826.42	29+56.60	31.40 LT
B44581	GPS B4458-1	686272.8120	1320978.9420	861.94	OUTSIDE PROJECT LIMITS	

****

BM#1 ELEVATION - 801.32'
N 686126. E 1319550.
L STATION 21+18 763' LEFT
8" SPIKE IN THE ROOT OF A TREE

****

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4458-2"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 685847.3240(ft) EASTING: 1320500.4940(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0001428500
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4458-2" TO -L- STATION 10+00.00 IS
S 72°35'09" W 1891.44'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B4458_LS_CONTROL.TXT

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

- *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
  PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
  NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
  SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

17-NOV-2011 11:24
R:\Roadway\Proj\b4458_ls_1-C.dgn
$$$$USERNAME$$$$

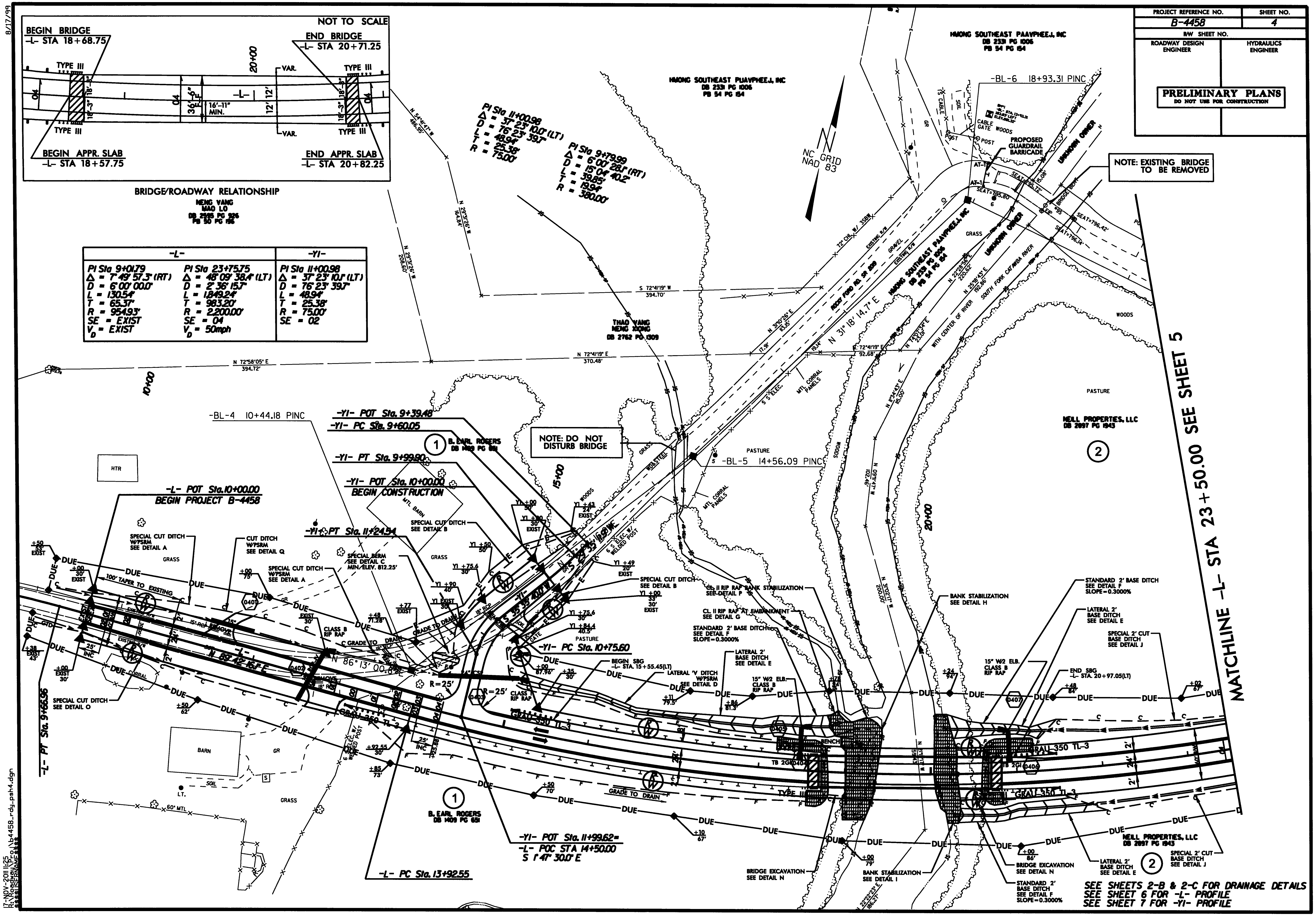
PROJECT REFERENCE NO.	SHEET NO.
B-4458	4

R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99



-L-		-YI-
PI Sta 9+01.79	PI Sta 23+75.75	PI Sta 11+00.98
Δ = 7° 49' 57.3" (RT)	Δ = 48° 09' 38.4" (LT)	Δ = 37° 23' 10.1" (LT)
D = 6° 00' 00.0"	D = 2° 36' 15.7"	D = 76° 23' 39.7"
L = 130.54'	L = 1,849.24'	L = 48.94'
T = 65.37'	T = 983.20'	T = 25.38'
R = 954.93'	R = 2,200.00'	R = 75.00'
SE = EXIST	SE = 04	SE = 02
V_D = EXIST	V_D = 50mph	

SEE SHEETS 2-B & 2-C FOR DRAINAGE DETAILS
SEE SHEET 6 FOR -L- PROFILE
SEE SHEET 7 FOR -YI- PROFILE

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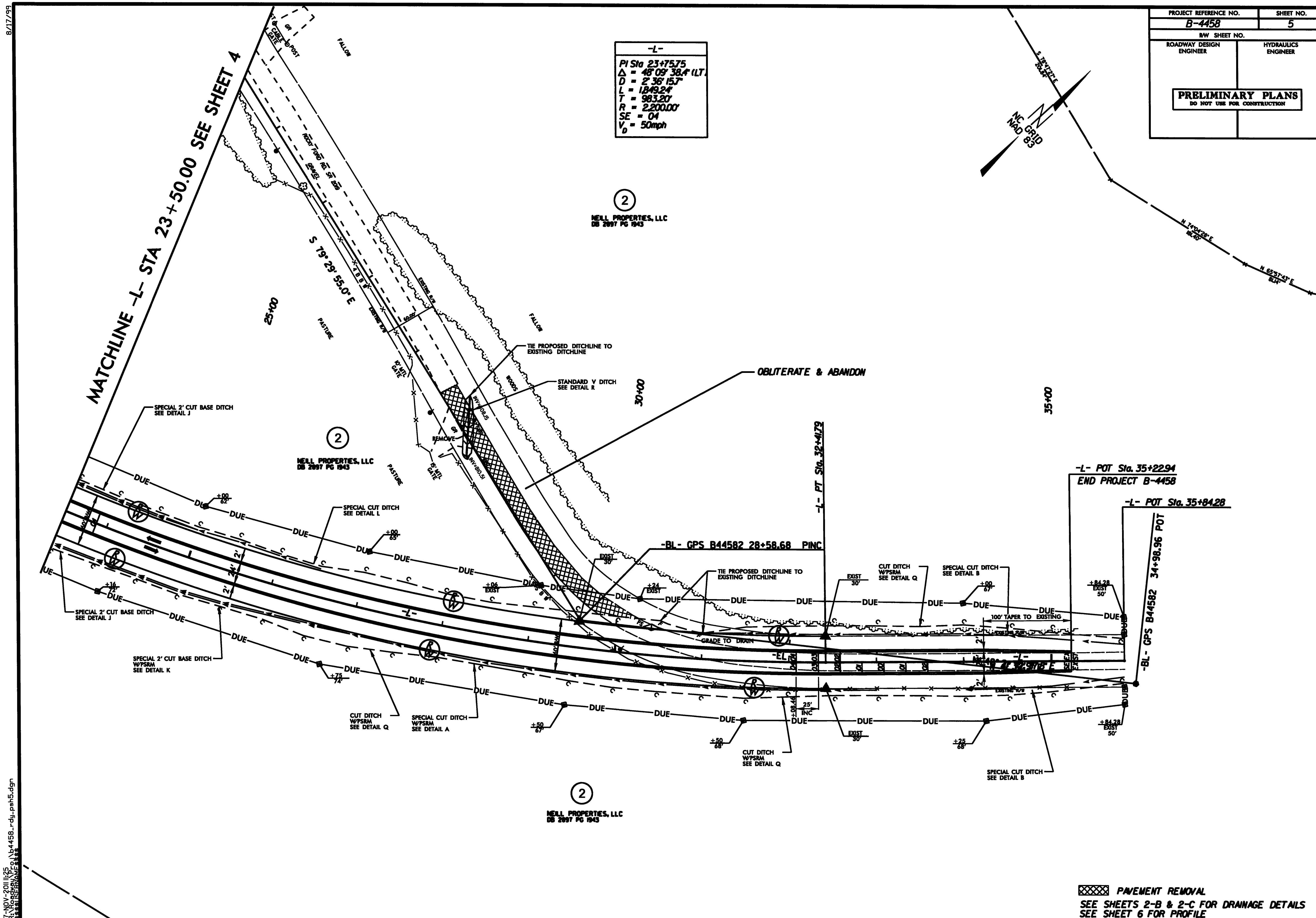


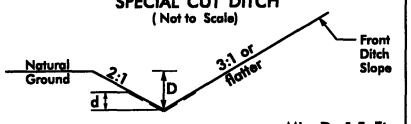
▨ PAVEMENT REMOVAL

SEE SHEETS 2-B & 2-C FOR DRAINAGE DETAILS
SEE SHEET 6 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
B-4458	2-B
SW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

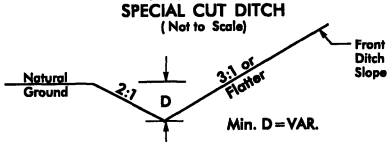
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



Min. D=1.5 Ft.
Max d=1.5 Ft.
Type of Liner= PSRM

-L- STA. 9+58 TO STA. 11+50(LT)
-L- STA. 12+50 TO STA. 14+12(LT)
-L- STA. 28+00 TO STA. 29+00(RT)

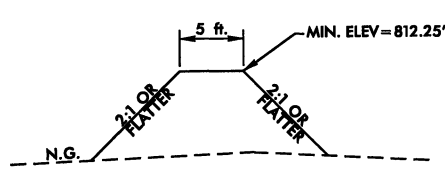
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D=VAR.

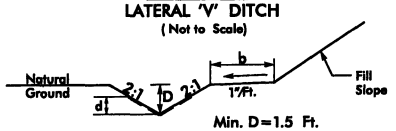
-L- STA. 34+00 TO STA. 35+84(LT)
-L- STA. 34+00 TO STA. 35+84(RT)
-Y1- STA. 9+45 TO STA. 10+50(RT)
-Y1- STA. 9+50 TO STA. 10+50(LT)

DETAIL C
SPECIAL BERM
(Not to Scale)



-Y1- STA. 11+37.5(RT)

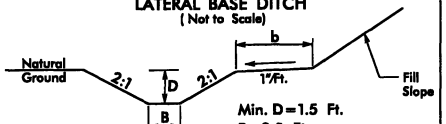
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)



Min. D=1.5 Ft.
Max. d=1.5 Ft.
b=5.0 Ft.
Type of Liner= PSRM

-L- STA. 15+06 TO STA. 17+00(LT)

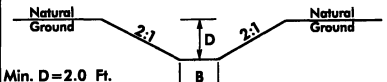
DETAIL E
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

-L- STA. 17+00 TO STA. 18+64(LT)
-L- STA. 20+70 TO STA. 21+50(RT)
-L- STA. 20+77 TO STA. 21+50(LT)

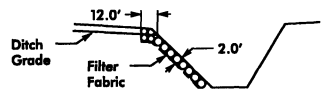
DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D=2.0 Ft.
B=2.0 Ft.
DDE=238 CU. YDS.

-L- STA. 18+64 TO STA. 18+93.5(LT)
-L- STA. 20+13.50 TO STA. 20+77(LT)
-L- STA. 20+24.50 TO STA. 20+70(RT)

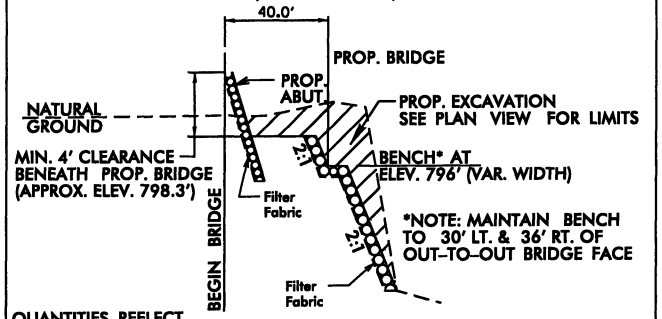
DETAIL G
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner=52 TONS,CL. II Rip-Rap
Filter Fabric=58 SQ. YDS. DDE=37 CU. YDS.

-L- STA. 18+82(LT) TO STA. 18+98(LT)

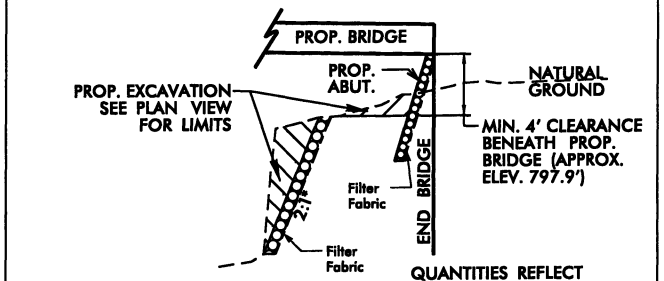
DETAIL H
ABUTMENT EXCAVATION & BANK STABILIZATION
(NOT TO SCALE)



QUANTITIES REFLECT BANK STABILIZATION ONLY
Type of Liner=200 TONS, CL. II Rip-Rap
DDE=513 CU. YDS. Filter Fabric=221 SQ. YDS.

-L- STA. 18+70

DETAIL I
ABUTMENT EXCAVATION & BANK STABILIZATION
(NOT TO SCALE)



*NOTE: MAINTAIN 2:1 LAID BACK BANKS FROM OUT-TO-OUT BRIDGE FACE. BEYOND PROP. BRIDGE, TRANSITION TO EXISTING CHANNEL BANKS AT EXTENTS DEPICTED IN PLAN VIEW.

QUANTITIES REFLECT BANK STABILIZATION ONLY
DDE=439 CU. YDS.
Type of Liner=305 TONS, CL. II Rip-Rap
Filter Fabric=363 SQ. YDS.

-L- STA. 20+70

SEE SHEETS 4 & 5 FOR PLANS

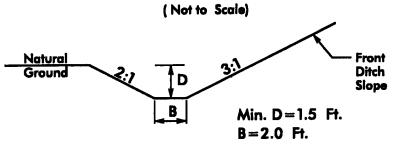
5/14/99

IT-R107-20H1448_B-4458_hyd_dtl-n.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4458	2-C
SW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NO RIGHT USE FOR CONSTRUCTION

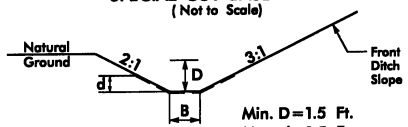
DETAIL J
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.

-L- STA. 21+50 TO STA. 24+50(LT)
-L- STA. 21+50 TO STA. 24+50(RT)

DETAIL K
SPECIAL CUT BASE DITCH
(Not to Scale)

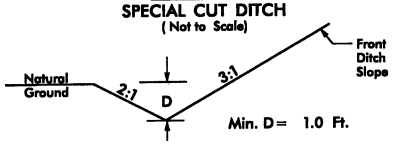


Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.

Type of Liner= PSRM

-L- STA. 24+50 TO STA. 26+50(RT)

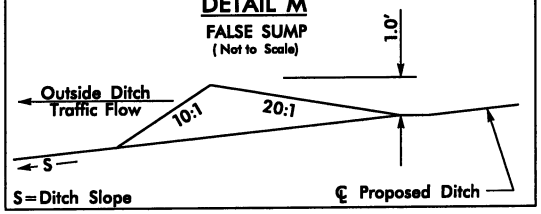
DETAIL L
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1.0 Ft.

-L- STA. 24+50 TO STA. 26+50(LT)

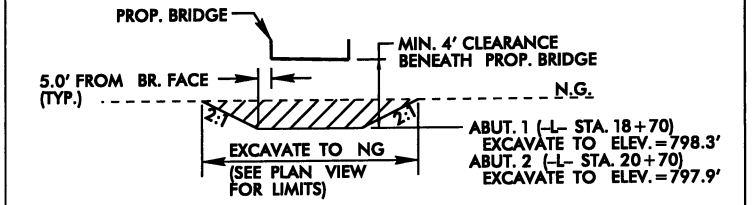
DETAIL M
FALSE SUMP
(Not to Scale)



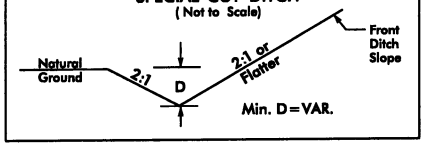
-L- STA. 30+40(LT)

EXCAVATION DETAIL N

DENOTES EXCAVATION
EST. 274 C.Y. TOTAL



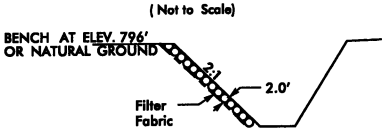
DETAIL O
SPECIAL CUT DITCH
(Not to Scale)



Min. D=VAR.

-L- STA. 9+42 TO STA. 11+50(RT)

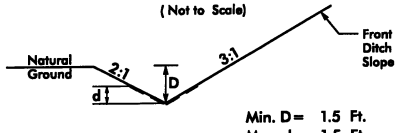
DETAIL P
BANK STABILIZATION
(Not to Scale)



Type of Liner=69 TONS,CL. II Rip-Rap
Filter Fabric=77 SQ. YDS. DDE=62 CU. YDS.

-L- STA. 19+09(LT) TO STA. 19+42(LT)

DETAIL Q
CUT DITCH
(Not to Scale)

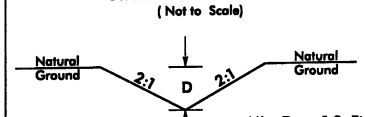


Min. D= 1.5 Ft.
Max. d= 1.5 Ft.

Type of Liner= PSRM

-L- STA. 11+50 TO STA. 12+50(LT)
-L- STA. 26+50 TO STA. 28+00(RT)
-L- STA. 29+00 TO STA. 33+00(RT)
-L- STA. 31+00 TO STA. 34+00(LT)

DETAIL R
STANDARD 'V' DITCH
(Not to Scale)



DDE=34 CU. YDS.

Min. D= 1.0 Ft.

-L- STA. 27+90 (LT)

SEE SHEETS 4 & 5 FOR PLANS