STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

May 7, 2013

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

ATTN: Ms. Loretta Beckwith
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 33 and 13** for the proposed replacement of Bridge No. 1 over Hunting Creek on SR 1512 (Amherst Road) in Burke County, Federal Aid Project No. BRZ-1512(5), Division 13, WBS 42294.1.1, TIP No. B-5135.

Dear Madam:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 1 over Hunting Creek on SR 1512 with a two-span cored slab bridge on the existing alignment. Traffic will be maintained during construction via an off-site detour.

There will be 49 linear feet of stream bank stabilization and <0.01 acre (40 linear feet) of temporary stream impacts due to a temporary causeway for construction of a new interior bent.

Please see enclosed copies of the Pre-Construction Notification (PCN), stormwater management plan, permit drawings and design plans for the above-referenced project. The Programmatic Categorical Exclusion (PCE) was completed in June 2012 and 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: 919-707-6000
FAX: 919-212-5785
WEBSITE:NCDOT.GOV

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

This project is located in a trout county, therefore comments from the NCWRC will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachment, NCDOT hereby requests NCWRC Review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

This project calls for a letting date of November 19, 2013 and a review date of October 1, 2013; 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://connect.ncdot.gov/resources/Environmental. If you have any questions or need additional information, please call Erin Cheely at (919) 707-6108.

Sincerely,

E. L. Lusk

for 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: 33 13	or General Permit (GP) number:	
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 #1 over Hunting Creek on SR 1512
2b. County:	Burke
2c. Nearest municipality / town:	Morganton
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-5135

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) 707-6108
3g. Fax no.:	(919) 212-5785
3h. Email address:	ekcheely@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: 35.76024 (DD.DDDDDD)	Longitude: - 81.65496 (-DD.DDDDDD)
1c. Property size:	0.5 acre	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Hunting Creek	
2b. Water Quality Classification of nearest receiving water:	WS-IV	
2c. River basin:	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: Land use in the vicinity consists of about 30% forest land (including mixed hardwood forests), 65% developed or disturbed lands (roadsides, utility corridors and residential areas) and 5% cultivated land (agricultural fields and tree farms).		
3b. List the total estimated acreage of all existing wetlands on the property: No wetlands within construction limits.		
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 115		
3d. Explain the purpose of the proposed project: The purpose of this project is to replace a functionally obsolete bridge. Sufficiency rating 12.9 of 100 and deck geometry 2 of 9.		
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 141-foot, two-span timber and steel bridge with a 150-foot, two-span cored slab bridge on the existing alignment while maintaining traffiic off-site 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: Only perennial streams – no JD needed earlier	☐ 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: NCDOT 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	
				2g. **Total wetland impacts**	0 Permanent 0 Temporary

2h. Comments: No wetlands located within the construction footprint of this project.

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	Bank Stabilization	Hunting Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	18	9
Site 1 ☒ P ☐ T	Bank Stabilization	Hunting Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	18	40
Site 1 ☐ P ☒ T	Temporary Causeway	Hunting Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	18	<0.01ac (40 feet)
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	49 Perm <0.01 ac Temp (40 feet Temp)

3i. Comments: 9 feet of bank stabilization for ditch outlet protection in NW quadrant, 40 feet of bank stabilization under bridge left after removal of temporary causeway. The temporary causeway is needed for the installation of the new bents. There will be 30 square feet of impacts due to the new bents, which are included in the bank stabilization footprint.

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	0 Permanent 0 Temporary

4g. Comments: No open waters.

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: This project is not located within a protected buffer area.

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 will span the creek and will be constructed on the existing alignment. Bridge deck drainage will not be allowed to discharge directly into the water. The roadway grade on the new structure will be approximately the same as the existing structure. The roadway drainage is treated through overland flow and grassed shoulder and fill slopes.

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

Best Management Practices (BMPs) will be utilized during construction to attempt to reduce the stormwater impacts to the receiving stream due to erosion and runoff. Traffic will be detoured off-site during construction.

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: Only temporary and bank stabilization impacts.
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☐ Corps
2c. If yes, which mitigat ion 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:	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold
4d. Buffer mitigation requested (DWQ only):	0 square feet
4e. Riparian wetland mitigation requested:	0 acres
4f. Non-riparian wetland mitigation requested:	0 acres
4g. Coastal (tidal) wetland mitigation requested:	0 acres

4h. Comments: The NCDOT does not propose mitigation for the 49 linear feet of stream bank stabilization or the <0.01 acre of temporary stream impacts. These actions do not require permanent fill in the stream bed and, therefore, under Section 404 of the Clean Water Act, do not constitute Loss of Waters of the U.S. and are not subject to compensatory mitigation. Furthermore, the proposed bank stabilization activities are necessary to prevent erosion and sedimentation, i.e. preventing bank destabilization.

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: If required from 1a, see attached buffer permit drawings.	☐ 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 N/A
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: Programmatic Categorical Exclusion (PCE) approved June 2012	☒ 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? As of December 26, 2012 the USFWS lists eight federally listed species for Burke County. One species, rock gnome lichen, was added to the list since the completion of the PCE. However, the low project elevation (1,020 to 1,060 ft) does not provide suitable habitat for this species. Of the eight listed species, marginal habitat exists for only dwarf-flowered heartleaf and small whorled pogonia. NCDOT biologists have performed surveys for these two species within the project area in April and June 2009, respectively, and none were found. Therefore, the biological conclusion for all listed species is "No Effect".		
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.)	5.7.13 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-5135 **County(ies):** Burke

General Project Information

Project No.:	B-5135	**Project Type:**	Bridge Replacement	**Date:**	12/3/2012
NCDOT Contact:	Marshall Clawson, PE	**Contractor / Designer:**	Stacey H. Bailey, PE		
Address:	NCDOT Hydraulics Unit 1590 Mail Services Ubit Raleigh, NC 27699-1590	**Address:**	5121 Kingdom Way, Suite 100 Raleigh, NC 27607		
Phone:	919-707-6713	**Phone:**	919-851-6066		
Email:	mclawson@ncdot.gov	**Email:**	sbailey@flohut.com		
City/Town:	Morganton	**County(ies):**	Burke		
River Basin(s):	Catawba	**CAMA County?**	No		
Primary Receiving Water:	Hunting Creek	**NCDWQ Stream Index No.:**	11-36-(0.7)		
NCDWQ Surface Water Classification for Primary Receiving Water	**Primary:**	Water Supply IV (WS-IV)			
	Supplemental:				
Other Stream Classification:					
303(d) Impairments:	biological impairment	Aquatic Life			
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	0.095 mi	**Surrounding Land Use:**	Rural
	Proposed Project	**Existing Site**	
Project Built-Upon Area (ac.)	0.74 ac.	0.68 ac.	
Typical Cross Section Description:	Two 11' lanes with 2' paved shoulder.	Two 10' lanes, no paved shoulder.	
Average Daily Traffic (veh/hr/day):	Design/Future: 2830 (2013) / 5630 (2039)	Existing: 2400	
General Project Narrative:	The purpose of this project is to replace Burke County Bridge No. 1 on SR 1512 (Amherst Road) over Hunting Creek. Bridge No. 1 is 141 feet long. The replacement structure will be a bridge approximately 150 feet long providing a minimum 28 feet clear deck width. The roadway grade on the new structure will be approximately the same as the existing structure. During construction traffic will use an off-site detour. There is no direct dischage of roadway drainage into Hunting Creek. The roadway drainage is treated through overland flow and grassed shoulder and fill slopes.		

References

Highway Stormwater Program

(Version 1.2; Released September 2011)

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

Project/TIP No.: B-5135 **County(ies):** Burke

Project Environmental Summary

Surface Water Impacts

Sheet No.	Station (From / To)	Feature Impacted	Water / Wetland / Buffer Type	Receiving Surface Water Name	NRTR Map ID	NCDWQ Stream Index	NCDWQ Surface Water Classification	303(d) Impairments	Type of Impact	Existing SCM	Proposed SCM
4	-L- 13+01 -L- 13+40	Stream	Perennial	Hunting Creek		11-36-(0.7)	WS-IV	biological impairment	Stabilization	N/A	NA

* List all stream and surface water impact locations regardless of jurisdiction or size.

Equalizer Pipes to be noted as a minimization of impacts.

All proposed SCMs listed must also be listed under Swales, Preformed Sour Holes and other Energy Dissipators, or Other Stormwater Control Measures.

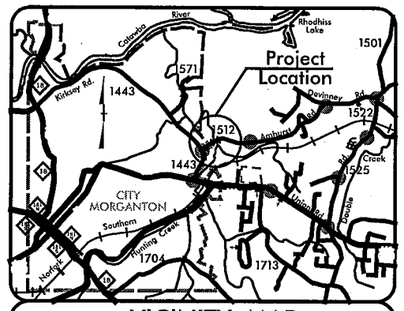
Description of Minimization of Impacts or Mitigation

Grass shoulder, grass fill slopes, along with overland flow are used on this project to treat the discharge prior to entering the jurisdictional stream.

References

09/06/99

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BURKE COUNTY

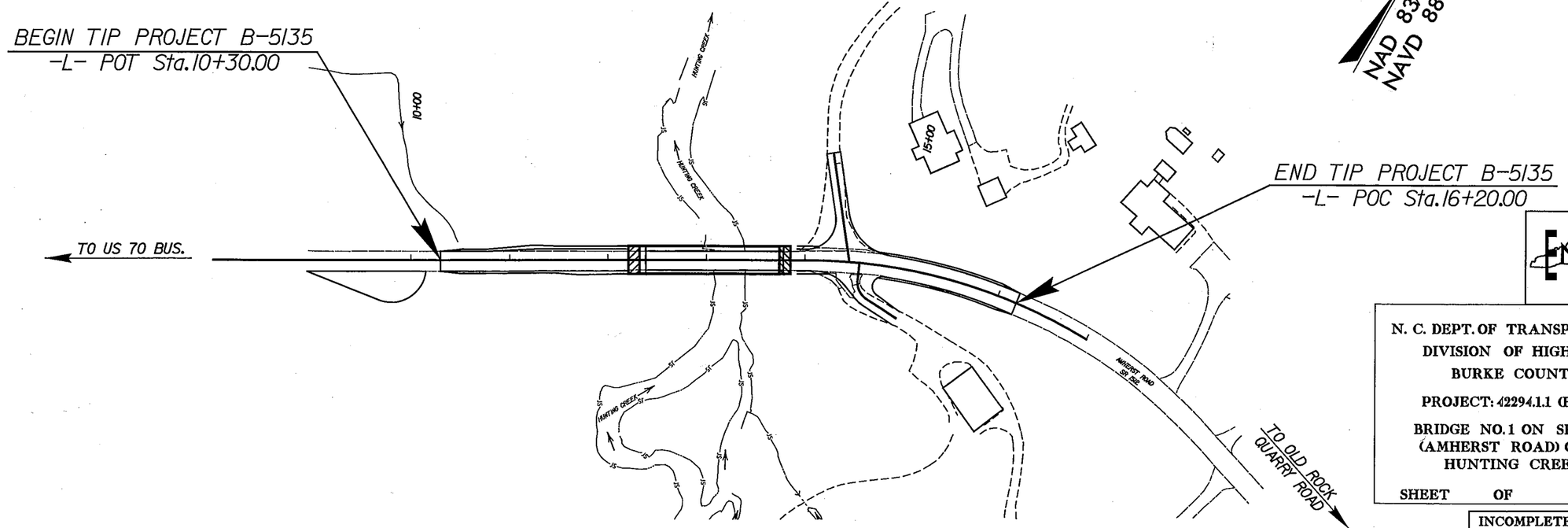
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5135	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42294.1.1	BRZ-1512(5)	PE
		R/W, UTILITIES
		CONSTRUCTION

LOCATION: REPLACEMENT OF BRIDGE No. 1 ON SR 1512 (AMHERST ROAD) OVER HUNTING CREEK.

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

WETLAND AND SURFACE WATER IMPACTS PERMIT



ENGLISH

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BURKE COUNTY

PROJECT: 42294.1.1 (B-5135)

BRIDGE NO.1 ON SR 1512 (AMHERST ROAD) OVER HUNTING CREEK

SHEET OF

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 1 of 5

TIP PROJECT: B-5135

CONTRACT: 42294.1.1

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2013 = 2,830
ADT 2039 = 5,630
DHV = 11 %
D = 60 %
T = 7 % *
V = 30 MPH
* TTST = 1 % DUAL 6 %
FUNC CLASS = LOCAL

SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5135 = 0.085 Miles.
LENGTH STRUCTURE TIP PROJECT B-5135 = 0.027 Miles.

TOTAL LENGTH TIP PROJECT B-5135 = 0.112 Miles.

PROJECT DESIGNED USING SUB-TIER GUIDELINES.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 16, 2012

LETTING DATE: NOVEMBER 19, 2013

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

STEVE KENDALL, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

12/5/2012
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Florence & Hutcheson, Inc.

8/17/99

SURFACE WATER IMPACTS

PROJECT REFERENCE NO.	SHEET NO.
B-5135	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE SHEET No. 2 FOR SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE RELATIONSHIP.

NOTE: SEE SHEETS S-1 THRU S-___ FOR STRUCTURE PLANS.

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BURKE COUNTY

PROJECT: 42294.1.1 (B-5135)

BRIDGE NO.1 ON SR 1512 (AMHERST ROAD) OVER HUNTING CREEK

SHEET OF

ENGLISH

Permit Drawing
Sheet 2 of 5

NAD 83/ NAVD88

BEGIN TIP PROJECT B-5135
-L- POT Sta.10+30.00

END TIP PROJECT B-5135
-L- POC Sta. 16+20.00

WAYNE J HAMBY (1)

WAYNE J HAMBY (2)

MARION ORDERS, ET AL
J.D. ORDERS, ET AL (3)

HORST W & NORMA JEAN FULLER (4)

HOWARD W & DOLORES C DAVIS (5)

LEE NOU HERR (6)

PAUL W PRITCHARD, JR (9)

PAUL W PRITCHARD, JR (8)

SOUA YANG AND WIFE, BAO XIONG YANG AND LIA YANG AND WIFE, XEE LEE (7)

MARION ORDERS, ET AL
J.D. ORDERS, ET AL (10)

PERMANENT IMPACTS IN SURFACE WATERS (BANK STABILIZATION)

AT EMBANKMENT
65 Tons CLASS II RIP-RAP
w/70 Sq. Yds. GEOTEXTILE
SEE DETAIL 'C'

AT EMBANKMENT
3 Tons CLASS II RIP-RAP
w/4 Sq. Yds. GEOTEXTILE
SEE DETAIL 'C'

2' LATERAL BASE DITCH
w/75 Tons CLASS 'B' RIP-RAP
w/120 Sq. Yds. GEOTEXTILE
SEE DETAIL 'B'

SPECIAL CUT DITCH
w/71 Sq. Yds. PSRM
SEE DETAIL 'A'

3 Tons CLASS 'B' RIP-RAP
-10 Sq. Yds. GEOTEXTILE

ISOLD SPECIAL CUT DITCH
w/25 Sq. Yds. PSRM
SEE DETAIL 'A'

TOE PROTECTION
w/ 75 Sq. Yds. PSRM
SEE DETAIL 'D'

TOE PROTECTION
w/ 45 Sq. Yds. PSRM
SEE DETAIL 'D'

2 Tons CLASS 'B' RIP-RAP
w/7 Sq. Yds. GEOTEXTILE

CLASS II RIP-RAP
SEE STRUCTURE PLANS

CLASS II RIP-RAP
SEE STRUCTURE PLANS

NOTE: SBG -L- Sta.12+00 TO 12+33 RT.

TEMPORARY IMPACTS IN SURFACE WATERS
TEMPORARY ROCK CAUSEWAY
LENGTH = 40'
SEE CAUSWAY DETAIL

TEMP 12" CSP

TB 2GI

EXCAVATION

REMOVE

EXISTING R/W

SR 1512 AMHERST ROAD BY DST. N 60°18'00" E

SR 1512 AMHERST ROAD

HUNTING CREEK

WOODS

GRASS

BROKEN CONC & SOIL

CONC FOUNDATION

SCATTERED TREES

BROKEN CONCRETE

BARN

DBL WTH

WELL

LEGEND

DENOTES PERMANENT IMPACTS IN SURFACE WATERS

DENOTES TEMPORARY IMPACTS IN SURFACE WATERS

PLAN VIEW
SITE 1

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, 2:1 or Flatter, Front Ditch Slope

Type of Liner= PSRM
Min. D= 1 Ft.
Max d= 1 Ft.

-L- Sta. 10+50 to Sta. 11+50 LT.
-DR 1- Sta. 10+25 to Sta. 10+75 RT.

DETAIL B
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 2:1, b, 1'Flt., Fill Slope, Filter Fabric, B

*When B is < 6.0'
Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.

Type of Liner= Class B Rip-Rap

-L- Sta. 11+50 to Sta. 12+83 LT.

DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)

5', 2', Ditch Grade, Filter Fabric, 2:1 or Flatter Fill Slope, 0'

Type of Liner= Class II Rip-Rap

-L- Sta. 12+85 to Sta. 12+95 LT.

DETAIL D
TOE PROTECTION
(Not to Scale)

Natural Ground, d, 2:1 or Flatter Fill Slope, PSRM

Type of Liner= PSRM
d= 1 Ft.

-L- Sta. 10+30 to Sta. 11+25 RT.
-L- Sta. 14+50 to Sta. 16+00 LT.

-L-

BEGIN GRADE
PI = 10+90.00
EL = 1,033.166'

BEGIN BRIDGE
PI = 12+31.81
EL = 1031.98'

℄ STA. 13+03 -L-
2 SPANS: 2@70' (24" PCCS)
SKEW = 90°
CP ELEV. = 1032.96

PI = 13+43.42
EL = 1,028.30'
VC = 465'
K = 47

END BRIDGE
PI = 13+74.19
EL = 1035.02

END GRADE
PI = 15+76.00
EL = 1,046.63'

1,046.63

(+)7.8810%

(-)11.9192%

CLASS II RIPRAP (2 FT. THICK) 1.5:1 NORMAL

CLASS II RIPRAP (2 FT. THICK) 1.5:1 NORMAL

3.5' KEY-IN (TYP.)

OHW ELEV = 1017.3

NORMAL WS ELEV = 1016.3

TEMP EXCAVATION FOR ROCK CAUSEWAY = 30 CY

BANK STABILIZATION W/ CLASS II RIP RAP

TEMPORARY ROCK CAUSEWAY TOP ELEV = 1019.3 SEE CAUSEWAY DETAIL

PROPOSED EXCAVATION =275 CY

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4,300	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1,030.7	FT
BASE DISCHARGE	=	5,500	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1,032.2	FT
OVERTOPPING DISCHARGE	=	5730	CFS
OVERTOPPING FREQUENCY	=	100+	YRS
OVERTOPPING ELEVATION	=	1,032.0	FT
DATE OF SURVEY	=	SEPT. 29, 2011	
W.S. ELEVATION AT DATE OF SURVEY	=	1,016.3	FT

-DR1-

BEGIN GRADE
PI = 10+11.28
EL = 1038.66'

PI = 10+26
EL = 1,039.11'
VC = 30'
K = 2.6

PI = 10+85
EL = 1,034.14'
VC = 50'
K = 4

END GRADE
PI = 11+10
EL = 1,035.10'

(+)3.0%

(-)8.4308%

(+)13.859%

-DR2-

BEGIN GRADE
PI = 10+11.00
EL = 1,038.42'

END GRADE
PI = 10+75
EL = 1,032.96'

(-)4.0%

(-)12.1913%

(-)0.2219%

PI = 10+25
EL = 1,037.86'
VC = 28'
K = 3.4

PI = 10+65
EL = 1,032.98'
VC = 18'
K = 1.5

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tmcrae
Microstation

8/17/99

SURFACE WATER IMPACTS

PROJECT REFERENCE NO.	SHEET NO.
B-5135	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE SHEET No. 2 FOR SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE RELATIONSHIP.

NOTE: SEE SHEETS S-1 THRU S-___ FOR STRUCTURE PLANS.

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BURKE COUNTY

PROJECT: 42294.1.1 (B-5135)

BRIDGE NO. 1 ON SR 1512 (AMHERST ROAD) OVER HUNTING CREEK

SHEET OF

ENGLISH

Permit Drawing
Sheet 3 of 5

NAD 83/NAVD88

BEGIN TIP PROJECT B-5135
-L- POT Sta. 10+30.00

END TIP PROJECT B-5135
-L- POC Sta. 16+20.00

WAYNE J HAMBY

HORST W. & NORMA JEAN FULLER

MARION ORDERS, ET AL
J.D. ORDERS, ET AL

HOWARD W. & DOLORES C. DAVIS

LEE NOU HERR

PAUL W PRITCHARD, JR

SOUA YANG AND WIFE, BAO XIONG YANG AND LIA YANG AND WIFE, XEE LEE

PERMANENT IMPACTS IN SURFACE WATERS (BANK STABILIZATION)
AT EMBANKMENT
65 Tons CLASS II RIP-RAP w/70 Sq. Yds. GEOTEXTILE
SEE DETAIL 'C'
AT EMBANKMENT
3 Tons CLASS 'I' RIP-RAP w/4 Sq. Yds. GEOTEXTILE
SEE DETAIL 'C'
2' LATERAL BASE DITCH w/75 Tons CLASS 'B' RIP-RAP w/120 Sq. Yds. GEOTEXTILE
SEE DETAIL 'B'
SPECIAL CUT DITCH w/71 Sq. Yds. PSRM
SEE DETAIL 'A'

3 Tons CLASS 'B' RIP-RAP
10 Sq. Yds. GEOTEXTILE

SPECIAL CUT DITCH w/29 Sq. Yds. PSRM
SEE DETAIL 'A'

TOE PROTECTION w/75 Sq. Yds. PSRM
SEE DETAIL 'D'

TOE PROTECTION w/45 Sq. Yds. PSRM
SEE DETAIL 'D'

2 Tons CLASS 'B' RIP-RAP w/7 Sq. Yds. GEOTEXTILE

CLASS II RIP-RAP SEE STRUCTURE PLANS

NOTE: SBG -L- Sta. 12+00 TO 12+33 RT.

TEMPORARY IMPACTS IN SURFACE WATERS
TEMPORARY ROCK CAUSEWAY
LENGTH = 40'
SEE CAUSWAY DETAIL

EXISTING R/W
TEMP 12" CSP
TB 2GI
EXCAVATION
RETAIN
PUE
F.O. WOODS
BROKEN CR & SCRP
GRASS
CON. FOUNDATION
SR 1512 AMHERST SCHOOL RD EXT
N 60°18'19"E

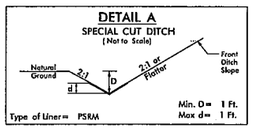
LEGEND

SW SW — DENOTES PERMANENT IMPACTS IN SURFACE WATERS

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATERS

PLAN VIEW
SITE 1

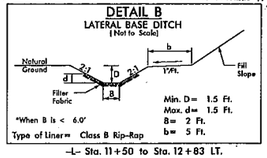
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.
Max d = 1 Ft.
Type of Liner = PSRM

-L- Sta. 10+50 to Sta. 11+50 LT.
-DR 1- Sta. 10+25 to Sta. 10+75 RT.

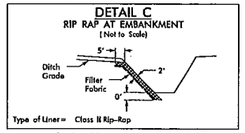
DETAIL B
LATERAL BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.
Type of Liner = Class B Rip-Rap

-L- Sta. 11+50 to Sta. 12+83 LT.

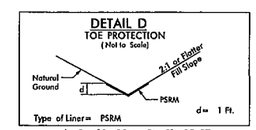
DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class II Rip-Rap

-L- Sta. 12+85 to Sta. 12+95 LT.

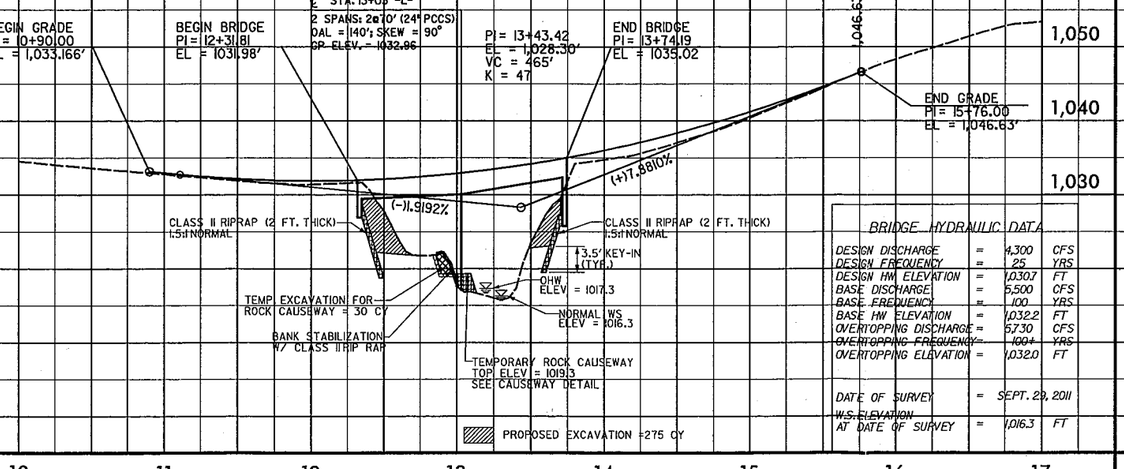
DETAIL D
TOE PROTECTION
(Not to Scale)



d = 1 Ft.
Type of Liner = PSRM

-L- Sta. 10+30 to Sta. 11+25 RT.
-L- Sta. 14+50 to Sta. 16+00 LT.

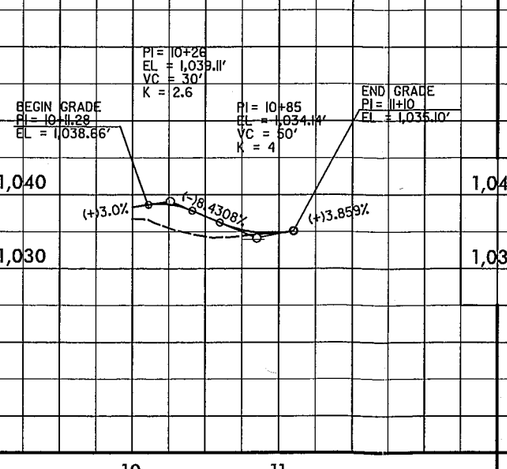
-L-



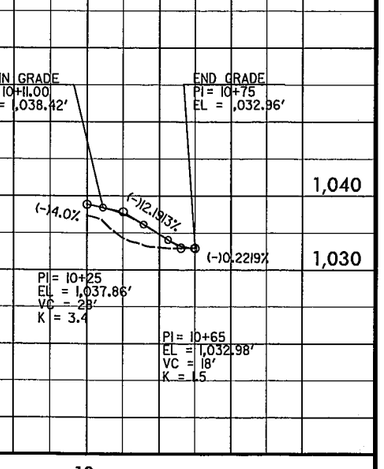
BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4,300 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	1030.7 FT
BASE DISCHARGE	=	5,500 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	1032.2 FT
OVERTOPPING DISCHARGE	=	5730 CFS
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING ELEVATION	=	1032.0 FT
DATE OF SURVEY	=	SEPT. 29, 2011
W.S. ELEVATION AT DATE OF SURVEY	=	1016.3 FT

-DR1-



-DR2-



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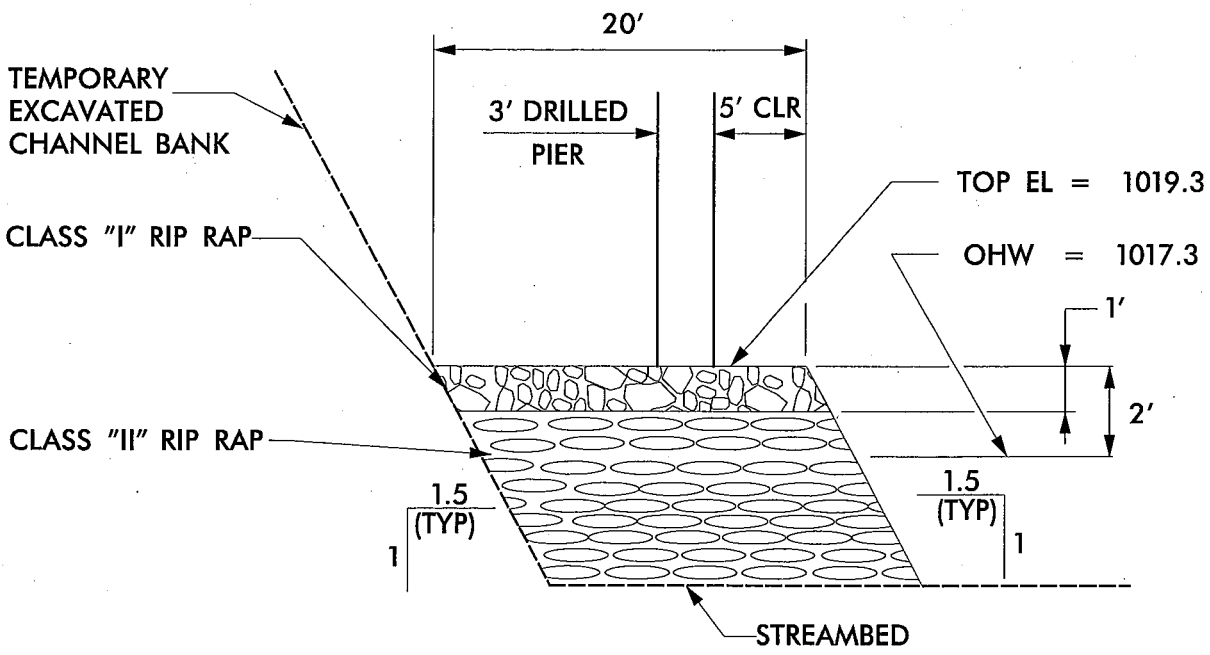
Flowers & Hutchason, Inc.

DETAIL OF CAUSEWAY FOR PROPOSED BRIDGE

FOR BENT AT STA. 13+03 –L–



VOLUME OF CLASS "II" RIP RAP
BELOW OHW: 65 CY

Permit Drawing
Sheet 4 of 5

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BURKE COUNTY

PROJECT: 42294.1.1 (B-5135)

BRIDGE NO. 1
OVER HUNTING CREEK
ON SR 1512

SHEET OF

ENGLISH

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WETLAND PERMIT IMPACT SUMMARY

Station (From/To)	Structure Size / Type	Quadrant	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)
-L- 12+87 TO 12+92	BANK STABILIZATION							< 0.01		9		
-L- 13+01 AND 13+06	BANK STABILIZATION							< 0.01		40		
-L- 13+06 AND 13+13	TEMPORARY ROCK CAUSEWAY								< 0.01		40	
TOTALS:			0.00	0.00	0.00	0.00	0.00	< 0.01	< 0.01	49	40	0

NOTES:
PERMANENT SURFACE WATER IMPACTS FOR INTERIOR BENT = 30 SQ. FT.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BURKE COUNTY
BRIDGE NO. 1
PROJECT: 42294.1.1 (B-5135)
SHEET OF

Permit Drawing
Sheet 5 of 5

SHT OF

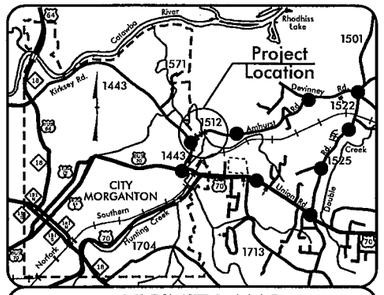
ATN Revised 3/31/05

09/08/99

TIP PROJECT: B-5135

CONTRACT: C203264

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BURKE COUNTY

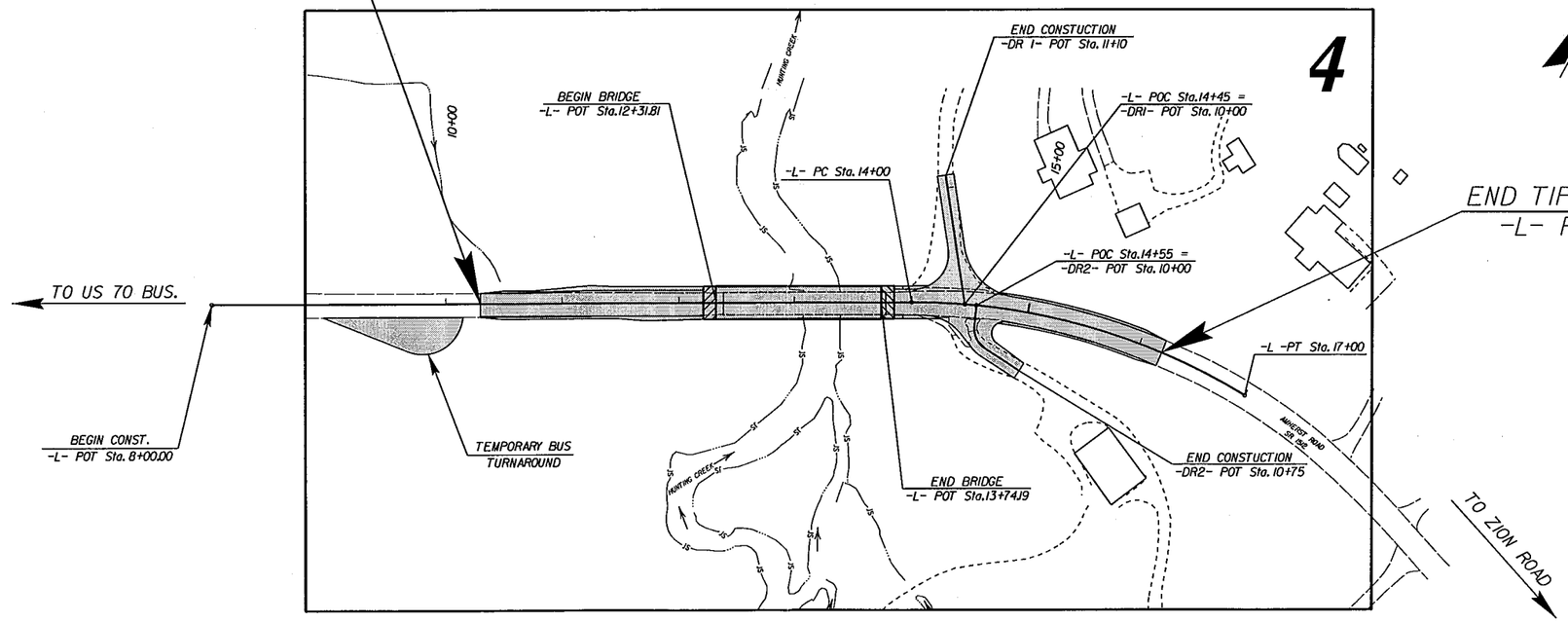
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5135	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42294.1.1	BRZ-1512(5)	PE
42294.2.1	BRZ-1512(5)	R/W, UTILITIES
42294.3.1	BRZ-1512(5)	CONSTRUCTION

LOCATION: REPLACEMENT OF BRIDGE No. 1 OVER HUNTING CREEK ON SR 1512.

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

BEGIN TIP PROJECT B-5135
-L- POT Sta.10+30.00



END TIP PROJECT B-5135
-L- POC Sta.16+20.00

NAD 83/NAVD 88

Clearing on this project shall be performed to the limits established by Method II.

This project is not within any Municipal Boundaries.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2013 = 2,830
ADT 2039 = 5,630
DHV = 11 %
D = 60 %
T = 7 % *
V = 30 MPH
* TTST = 1 % DUAL 6 %
FUNC CLASS = LOCAL

SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5135 = 0.085 Miles.
LENGTH STRUCTURE TIP PROJECT B-5135 = 0.027 Miles.

TOTAL LENGTH TIP PROJECT B-5135 = 0.112 Miles.

PROJECT DESIGNED USING SUB-TIER GUIDELINES.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 15, 2012

LETTING DATE: NOVEMBER 19, 2013

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

STEVE KENDALL, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

29-JAN-2013 16:30
R:\ROADWAY\PROJECTS\B5135_Rdy_tsh.dgn
$$$$USERNAME$$$$

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-5135	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 — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — EWLB
- Proposed Wetland Boundary — PWLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

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 — FLOW
- 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 — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- 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 Curb Ramp — CR
- 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
- 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 — TUTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
B-5135	2
ROADWAY DESIGN	PAVEMENT DESIGN ENGINEER

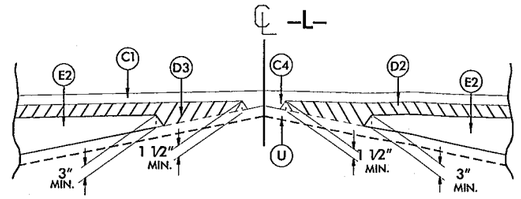
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

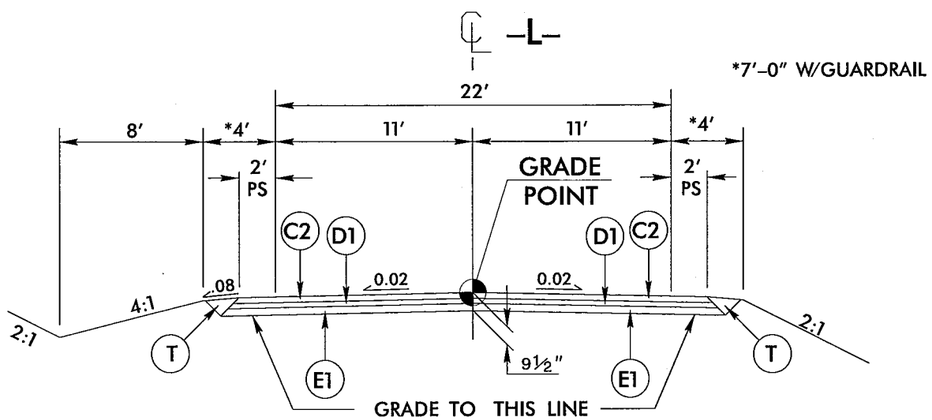
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	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 5½" IN DEPTH.
C3	PROP. APPROX. 5.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 196 LBS. PER SQ. YD. IN EACH OF THREE LAYERS.	T	EARTH MATERIAL.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	U	EXIST. PAVEMENT
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.		

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



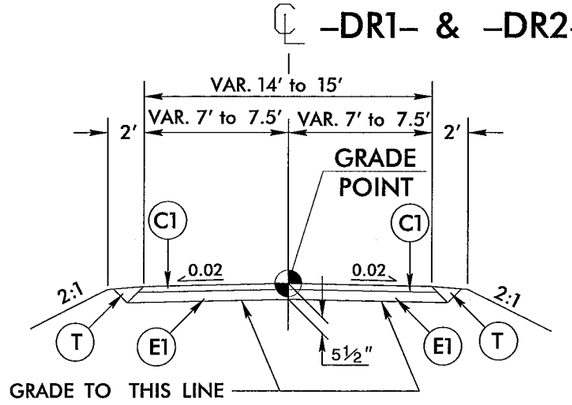
–L– Detail Showing Method of Wedging

RESURFACE AND WEDGE
–L– Sta. 10+30 to Sta. 10+90
–L– Sta. 14+05 to Sta. 16+20



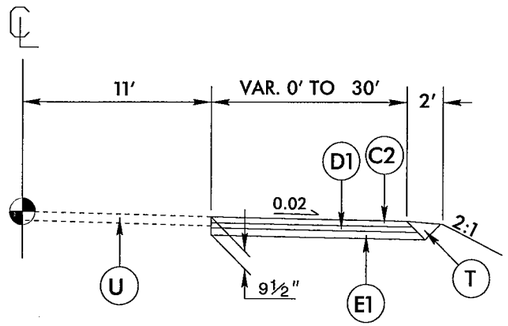
TYPICAL SECTION NO. 1

–L– Sta. 10+90.00 to Sta. 12+31.81(BEGIN BRIDGE)
–L– Sta. 13+74.19(END BRIDGE) to Sta. 16+20.00



TYPICAL SECTION NO. 2

–DR1– Sta. 10+11.00 to Sta. 11+10.00
–DR2– Sta. 10+11.00 to Sta. 10+75.00

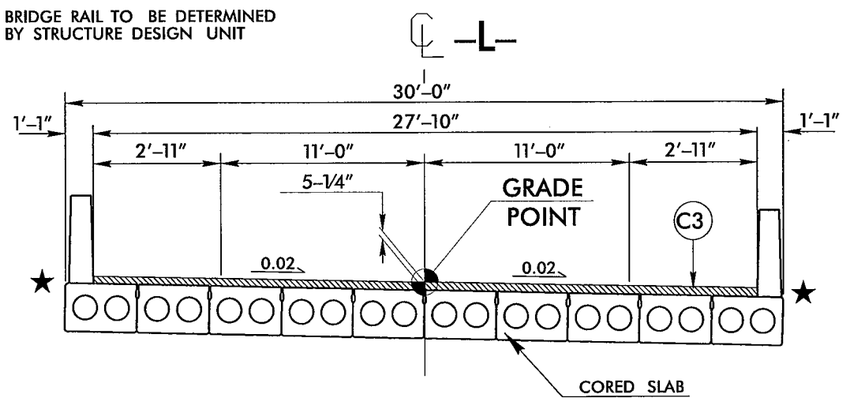


TYPICAL SECTION NO. 3

TEMPORARY BUS TURNAROUND
–L– Sta. 9+36.57 to Sta. 10+56.86

STRUCTURE TYPICAL SECTION

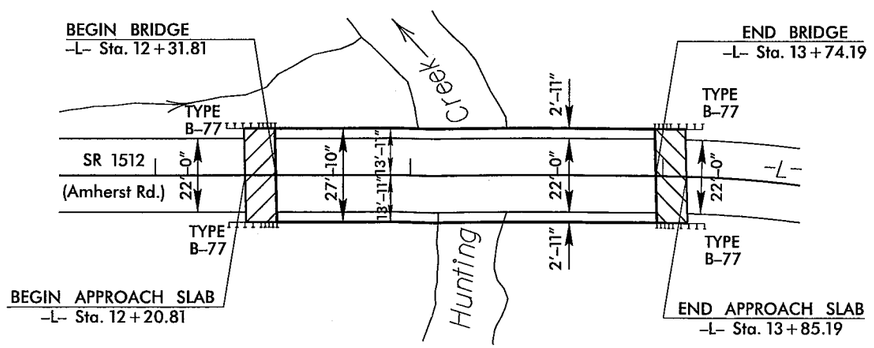
★ BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT



DESIGN DATA

ADT 2013 = 2,830
ADT 2039 = 5,630
DHV = 11 %
D = 60 %
T = 7 % *
V = 30 MPH
* TTST = 1 %
DUAL = 6%
FUNCTIONAL CLASS. = RURAL LOCAL
SUB TIER GUIDELINES

SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE WIDTH RELATIONSHIP



8/17/99

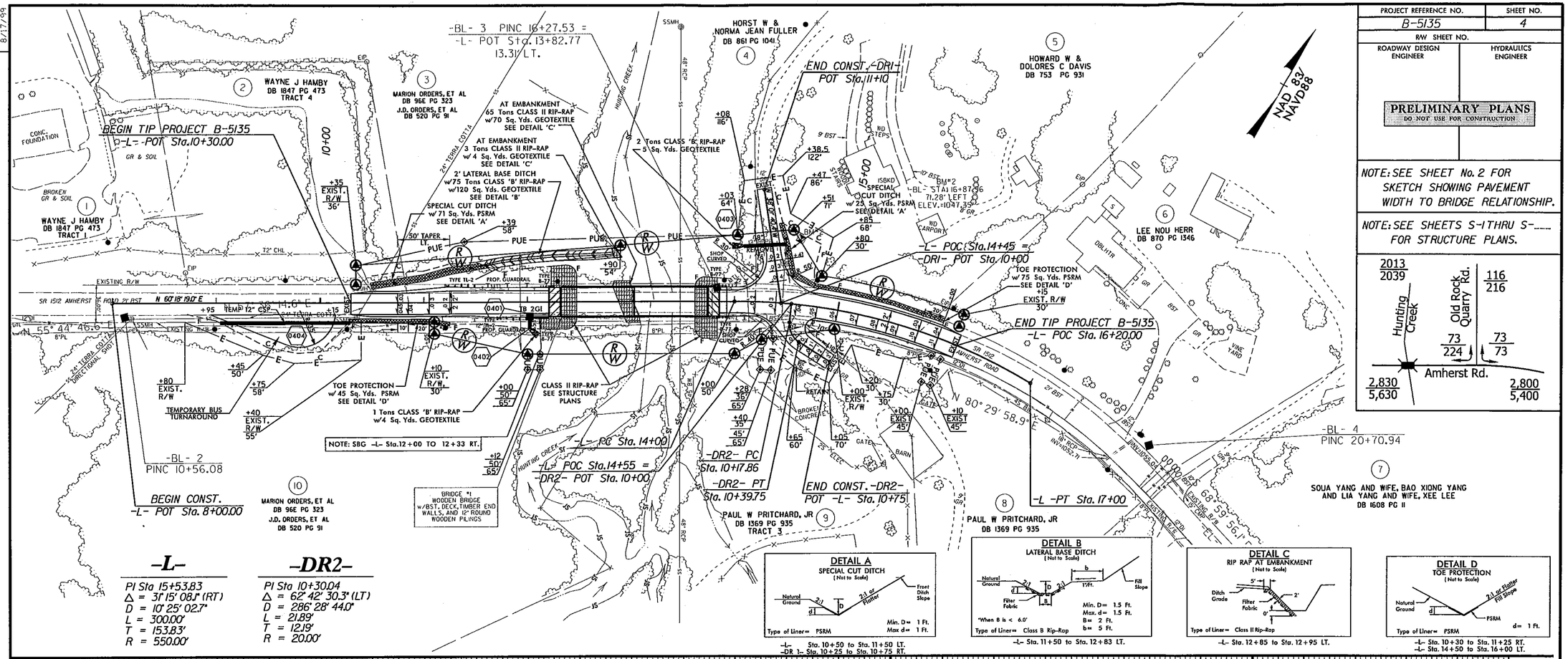
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-5135	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE SHEET No. 2 FOR SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE RELATIONSHIP.

NOTE: SEE SHEETS S-1THRU S-____ FOR STRUCTURE PLANS.

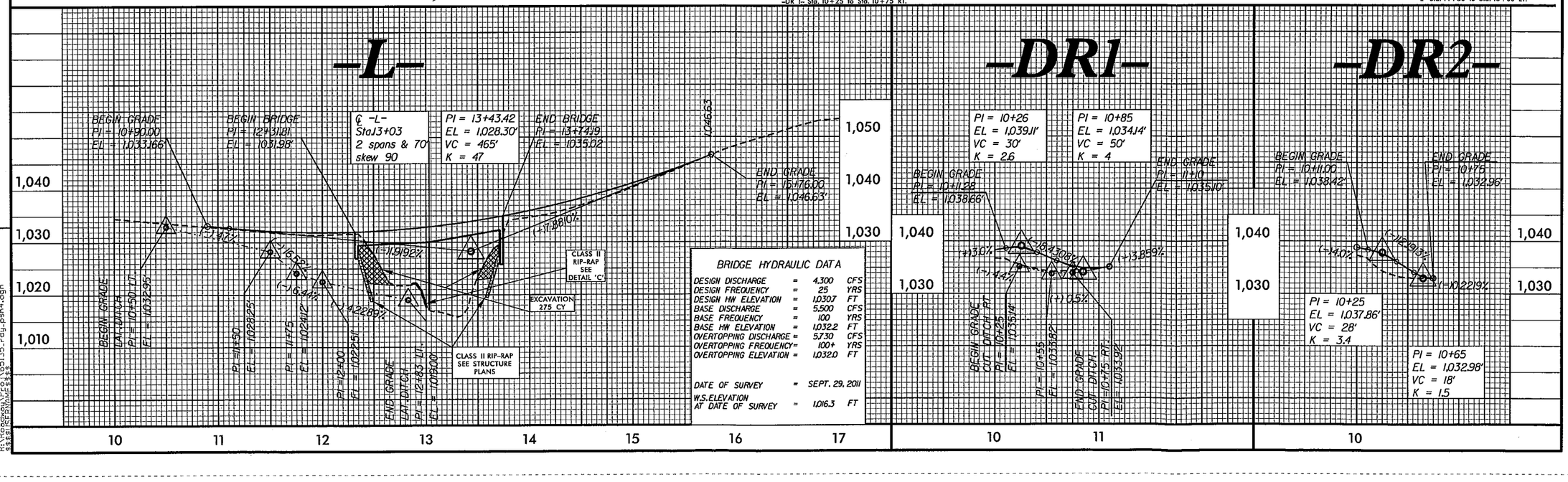


-L-

PI Sta 15+53.83
Δ = 31° 15' 08.1" (RT)
D = 10° 25' 02.7"
L = 300.00'
T = 153.83'
R = 550.00'

-DR2-

PI Sta 10+30.04
Δ = 62° 42' 30.3" (LT)
D = 286° 28' 44.0"
L = 21.89'
T = 12.19'
R = 20.00'



29-JAN-2013 16:30
R:\Projects\B-5135_rdy_psh4.dgn
$$$$CONFIG$$$$