STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

October 3, 2012

U.S. Army Corps of Engineers
Regulatory Field Office
2407 West 5th St.
Washington, NC 27889

Attention: Thomas Steffens
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide Permits (NWP) 23 & 12, Section 401 Water Quality Certification & Riparian Buffer Certification** for the replacement of Bridge No. 326 over Mill Branch Creek on SR 1525 (Cornwallis Road) in Johnston County; TIP Project B-4772; Federal Aid Project No. BRZ-1525 (9); Debit $240 from WBS No. 33769.1.1.

Please find enclosed PCN, permit drawings, stormwater management plan, and roadway plans for the above referenced project proposed by the North Carolina Department of Transportation (NCDOT). A Programmatic Categorical Exclusion (PCE) was completed for this project on January 29, 2011 and distributed shortly thereafter. Additional copies are available upon request. The NCDOT proposes to replace existing Bridge No. 326 over Mill Branch Creek on SR 1525 in Johnston County. The project involves replacement of the existing structurally deficient bridge and approaches with a new 88-foot bridge. The new bridge will include two 12-foot lanes and 9-foot 5-inch offsets. The approach roadway will extend approximately 235 feet from the west end of the new bridge and 175 feet from the east end of the new bridge. The approaches will include a 24-foot pavement width, providing two 12-foot lanes and eight-foot grass shoulders.

Proposed permanent impacts to riparian wetlands from bridge construction are 0.03 acre for fill and 0.08 acre for mechanized clearing. The project will impact riparian buffers due to bridge construction and approach work. Roadway and bridge buffer impacts involve 5,482 sq. ft. in Zone 1 and 2,075 sq. ft. in Zone 2. Utility work on aerial power lines will affect 1,888 sq. ft. in Zone 1 and 1,144 sq. ft. in zone 2. Traffic will be detoured off-site during construction.

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

TELEPHONE: 919-707-6100
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 April 16, 2013 and a review date of February 26, 2013; however, the let date may advance as additional funding becomes available.

Regulatory Approvals

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that the project be authorized by NWP 23 for bridge construction and NWP 12 for utility relocations.

Section 401 Permit: We anticipate 401 General Certification numbers 3891 and 3884 will apply to this project. NCDOT is requesting written concurrence from the North Carolina Department of Environmental and Natural Resources, Division of Water Quality. We are providing five copies of this application to the NCDWQ for their approval.

Neuse Riparian Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Neuse Riparian Buffer Authorization.

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 contact Gordon Cashin at (919) 707-6107.

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: 23 & 12	or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes	☒ No

1d. Type(s) of approval sought from the DWQ (check all that apply):

☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit

☐ 401 Water Quality Certification – Express ☒ Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No	For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.		☐ Yes ☒ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.		☐ Yes ☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?		☐ Yes ☒ No

2. Project Information

2a. Name of project:	Replacement of Bridge 326 over Mill Branch Creek on SR 1525 (Cornwallis Road)
2b. County:	Johnston
2c. Nearest municipality / town:	Clayton
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-4772

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) 707-6107
3g. Fax no.:	(919) 431-2002
3h. Email address:	gcashin@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: 35.573814 Longitude: -78.572475 (DD.DDDDDD) (-DD.DDDDDD)
1c. Property size:	7.65 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Mill Branch Creek
2b. Water Quality Classification of nearest receiving water:	C, NSW
2c. River basin:	Neuse River Basin
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Agriculture, with residential along roadways, and forested stream corridors and a pond.	
3b. List the total estimated acreage of all existing wetlands on the property: 1.38	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 702	
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 35-foot bridge with a 88-foot bridge on the existing alignment using an off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: William Wescott visited this project on 2/6/08. A preliminary JD is requested with this application.	☐ Yes ☒ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☐ Preliminary ☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	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	fill	riparian	☒ Yes ☐ No	☒ Corps ☒ DWQ	0.03
Site 1 ☒ P ☐ T	mechanized clearing	riparian	☒ Yes ☐ No	☒ Corps ☒ DWQ	0.08
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**	0.11 Perm.

2h. Comments: There will be 0.01 ac of hand clearing due to utility relocation.

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	0.0 Perm 0.0 Temp

3i. Comments:

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
			4f. Total open water impacts	0.0 Permanent 0.0 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	Bridge	Mill Branch Creek	☐ Yes ☒ No	1,822	0
B2 ☒ P ☐ T	Road crossing	Mill Branch Creek	☐ Yes ☒ No	3,660	2,075
B3 ☒ P ☐ T	Utilities - power lines	Mill Branch Creek	☐ Yes ☒ No	1,888	1,144
			6h. **Total buffer impacts**	7,370	3,219
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 longer than the existing bridge; the proposed bridge will be at approximately the same grade as the existing structure; an off site detour will be used. Slopes of 2:1 will be constructed in wetlands.

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

Top-down construction, Design Standards in Sensitive Watersheds will be implemented.

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: Due to the minimal amount of impacts, compensatory mitigation is not proposed.
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:	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 no, explain why. Comments:	☒ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ 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? USFWS County Site, NC Natural Heritage site	
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. Lusk Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	10.3.12 Date

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Gordon Cashin, NCDOT, 1598 Mail Service Center, Raleigh, NC 27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESAW-RG-L

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
TIP: B-4772 Description: Replace Bridge No. 326 over Mill Branch Creek on SR 1525 (Cornwallis Road)
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)
State: NC County/parish/borough: Johnston City: Clayton
Center coordinates of site (lat/long in degree decimal format):
Lat. 35.573814 °**N**, Long. : -78.572475 ° **W**
Universal Transverse Mercator: NA
Name of nearest waterbody: Mill Branch Creek
Identify (estimate) amount of waters in the review area:
Non-wetland waters: See table, linear feet: 702
Cowardin Class: Riverine
Stream Flow: Perennial
Wetlands: 1.38 acres.
Cowardin Class: Forested, shrub-scrub

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: N/A
Non-Tidal: N/A

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination Date:
☐ Field Determination Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit; and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☐ U.S. Geological Survey Hydrologic Atlas:
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps
☐ U.S. Geological Survey map(s). Cite scale & quad name: 1:24000;
☐ USDA Natural Resources Conservation Service Soil Survey Citation:
☐ National wetlands inventory map(s). Cite name:
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (Nation al Geodectic Vertical Datum of 1929)
☐ Photographs: ☐ Aerial (Name & Date): or ☐ Other (Name & Date):
☐ Previous determination(s). File no. and date of response letter:
☒ Other information (please specify): Figure 3 and Tables 5 & 6 from the Natural Resources Technical Report showing jurisdictional areas.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of Regulatory Project Manager (REQUIRED)	Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

Site Name	**Latitude**	**Longitude**	**Cowardin Class**	**Estimated amount of aquatic resource in review area**	**Class of aquatic resource**
WA	35.573814 °N	-78.572475 °W	PSS1FH	0.64 acre(s)	non-section 10 – wetland
WB	35.573814 °N	-78.572475 °W	PUBHH	0.74 acre(s)	non-section 10 – wetland
SA	35.573814 °N	-78.572475 °W	RUB	315 linear feet	non-section 10 – non-wetlan
SB	35.573814 °N	--78.572475 °W	RUB	387 linear feet	non-section 10 – non wetland
PA	35.573814 °N	--78.572475 °W	RUB	0.54 acre(s)	non-section 10 – non wetland
A5	35.573814 °N	--78.572475 °W	PUBHH	0.01 acre(s)	non-section 10- wetland
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal
	°N	- ° W		acre(s)	section 10 – tidal

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Determination Manual)

Project / Site: B-4772
Applicant / Owner: NCDOT
Investigator: Bailey, Calfee

Date: 11-14-07
County: Johnston
State: NC

Do normal circumstances exist on the site? Yes ✓ No ___
Is the site significantly disturbed (Atypical situation)? Yes ___ No ✓
Is the area a potential problem area? Yes ___ No ✓
(explain on reverse if needed)

Community ID: WETLAND
Transect ID: ___
Plot ID: wet form 4

VEGETATION

Dominant Plant Species	Stratum	Indicator
1. Alnus serrulata	Shrub	FacW+
2. Juncus effusus	Herb	FacW+
3. Leersia oryzoides	Herb	OBL
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-). ~ 100 %

Remarks:

HYDROLOGY

___ Recorded Data (Describe In Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: N/A (in.)

Depth to Free Water in Pit: 1" (in.)

Depth to Saturated Soil: 0" (in.)

Wetland Hydrology Indicators

Primary Indicators:
- ___ Inundated
- ✓ Saturated in Upper 12"
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators:
- ___ Oxidized Roots Channels in Upper 12"
- ✓ Water-Stained Leaves
- ___ Local Soil Survey Data
- ✓ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): Wehadkee loam, freq. flooded Drainage Class: Poorly drained

Taxonomy (Subgroup): Fluvaquentic Endoaquepts Confirm Mapped Type? Yes ___ No X

Profile Description:

Depth (inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10 YR 2/1			Silty loam
6-20+	B	10 YR 3/2			fine sandy loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed On Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes X No ___
Wetland Hydrology Present? Yes X No ___
Hydric Soils Present? Yes X No ___

Is the Sampling Point Within a Wetland? Yes X No ___

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Determination Manual)

Project / Site: B-4772
Applicant / Owner: NCDOT
Investigator: Bailey, Carlee

Date: 11-14-07
County: Johnston
State: NC

Do normal circumstances exist on the site? Yes ✓ No ___
Is the site significantly disturbed (Atypical situation)? Yes ___ No ✓
Is the area a potential problem area? Yes ___ No ✓
(explain on reverse if needed)

Community ID: UPLAND
Transect ID: ___
Plot ID: UP Form A

VEGETATION

Dominant Plant Species	Stratum	Indicator
1. Ilex opaca	Tree	FAC-
2. Acer rubrum	↓	FAC
3. Carpinus caroliniana	↓	FAC
4. Fagus grandifolia	↓	FACU
5. Smilax rotundifolia	vine	FAC
6.		
7.		
8.		

Dominant Plant Species	Stratum	Indicator
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-). ~ 60%

Remarks:

HYDROLOGY

___ Recorded Data (Describe In Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: N/A (in.)

Depth to Free Water in Pit: > 26 (in.)

Depth to Saturated Soil: > 26 (in.)

Wetland Hydrology Indicators

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12"
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators:
- ___ Oxidized Roots Channels in Upper 12"
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): Pacolet loam, 10-15% Slope PaD Drainage Class: well drained

Taxonomy (Subgroup): Typic Kanhapludults Confirm Mapped Type? Yes ___ No X

Profile Description:

Depth (inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A_1	10YR 2/2			Sandy loam
5-10	A_2	10YR 3/3			Sandy loam
10-24	E	10YR 7/4			Sandy loam
24-26+	B	10 YR 6/6			Sandy clay loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed On Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes X No ___
Wetland Hydrology Present? Yes ___ No X
Hydric Soils Present? Yes ___ No X

Is the Sampling Point Within a Wetland? Yes ___ No ___

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Determination Manual)

Project / Site: B-4772 Applicant / Owner: NCDOT Investigator: Barnes + Stanton	Date: 11/14/07 County: Johnston State: NC
Do normal circumstances exist on the site? Yes____ No____ Is the site significantly disturbed (Atypical situation)? Yes____ No____ Is the area a potential problem area? Yes____ No____ (explain on reverse if needed)	Community ID:____ Transect ID:____ Plot ID: WB wet

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	S	FAC	9.		
2. Alnus serrulata	S	FACW+	10.		
3. Miscanthus sp.	H		11.		
4. Smilax rotundifolia	H	FAC	12.		
5. Saururus cernuus	H	OBL	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-). ~ 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe In Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:

Depth of Surface Water: N/A (in.)

Depth to Free Water in Pit: 3" (in.)

Depth to Saturated Soil: 0" (in.)

Wetland Hydrology Indicators

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12"
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators:
- X Oxidized Roots Channels in Upper 12"
- X Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): Wehadkee loam, frequently flooded Drainage Class: poorly drained

Taxonomy (Subgroup): Fluvaquentic Endoaquepts **Confirm Mapped Type?** Yes ___ No X

Profile Description:

Depth (inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 4/2			sandy clay loam
6-16"	B	10YR 3/2			sandy clay loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- X Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed On Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

Peat is prevalent in lower Horizon

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes X	No ___	Is the Sampling Point Within a Wetland? Yes X No ___
Wetland Hydrology Present?	Yes X	No ___	
Hydric Soils Present?	Yes X	No ___	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Determination Manual)

Project / Site: B-4772 Applicant / Owner: NCDOT Investigator: Barnes + Stanton	Date: 11/14/07 County: Johnston State: NC
Do normal circumstances exist on the site? Yes X No ____ Is the site significantly disturbed (Atypical situation)? Yes ____ No X Is the area a potential problem area? Yes ____ No X (explain on reverse if needed)	Community ID: ____ Transect ID: ____ Plot ID: WB Upland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liquidambar styraciflua	T	FACT	9.		
2. Quercus alba	T	FACU	10.		
3. Carpinus caroliniana	S	FAC	11.		
4. Vitis spp.	V	FAC	12.		
5. Q. alba	H	FACU	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-). ~ 60%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:

Depth of Surface Water: N/A (in.)

Depth to Free Water in Pit: >16" (in.)

Depth to Saturated Soil: >16" (in.)

Wetland Hydrology Indicators

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12"
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators:
- ___ Oxidized Roots Channels in Upper 12"
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): Pacolet loam, 15-25% slopes PaE Drainage Class: well drained

Taxonomy (Subgroup): Typic Kanhapludults Confirm Mapped Type? Yes ___ No X

Profile Description:

Depth (inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A	10YR 3/6			sandy clay loam
4-7	B_1	7.5YR 4/6			clay
7-12	B_2	10YR 5/6			fine sandy clay loam
12-16"	B_3	10YR 5/6	10YR 7/1	common	silty clay

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed On Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes X No ___
Wetland Hydrology Present? Yes ___ No X
Hydric Soils Present? Yes ___ No X

Is the Sampling Point Within a Wetland? Yes ___ No X

Remarks:

WETLAND RATING WORKSHEET Fourth Version

Project Name B-4772 Nearest Road Cornwallis Rd.

County Johnston Wetland area 0.39 acres Wetland width 240 feet

Name of evaluator Barnes Date 1/29/08

Wetland location
- X on pond or lake
- X on perennial stream
- ___ on intermittent stream
- ___ within interstream divide
- ___ other: ___

Adjacent land use
(within ½ mile upstream, upslope, or radius)
- X forested/natural vegetation 80 %
- X agriculture, urban/suburban 10 %
- X impervious surface 10 %

Soil series: Wahee, frq. flooded
- ___ predominantly organic - humus, muck, or peat
- X predominantly mineral - non-sandy
- ___ predominantly sandy

Dominant vegetation
(1) Alus serrulata
(2) Juncus effusus
(3) Leersia oryzoides

Hydraulic factors
- ___ steep topography
- ___ ditched or channelized
- X total wetland width ≥ 100 feet

Flooding and wetness
- ___ semipermanently to permanently flooded or inundated
- X seasonally flooded or inundated
- ___ intermittently flooded or temporary surface water
- ___ no evidence of flooding or surface water

Wetland type (select one)*
- X Bottomland hardwood forest
- ___ Headwater forest
- ___ Swamp forest
- ___ Wet flat
- ___ Pocosin
- ___ Bog forest
- ___ Pine savanna
- ___ Freshwater marsh
- ___ Bog/fen
- ___ Ephemeral wetland
- ___ Carolina bay
- ___ Other: ___

* The rating system cannot be applied to salt or brackish marshes or stream channels

R	Water storage	3	x 4.00 =	12
A	Bank/Shoreline stabilization	5	x 4.00 =	20
T	Pollutant removal	5 **	x 5.00 =	25
I	Wildlife habitat	4	x 2.00 =	8
N	Aquatic life value	5	x 4.00 =	20
G	Recreation/Education	4	x 1.00 =	4

Wetland rating 89

** Add 1 point if in sensitive watershed and >10% nonpoint source disturbance within ½ mile upstream, upslope, or radius

STORMWATER MANAGEMENT PLAN

B-4772, WBS No. 38544.1.1
JOHNSTON COUNTY
Hydraulics Project Manager: Stephen R. Morgan, PE
Date: 9/11/2012

ROADWAY DESCRIPTION

The project involves the replacement of bridge number 326 over Mill Branch Creek on SR 1525 (Cornwallis Road) in Johnston County. The overall length of the project is 0.095 mile. The project will replace an existing 2 span 36 foot length bridge with a new single span 88 foot length, 33" Box Beam. An off-site detour will be required.

ENVIRONMENTAL DESCRIPTION

The project is located in the Neuse River. The proposed bridge is over Mill Branch Creek which is classified as C, NSW.

Approximately 0.12 acre of wetlands will be impacted.
Approximately 7557 square feet of buffer zones will be allowable impacted.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

Best Management Practices (BMPs) and measures used on the project are an attempt to reduce the stormwater impacts to the receiving stream due to erosion and runoff. BMPs used on the job are primarily non-structural and consist of methods to attenuate and disperse stormwater before entering the receiving waters. Bridge deck drainage will not be allowed to directly discharge into the water. At the beginning of the project there are two preformed scour holes (PSH) outside of Buffer Zone 2 used to disperse the flow from the ditches. At the end of the bridge deck drainage is carried in a storm drain system and then out letting onto a rip rap pad to disperse the flow.

PREFORMED SCOUR HOLES

STA 13+95 -L- LT
STA 13+73 –L- RT

BRIDGE

-L- STA 14+78
Replace existing bridge over Mill Branch Creek.

A sill is used to restrict low flow to one barrel to prevent over-widening of the stream near the culvert.

09/08/99

TIP PROJECT: B-4772

CONTRACT:

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4772	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
38544.1.1	BRZ-1525(9)	P.E.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

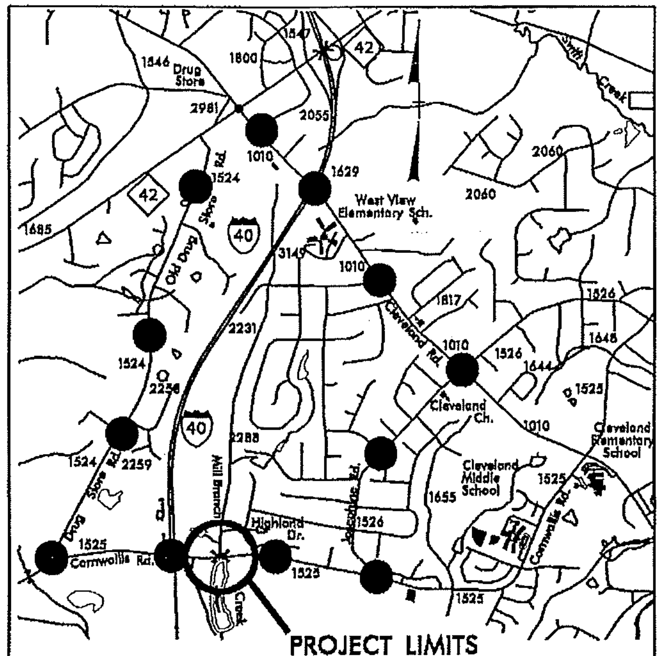
JOHNSTON COUNTY

LOCATION: BRIDGE NO. 326 OVER MILL BRANCH CREEK AND APPROACHES ON SR 1525 (CORNWALLIS ROAD)

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

WETLAND /SURFACE WATER PERMIT

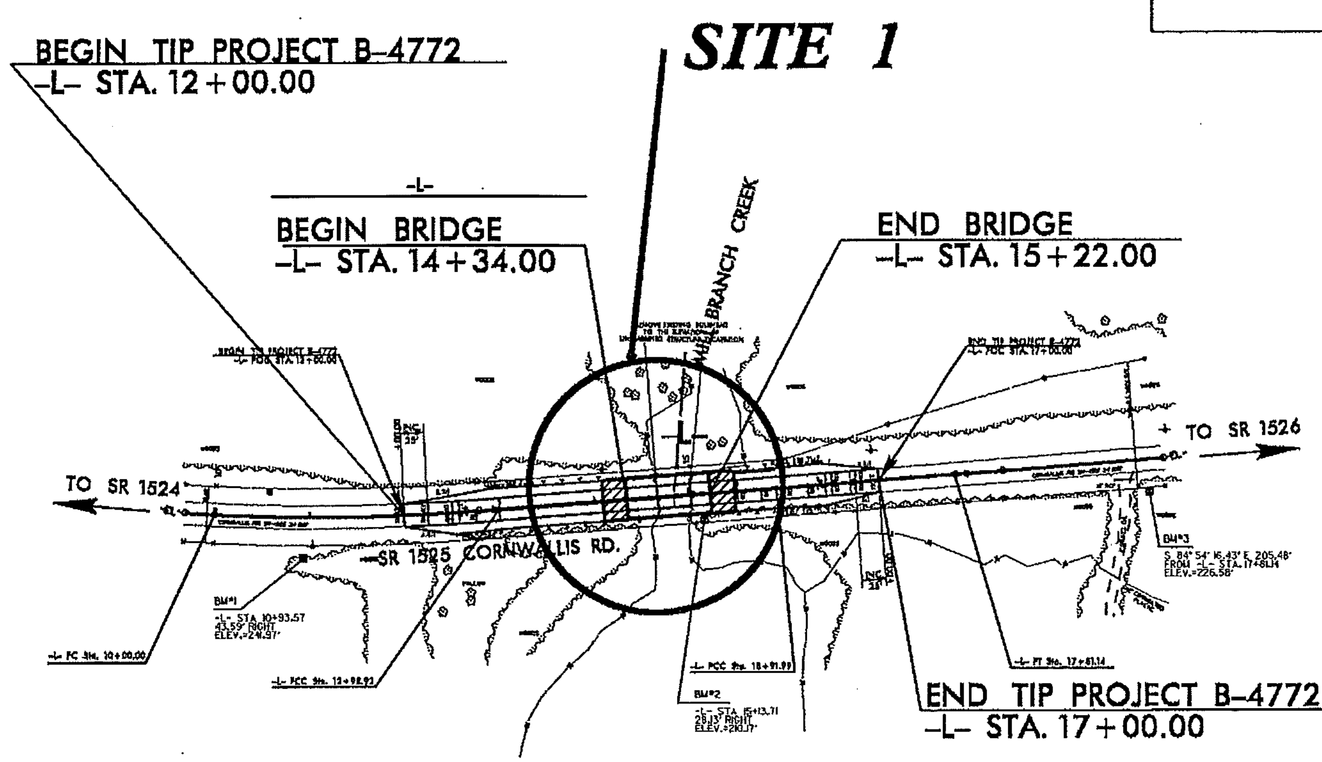
Permit Drawing
Sheet 1 of 10



VICINITY MAP

OFF-SITE DETOUR

4



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
**DESIGN EXCEPTION REQUIRED FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ________.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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 2013 = 3,900
ADT 2033 = 7,715
DHV = 12 %
D = 60 %
T = 6 % *
**V= 60 MPH
(* TTST 1% + DUAL 5%)
FUNC. CLASS = LOCAL RURAL
TIER = SUBREGIONAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4772 = 0.078 MI
LENGTH OF STRUCTURES TIP PROJECT B-4772 = 0.017 MI
TOTAL LENGTH TIP PROJECT B-4772 = 0.095 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 15, 2012

LETTING DATE:
JUNE 18, 2013

BRENDA MOORE, PE
PROJECT ENGINEER

TATIA L. WHITE, PE
PROJECT DESIGN ENGINEER

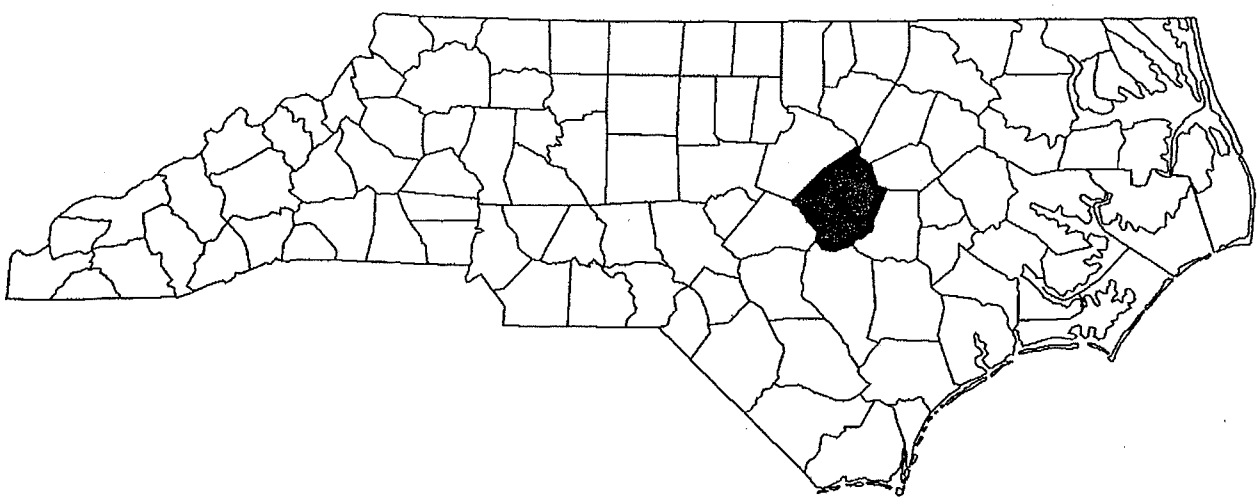
HYDRAULICS ENGINEER

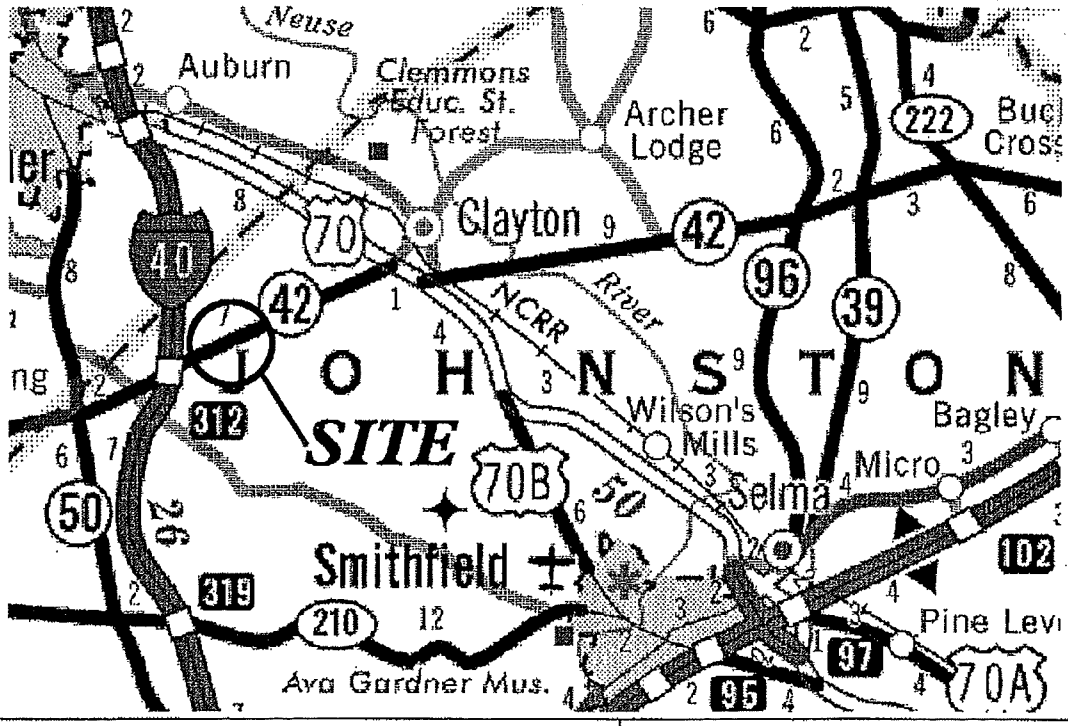
SIGNATURE: ________ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: ________ P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA





WETLAND / SURFACE WATER

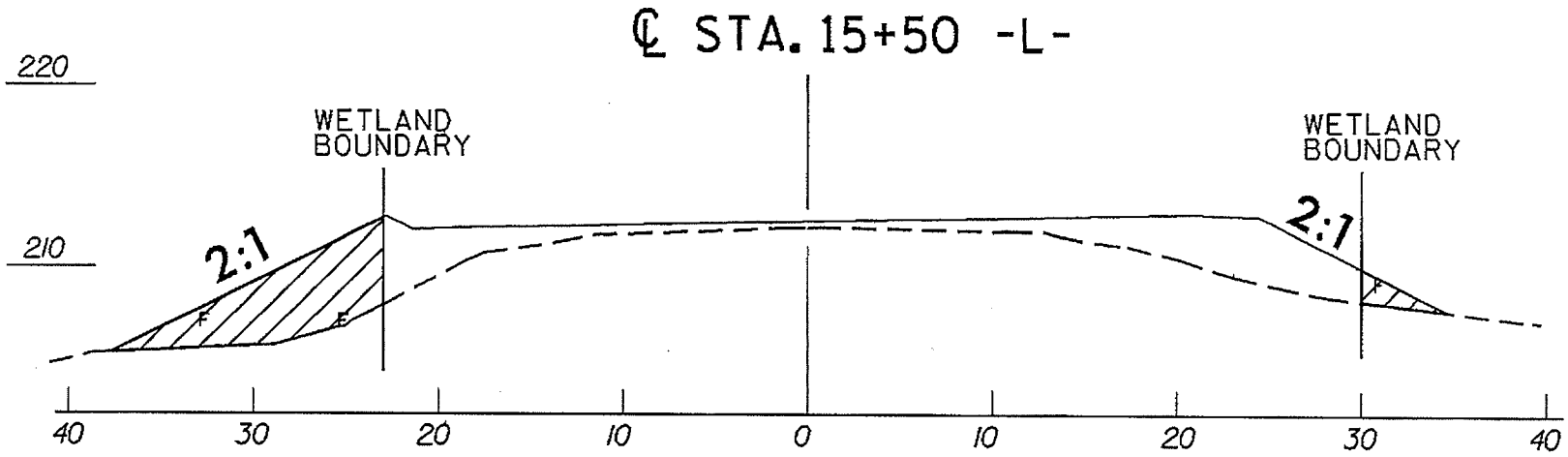
VICINITY MAPS

NOT TO SCALE

Permit Drawing
Sheet 2 of 10

NCDOT
DIVISION OF HIGHWAYS
JOHNSON COUNTY
PROJECT: 38544.1.1 (B-4772)
BRIDGE NO. 326
OVER MILL BRANCH CREEK
AND APPROACHES ON
SR 1525 (CORNWALLIS ROAD)

SHEET OF 09/11/12



SITE 1 SECTION

FILL IN WETLAND= 0.01 ac

F F DENOTES FILL IN WETLAND

10' 0' 10' HORIZONTAL SCALE

10' 0' 10' VERTICAL SCALE

NCDOT
DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 38544.1.1 (B-4772)
BRIDGE NO. 326
OVER MILL BRANCH CREEK
AND APPROACHES ON
SR 1525 (CORNWALLIS ROAD)

SHEET OF 9/11/12

Permit Drawing
Sheet 3 of 10

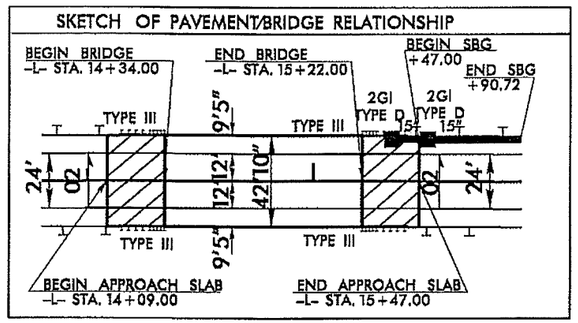
PROJECT REFERENCE NO.	SHEET NO.
B-4772	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

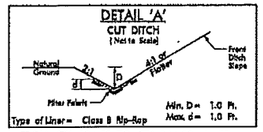
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 4 of 10

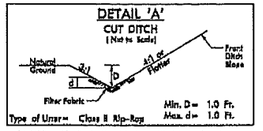
* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED

SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP

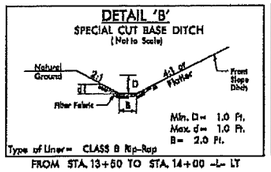




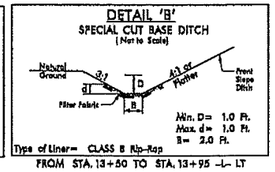
FROM STA. 13+50 TO STA. 14+00 -L- RT



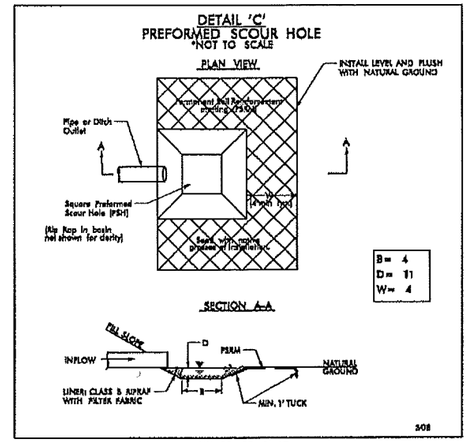
FROM STA. 12+50 TO STA. 13+73 -L- RT



FROM STA. 13+50 TO STA. 14+00 -L- LT



FROM STA. 13+50 TO STA. 13+95 -L- LT



STA 13+08 -L- LT
STA 13+08 -L- RT

NAD 83

-L-

PI Sta 11+49.71
Δ = 8° 09' 20.5" (LT)
D = 2° 43' 42.5"
L = 298.92'
T = 149.71'
R = 2,100.00'
SE = 02

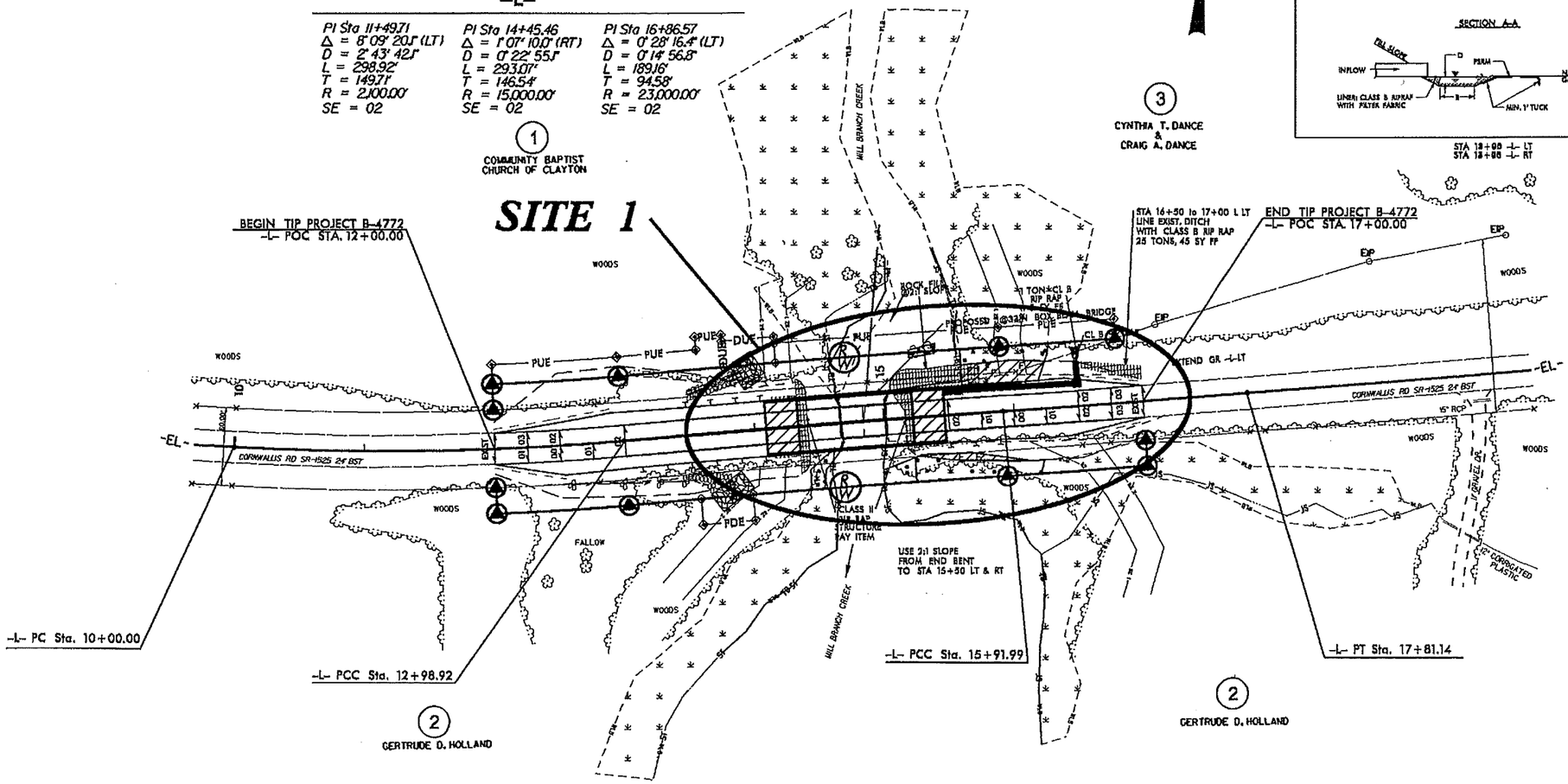
PI Sta 14+45.46
Δ = 1° 07' 10.0" (RT)
D = 0° 22' 55.5"
L = 293.07'
T = 146.54'
R = 15,000.00'
SE = 02

PI Sta 16+86.57
Δ = 0° 28' 16.4" (LT)
D = 0° 14' 56.8"
L = 189.16'
T = 94.58'
R = 23,000.00'
SE = 02

(1) COMMUNITY BAPTIST CHURCH OF CLAYTON

(3) CYNTHIA T. DANCE & CRAIG A. DANCE

SITE 1



DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

100' 0' 100'
GRAPHIC SCALE

NOTE:
1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S-? TO S-? FOR STRUCTURE PLANS

REVISIONS
8/17/95

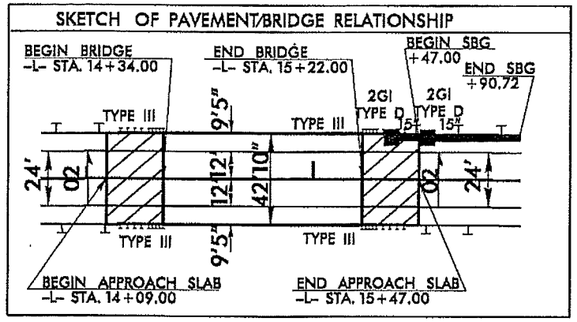
PROJECT REFERENCE NO.	SHEET NO.
B-4772	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

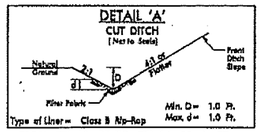
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 5 of 10

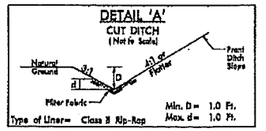
* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED

SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP

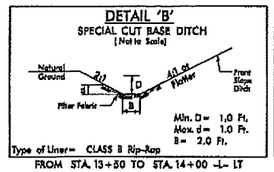




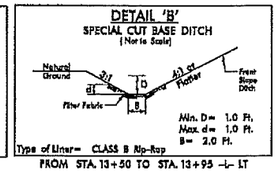
FROM STA. 13+50 TO STA. 14+00 -L- RT



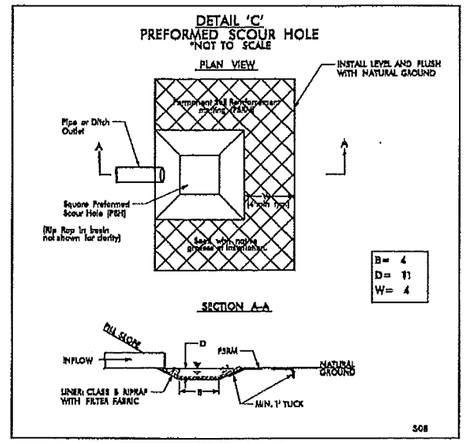
FROM STA. 12+50 TO STA. 13+73 -L- RT



FROM STA. 13+50 TO STA. 14+00 -L- LT



FROM STA. 13+50 TO STA. 13+95 -L- LT



STA 13+95 -L- LT
STA 13+95 -L- RT

NAD 83

-L-

PI Sta 11+49.71
Δ = 8° 09' 20.1" (LT)
D = 2° 43' 42.2"
L = 298.92'
T = 149.71'
R = 2,100.00'
SE = 02

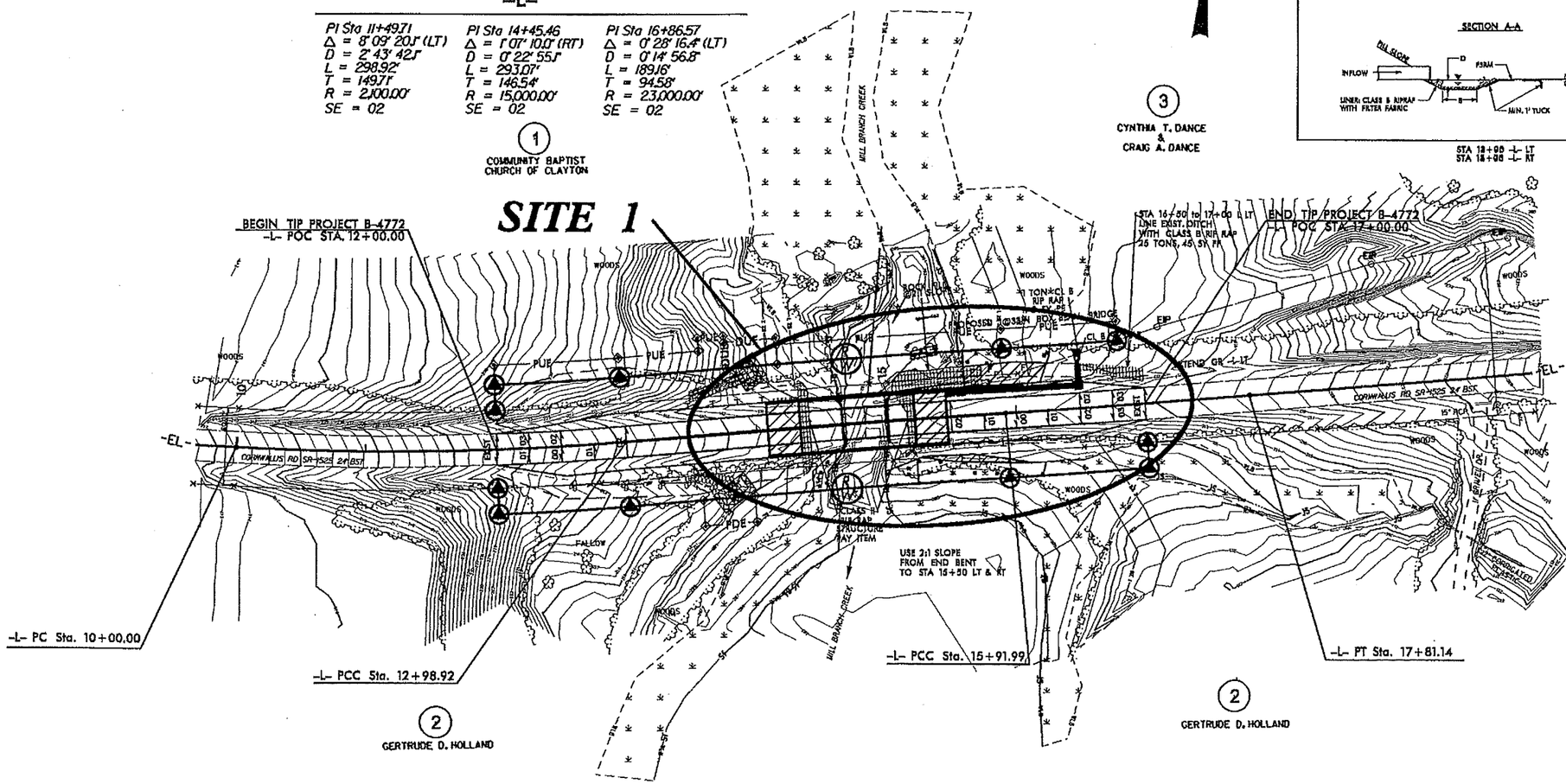
PI Sta 14+45.46
Δ = 1° 07' 10.0" (RT)
D = 0° 22' 55.1"
L = 293.07'
T = 146.54'
R = 15,000.00'
SE = 02

PI Sta 16+86.57
Δ = 0° 28' 16.4" (LT)
D = 0° 14' 56.8"
L = 189.16'
T = 94.58'
R = 23,000.00'
SE = 02

(1) COMMUNITY BAPTIST CHURCH OF CLAYTON

(3) CYNTHIA T. DANCE & CRAIG A. DANCE

SITE 1



(2) GERTRUDE D. HOLLAND

(2) GERTRUDE D. HOLLAND

DENOTES MECHANIZED CLEARING

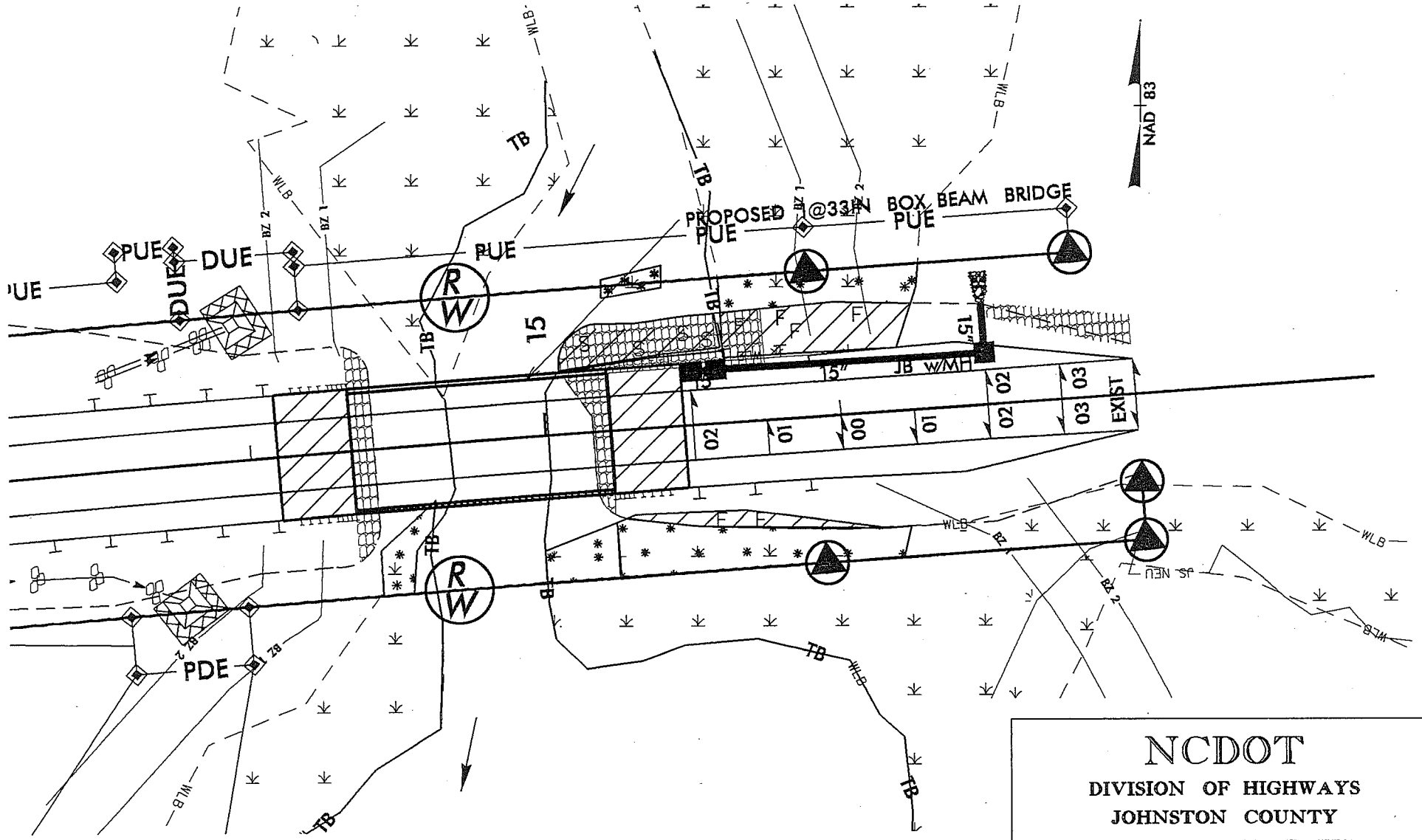
DENOTES FILL IN WETLAND

100' 0' 100'
GRAPHIC SCALE

NOTE:
1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S-? TO S-? FOR STRUCTURE PLANS

REVISIONS 8/17/99

*****USERNAME*****
*****DGN*****
*****TIME*****



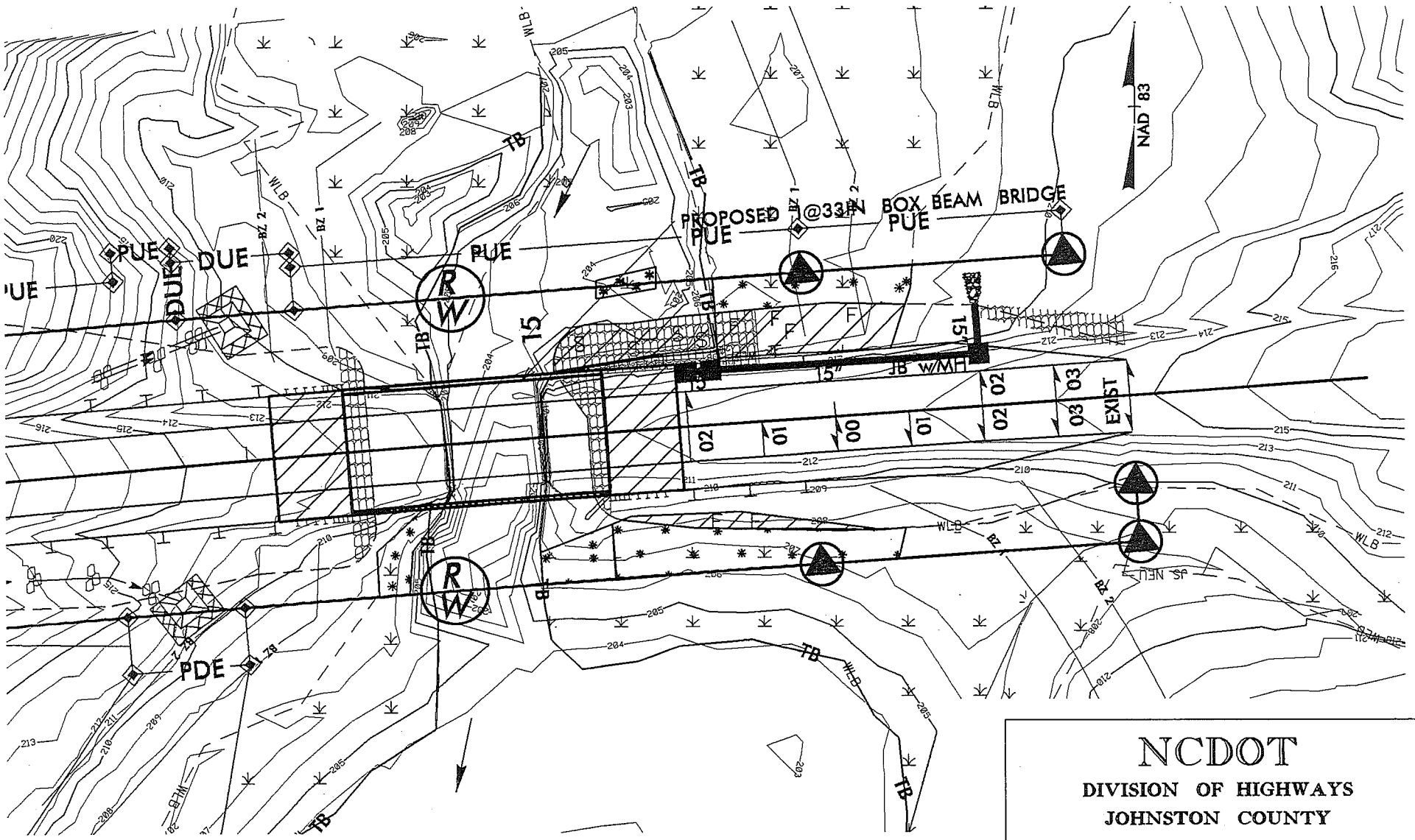
PLAN VIEW

NCDOT

DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 38544.1.1 (B-4772)
BRIDGE NO. 326 OVER
MILL BRANCH CREEK
ON SR 1525 (CORNWALLIS ROAD)

SHEET OF **09 / 11 / 12**

Permit Drawing
Sheet 6 of 10



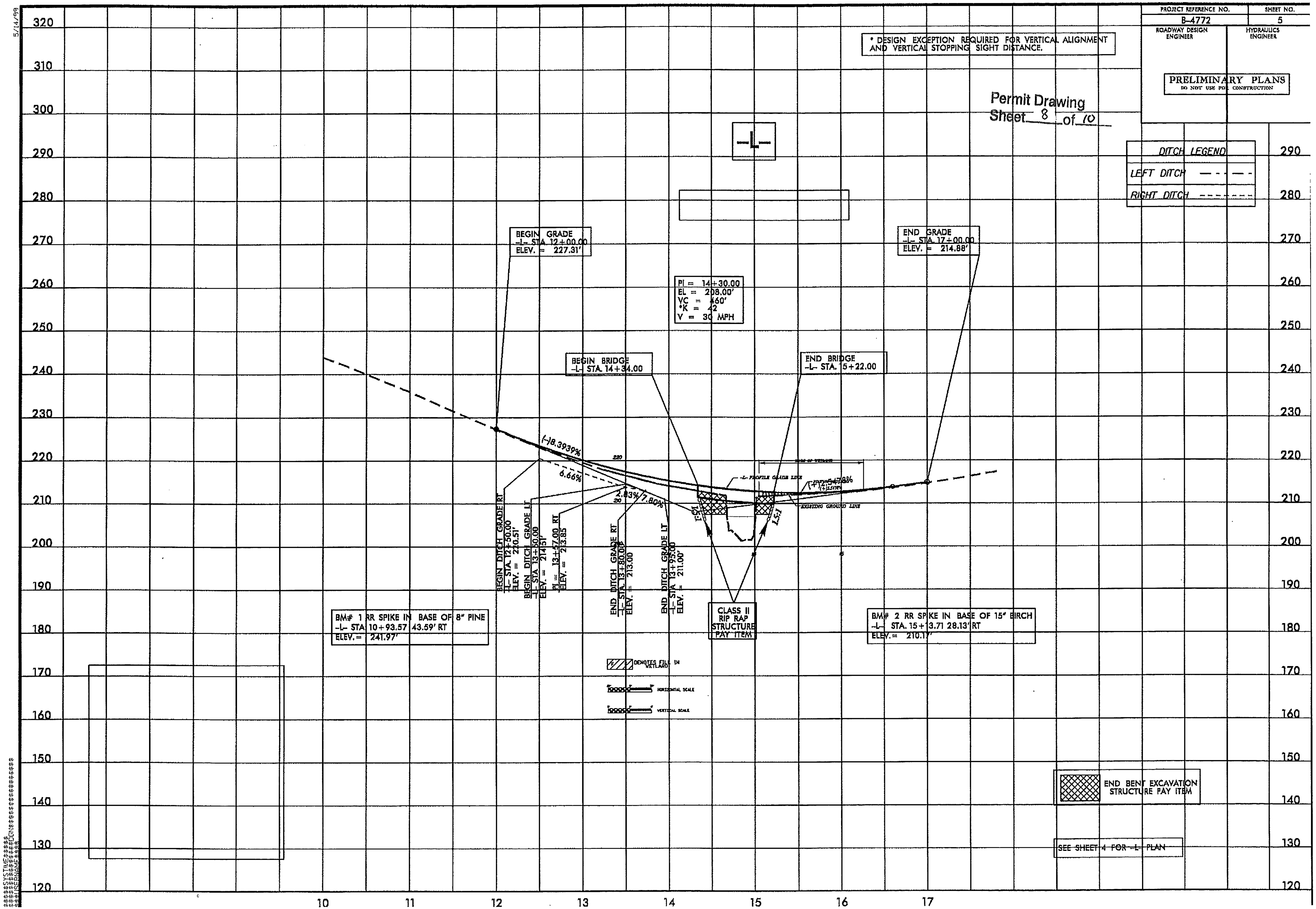
PLAN VIEW

NCDOT

DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 38544.1.1 (B-4772)
BRIDGE NO. 326 OVER
MILL BRANCH CREEK
ON SR 1525 (CORNWALLIS ROAD)

SHEET **OF** **09 / 11 / 12**

Permit Drawing
Sheet 7 of 10



PROJECT REFERENCE NO. B-4772
SHEET NO. 5
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
5/14/99
* DESIGN EXCEPTION REQUIRED FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.
Permit Drawing
Sheet 8 of 10
-L-
DITCH LEGEND
LEFT DITCH
RIGHT DITCH
BEGIN GRADE
-L- STA. 12+00.00
ELEV. = 227.31'
END GRADE
-L- STA. 17+00.00
ELEV. = 214.88'
PI = 14+30.00
EL = 208.00'
VC = 460'
*K = 42
V = 30 MPH
BEGIN BRIDGE
-L- STA. 14+34.00
END BRIDGE
-L- STA. 15+22.00
(-)8.3939%
6.66%
2.83%
7.80%
1.5:1
-L- PROFILE GRADE LINE
EXISTING GROUND LINE
BEGIN DITCH GRADE RT
-L- STA. 12+50.00
ELEV. = 220.51'
BEGIN DITCH GRADE LT
-L- STA 13+50.00
ELEV. = 214.51'
PI = 13+57.00 RT
ELEV. = 213.85
END DITCH GRADE RT
-L- STA. 13+80.00
ELEV. = 213.00
END DITCH GRADE LT
-L- STA 13+95.00
ELEV. = 211.00'
CLASS II
RIP RAP
STRUCTURE
PAY ITEM
BM# 1 RR SPIKE IN BASE OF 8" PINE
-L- STA 10+93.57 43.59' RT
ELEV. = 241.97'
BM# 2 RR SPIKE IN BASE OF 15" BIRCH
-L- STA. 15+13.71 28.13' RT
ELEV. = 210.17'
DENOTES FILL IN WETLAND
HORIZONTAL SCALE
VERTICAL SCALE
END BENT EXCAVATION
STRUCTURE PAY ITEM
SEE SHEET 4 FOR -L- PLAN
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
10
11
12
13
14
15
16
17

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	COMMUNITY BAPTIST CHURCH OF CLAYTON	P.O. BOX 1478 CLAYTON, NC 27528
2	HOLLAND, GERTRUDE D.	664 CORNWALLIS RD. GARNER, NC 27529
3	DANCE, CYNTHIA T. & CRAIG A.	1008 OLIVE DR. GARNER, NC 27529

Permit Drawing
Sheet 9 of 10

NCDOT
DIVISION OF HIGHWAYS
JOHNSON COUNTY
PROJECT: 38544.1.1 (B-4772)
BRIDGE NO. 326
OVER MILL BRANCH CREEK
AND APPROACHES ON
SR 1525 (CORNWALLIS ROAD)

SHEET OF 09/11/12

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	14+41 / 16+29 -L-	Bridge / Roadway	0.03			0.08						
TOTALS:			0.03			0.08						

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

JOHNSTON COUNTY
WBS - 38544.1.1 (B-4772)

SHEET 9/11/2012

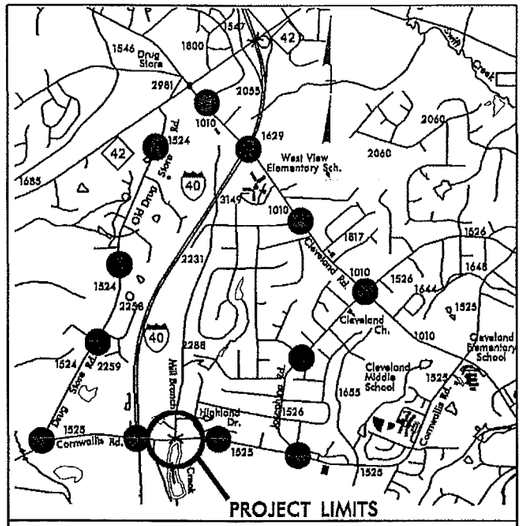
ATN Revised 3/31/05

Permit Drawing
Sheet 10 of 10

TIP PROJECT: B-4772

CONTRACT:

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



VICINITY MAP

OFF-SITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4772	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38544.1.1	BRZ-1525(9)	P.E.	

LOCATION: BRIDGE NO. 326 OVER MILL BRANCH CREEK AND APPROACHES ON SR 1525 (CORNWALLIS ROAD)

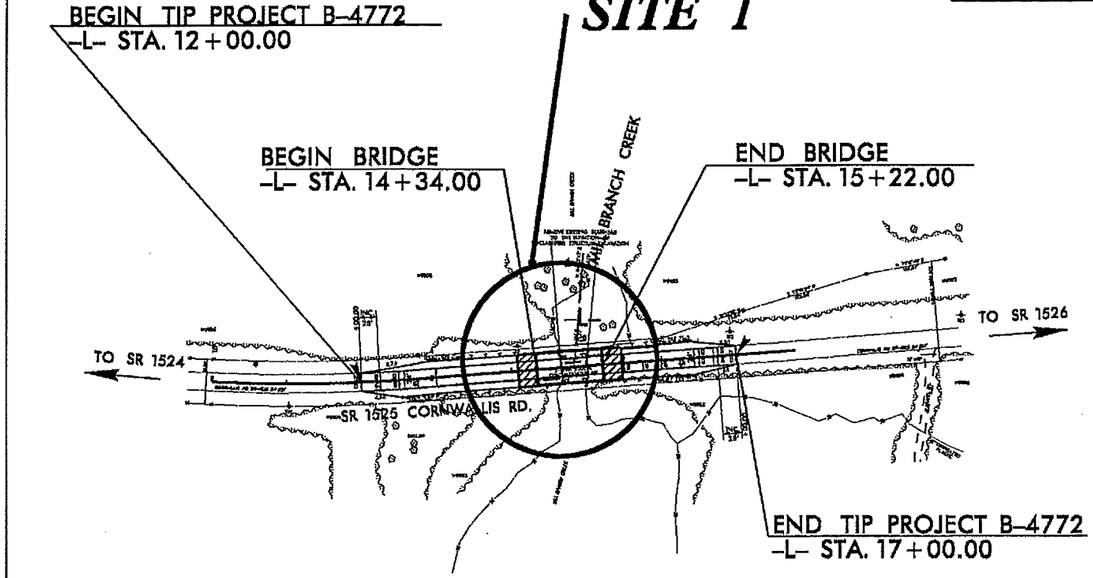
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

Buffer Drawing Sheet 1 of 5

BUFFER IMPACT PERMIT

4

SITE 1



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
**DESIGN EXCEPTION REQUIRED FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
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 = 3,900
ADT 2033 = 7,715
DHV = 12 %
D = 60 %
T = 6 % *
**V= 60 MPH
(* TTST 1% + DUAL 5%)
FUNC. CLASS = LOCAL RURAL
TIER = SUBREGIONAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4772 = 0.078 MI
LENGTH OF STRUCTURES TIP PROJECT B-4772 = 0.017 MI
TOTAL LENGTH TIP PROJECT B-4772 = 0.095 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 15, 2012

LETTING DATE: JUNE 18, 2013

BRENDA MOORE, PE
PROJECT ENGINEER

TATIA L. WHITE, PE
PROJECT DESIGN ENGINEER

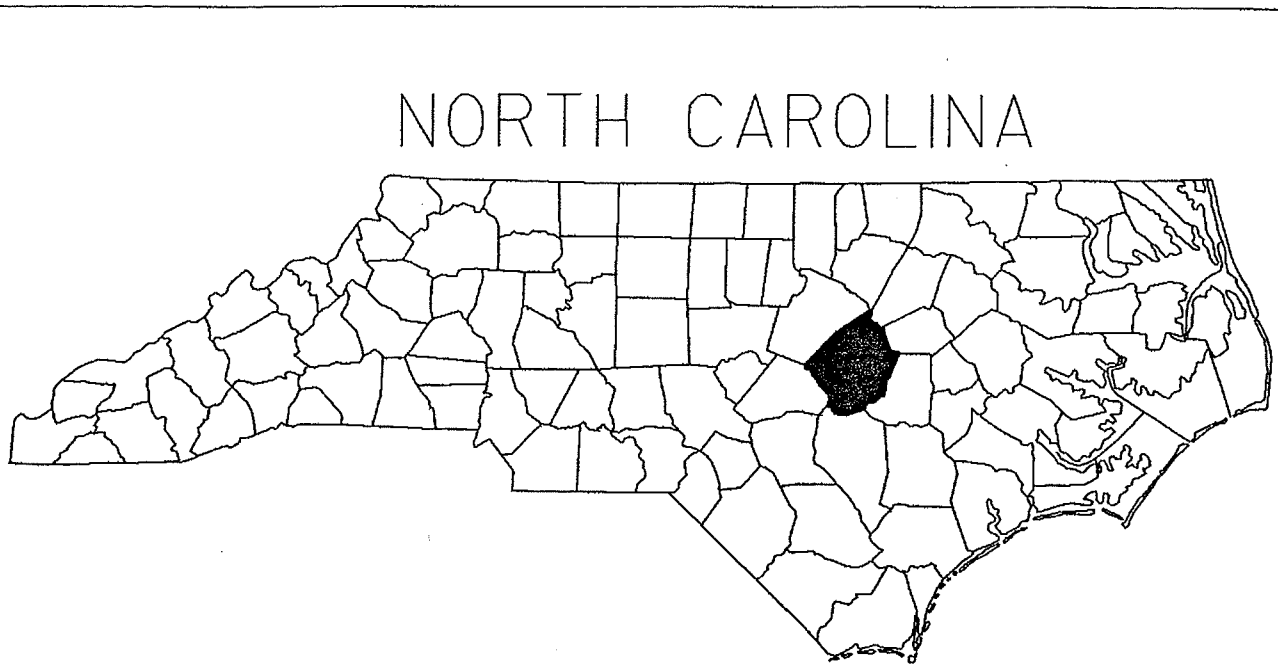
HYDRAULICS ENGINEER

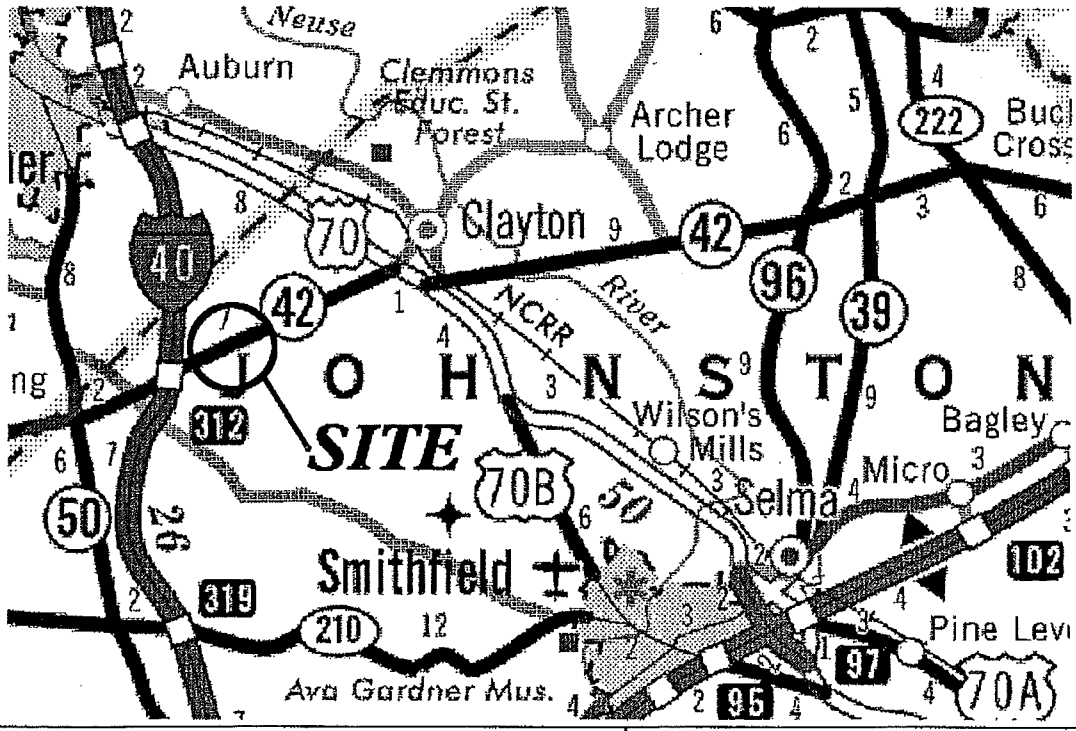
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA





BUFFER VICINITY MAPS

NOT TO SCALE

NCDOT

DIVISION OF HIGHWAYS
JOHNSON COUNTY
PROJECT: 38544.1.1 (B-4772)
BRIDGE NO. 326
OVER MILL BRANCH CREEK
AND APPROACHES ON
SR 1525 (CORNWALLIS ROAD)

SHEET OF **09/11/12**

Buffer Drawing
Sheet 2 of 5

PROJECT REFERENCE NO.	SHEET NO.
B-4772	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

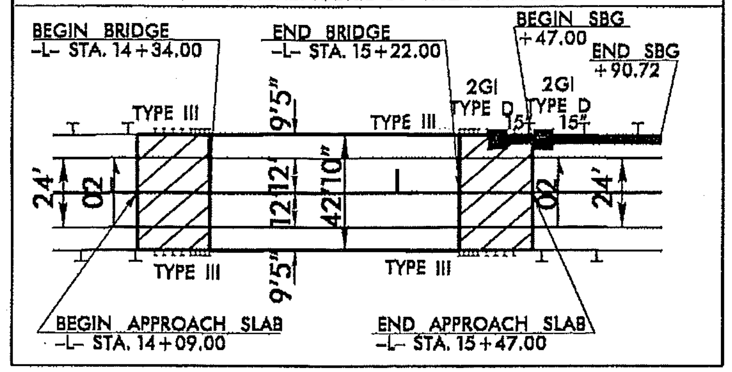
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

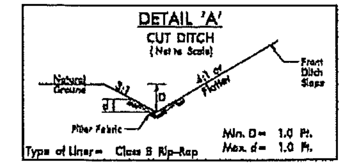
REVISIONS

* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED

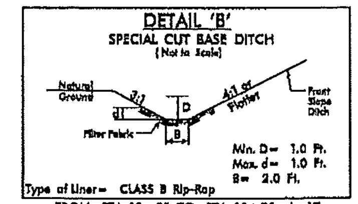
Buffer Drawing
Sheet 3 of 5



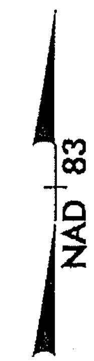
SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP

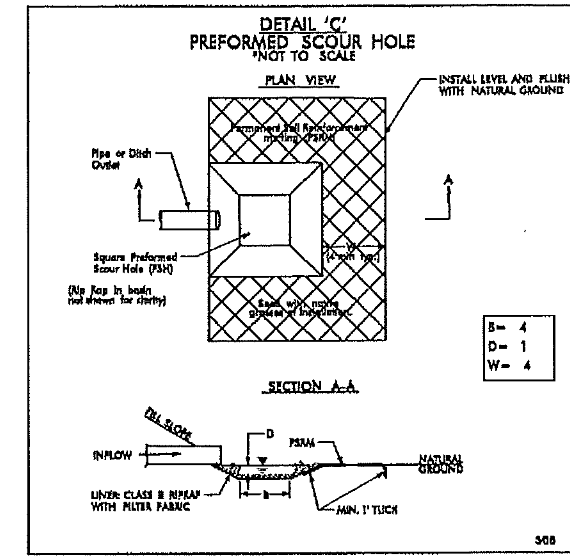


FROM STA. 12+50 TO STA. 13+73 -L- RT



FROM STA. 13+50 TO STA. 13+95 -L- LT





STA 13+95 -L- LT
STA 13+73 -L- RT

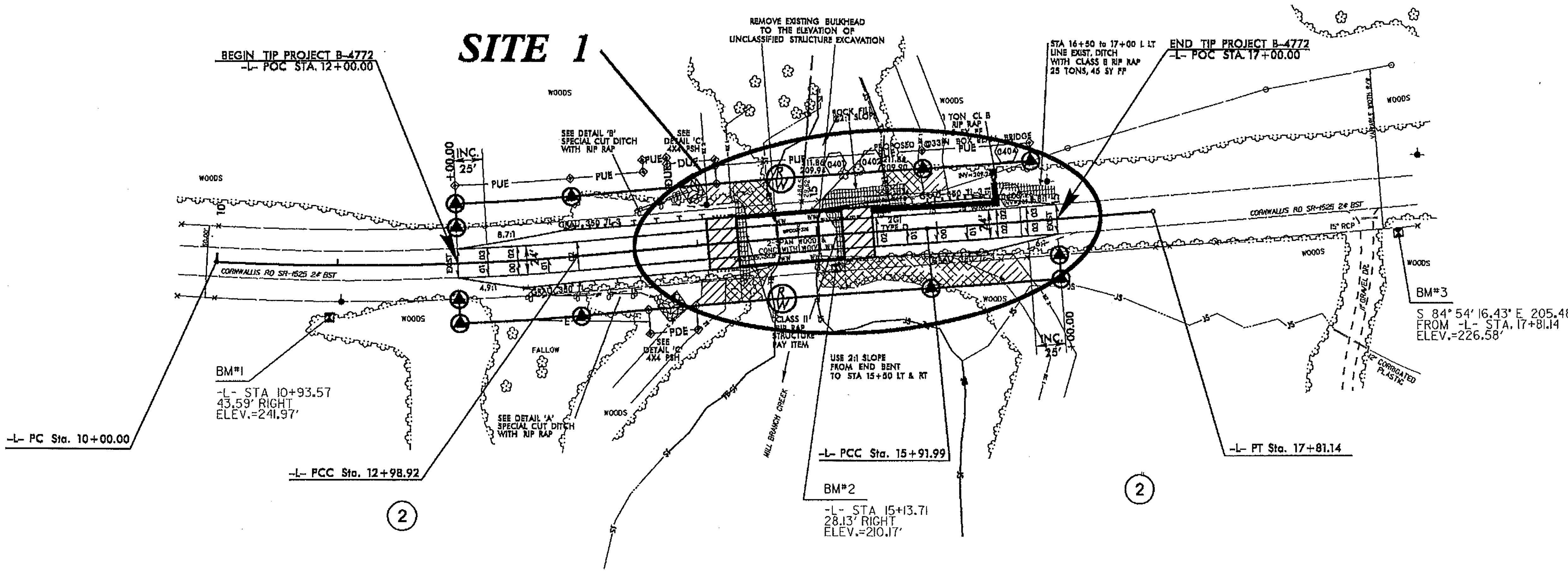
(3)

-L-

PI Sta 11+49.71	PI Sta 14+45.46	PI Sta 16+86.57
Δ = 8° 09' 20.1" (LT)	Δ = 1° 07' 10.0" (RT)	Δ = 0° 28' 16.4" (LT)
D = 2° 43' 42.1"	D = 0° 22' 55.1"	D = 0° 14' 56.8"
L = 298.92'	L = 293.07'	L = 189.16'
T = 149.71'	T = 146.54'	T = 94.58'
R = 2,100.00'	R = 15,000.00'	R = 23,000.00'
SE = 02	SE = 02	SE = 02

(1)

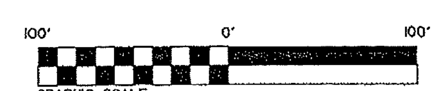
SITE 1



(2) (2)

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2



NOTE:

1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S-? TO S-? FOR STRUCTURE PLANS

$$$$SYSTIME$$$$ $$$$$$DGN$$$$$$$ $$$USERNAME$$$$

8/17/99

REVISIONS

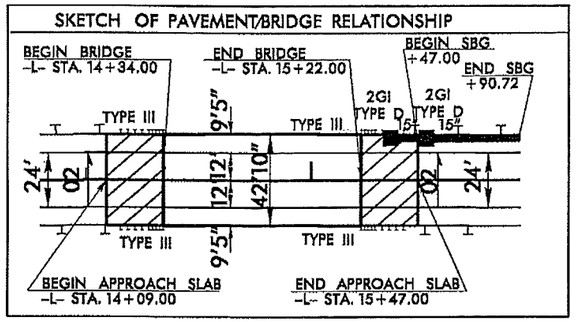
PROJECT REFERENCE NO.	SHEET NO.
B-4772	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED

Buffer Drawing
Sheet 4 of 5

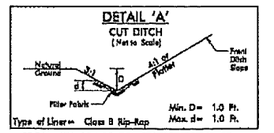
SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP



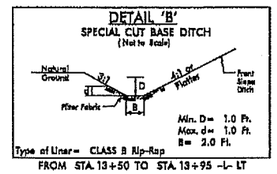
-L-

PI Sta 11+49.71	PI Sta 14+45.46	PI Sta 16+86.57
Δ = 8° 09' 20" (LT)	Δ = 1° 07' 10.0" (RT)	Δ = 0° 28' 16.4" (LT)
D = 2° 43' 42"	D = 0° 22' 55"	D = 0° 14' 56.8"
L = 298.92'	L = 293.07'	L = 189.16'
T = 149.71'	T = 146.54'	T = 94.58'
R = 2,100.00'	R = 15,000.00'	R = 23,000.00'
SE = 02	SE = 02	SE = 02

(1)



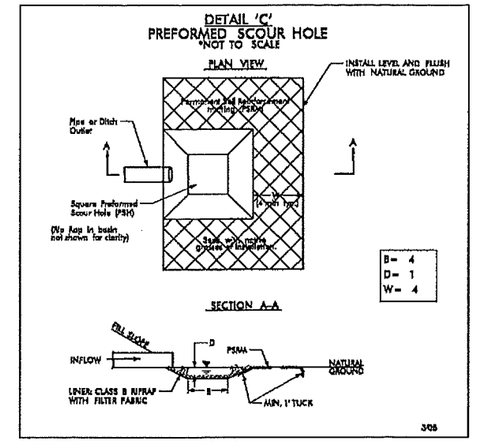
FROM STA. 12+80 TO STA. 13+73 -L- RT



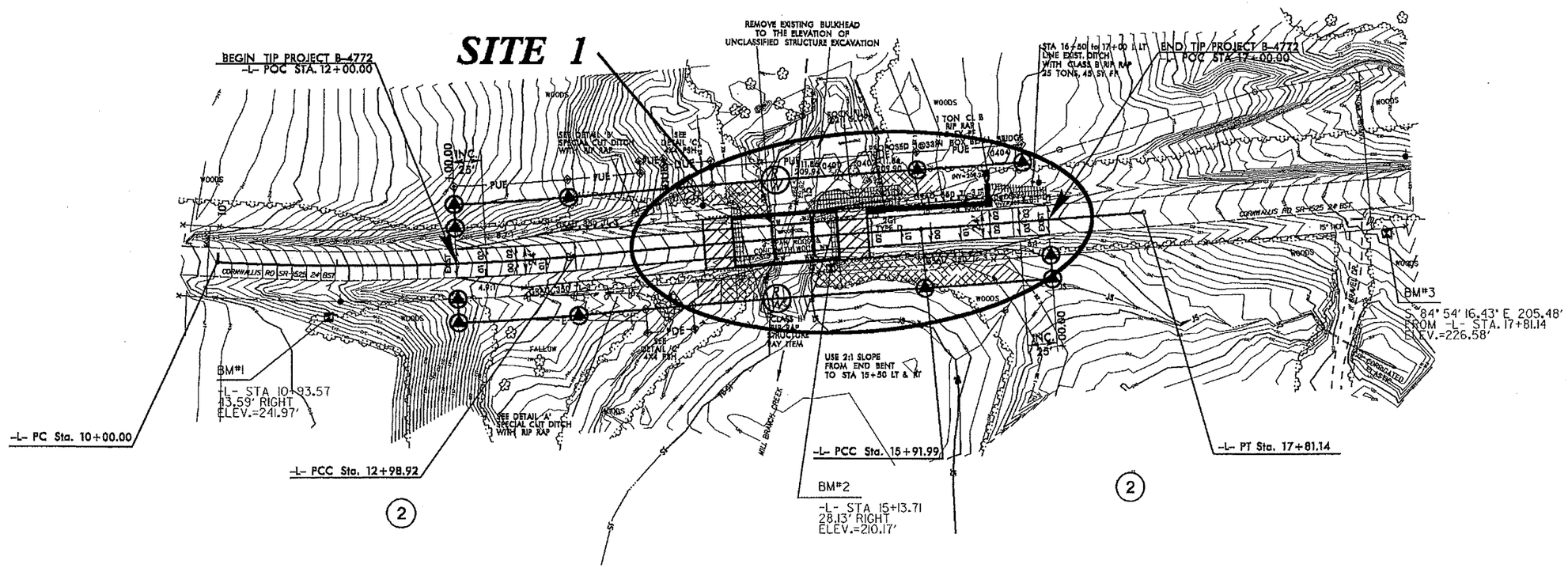
FROM STA. 13+50 TO STA. 13+95 -L- LT

NAD 83

(3)



STA 13+95 -L- LT
STA 13+73 -L- RT



(2)

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

100' 0' 100'
GRAPHIC SCALE

NOTE:

1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S-? TO S-? FOR STRUCTURE PLANS

******SYSTIME*****
******USERNAME*****
******DGN*****

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	Roadway	13+89 / 14+34 -L-	x			325	790	1115					
1	Bridge	14+34 / 15+22-L-		x		1822		1822					
1	Roadway	15+22 / 16+77-L-	x			3335	1285	4620					
TOTALS:						5482	2075	7557					

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

JOHNSTON COUNTY
PROJECT: 38544.1.1 (B-4772)

9/11/2012
SHEET OF

Rev. May 2006

Buffer Drawing
Sheet 5 of 5

May 17, 2012

B-4772 Johnston County

Utility Relocation Environmental Permit

Existing Utilities:

1. Underground Telephone Lines - There are existing underground and aerial telephone lines that run the entire length of the project along the right side. There is one existing underground telephone line that runs along the left side of the project and crosses the road before the bridge.

2. Overhead Power Lines – There is an existing aerial power line that crosses the bridge along the left side of the project.

3. Water Line – There is an existing 6" water line located on the right/southeast side of the bridge. It runs through the entire length of the project.

Proposed Utility Relocations:

1. Underground Telephone Lines – The existing telephone lines will be abandoned and dismantled and removed. A new underground telephone line will be installed from Sta. 11+00 up to a new pole which will be at Sta. 13+03. From that point the telephone will become aerial with the existing power line to a new pole at Sta. 17+51. It will then become buried again and ties into existing facilities at Sta. 18+76. There is environmental impacts due to hand clearing in the buffer zones and wetlands.

2. Overhead Power Lines – The poles on the left side of the bridge will remain in place. A new pole will be installed on the right side of the bridge at Sta. 13+03 and connect to the existing poles on the left side. Another new pole will be installed on the right side at Sta. 17+51. . There is environmental impacts due to hand clearing in the buffer zones and wetlands.

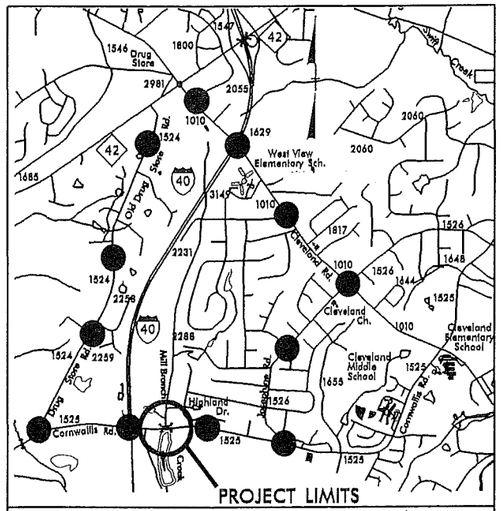
3. Water Line – A new 6" water line will be installed by directional bore beginning at Sta. 12+63 and ending at Sta. 18+87. There will be no environmental impacts within the buffer zones or wetlands.

09/28/99

TIP PROJECT: B-4772

CONTRACT:

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



VICINITY MAP

OFF-SITE DETOUR

ROW PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEU PERMIT DRAWING PLANS
JOHNSTON COUNTY

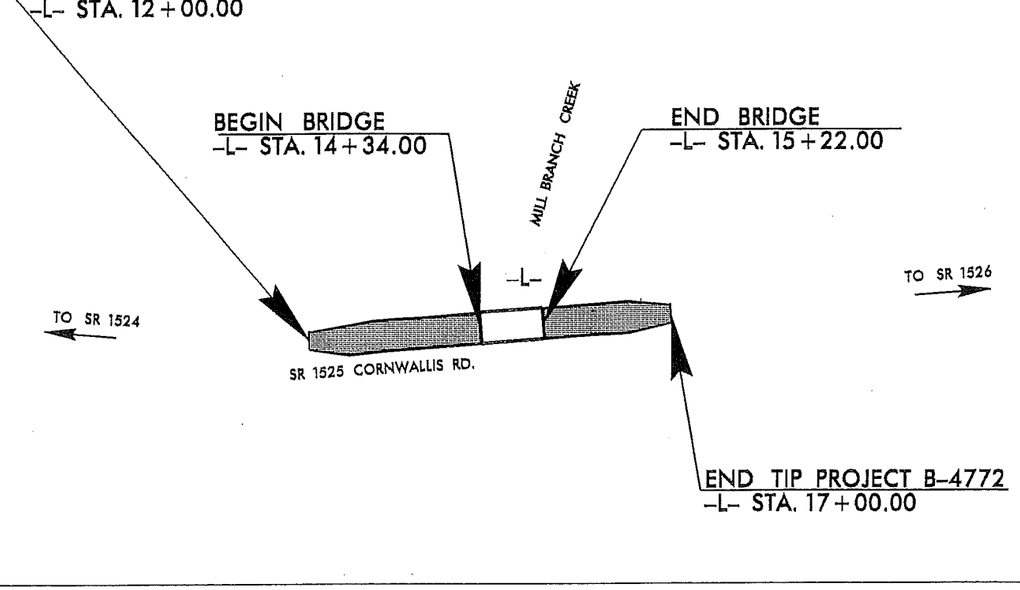
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4772	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38544.1.1	BRZ-1525(9)	P.E.
38544.2.1	BRZ-1525(9)	R.W.

Utility Permit Drawing
Sheet 1 of 3

LOCATION: BRIDGE NO. 326 OVER MILL BRANCH CREEK ON SR 1525
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

4



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

PRELIMINARY PLANS
NOT TO BE USED 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 2013 = 3,900
ADT 2033 = 7,715
DHV = 12 %
D = 60 %
T = 6 % *
**V= 60 MPH
(* TTST 1% + DUAL 5%)
FUNC. CLASS =
LOCAL RURAL
TIER = SUBREGIONAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4772 = 0.078 MI
LENGTH OF STRUCTURES TIP PROJECT B-4772 = 0.017 MI
TOTAL LENGTH TIP PROJECT B-4772 = 0.095 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 7, 2012

LETTING DATE: APRIL 16, 2013

BRENDA MOORE, PE
PROJECT ENGINEER

TATIA L. WHITE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

19-SEP-2012 10:08
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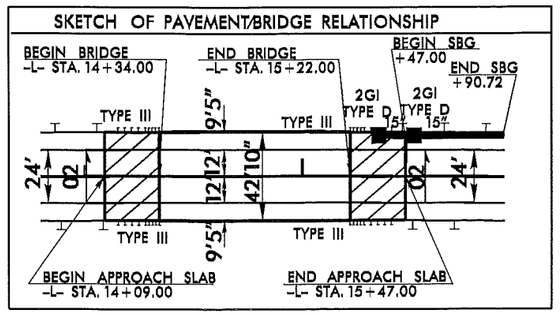
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4772	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED

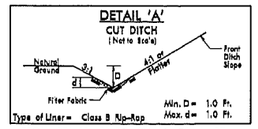
Utility Permit Drawing
Sheet 2 of 3

SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP



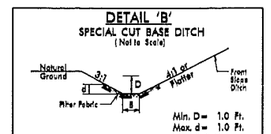
HC HC DENOTES HAND CLEARING IN WETLAND

DETAIL 'A'
CUT DITCH
(Not to Scale)



Type of Liner= Class B Rip-Rap
FROM STA. 12+50 TO STA. 13+73 -L- RT

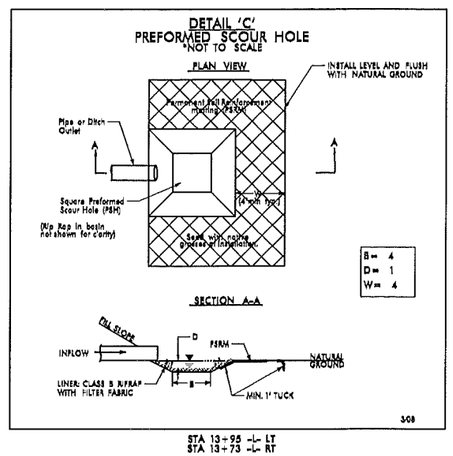
DETAIL 'B'
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= CLASS B Rip-Rap
FROM STA. 13+50 TO STA. 13+95 -L- LT

NAD 83

DETAIL 'C'
PREFORMED SCOUR HOLE
*NOT TO SCALE



STA 13+95 -L- LT
STA 13+73 -L- RT

-L-

PI Sta 11+49.71
Δ = 8°09' 20.5" (LT)
D = 2°43' 42.5"
L = 298.92'
T = 149.71'
R = 2,100.00'
SE = 02

PI Sta 14+45.46
Δ = 1°07' 10.0" (RT)
D = 0°22' 55.1"
L = 293.07'
T = 146.54'
R = 15,000.00'
SE = 02

PI Sta 16+86.57
Δ = 0°28' 16.4" (LT)
D = 0°14' 56.8"
L = 189.16'
T = 94.58'
R = 23,000.00'
SE = 02

AS= 1056 FT SQ
HAND CLEARING
IN BZ1

(1) COMMUNITY BAPTIST CHURCH OF CLAYTON
DB 3229 PG 248

PROP. O/H POWER AND TEL. LINES

(3) CYNTHIA T. DANCE & CRAIG A. DANCE
DB 387 PG 777
PB 36 PG 279

REMOVE EXISTING BULKHEAD TO THE ELEVATION OF UNCLASSIFIED STRUCTURE EXCAVATION

BEGIN TIP PROJECT B-4772
-L- POC STA. 12+00.00

GPS B4472-2

STA 16+50 to 17+00 L LT
LINE EXIST. DITCH WITH CLASS B RIP RAP 25 TONS, 45 SY FF

END TIP PROJECT B-4772
-L- POC STA. 17+00.00

S 87° 48' 12.8" E

N 86° 40' 19.0" E

CORNWALLIS RD SR-1525 2# BST

-BL- 101

BM#3
S 84° 54' 16.43" E 205.48'
FROM -L- STA. 17+81.14
ELEV.=226.58'

BM#1
-L- STA 10+93.57
43.59' RIGHT
ELEV.=241.97'

-L- PC Sta. 10+00.00

-L- PCC Sta. 12+98.92

-L- PCC Sta. 15+91.99

-L- PT Sta. 17+81.14

A6= 558 FT SQ
=0.01 ACRES
HAND CLEARING
IN WETLAND

USE 2:1 SLO FROM END BENT TO STA 15+50 LT & RT

BM#2
-L- STA 15+13.71
28.13' RIGHT
ELEV.=210.17'

-BL- 100

(2) GERTRUDE D. HOLLAND
DB 472 PG 556

(2) GERTRUDE D. HOLLAND
DB 472 PG 556

NOTE:

1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S-? TO S-? FOR STRUCTURE PLANS

REVISIONS 8/17/99

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WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	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)
A5	-L-16+11 TO 16+26	AERIAL POWER LINE					0.01					
TOTALS:						0.00	0.01	0.00	0.00	0.00	0.00	0.00

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
JOHNSTON COUNTY
TIP PROJECT (B-4772)

Revised 9/25/2012

ATN Revised 3/31/05

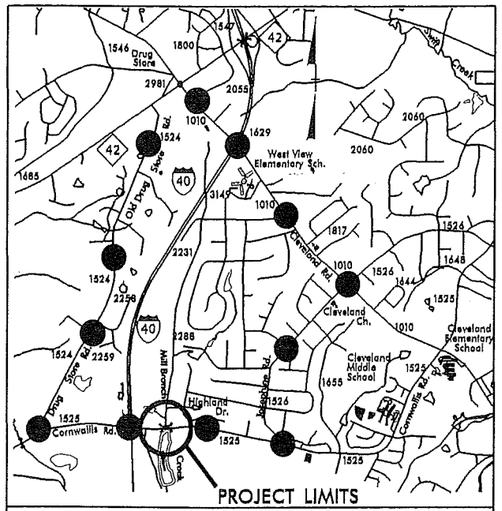
Utility Permit Drawing
Sheet 3 of 3

09/08/99

TIP PROJECT: B-4772

CONTRACT:

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



VICINITY MAP

OFF-SITE DETOUR

ROW PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4772	1	

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38544.1.1	BRZ-1525(9)	P.E.
38544.2.1	BRZ-1525(9)	R.W.

NEU PERMIT DRAWING PLANS
JOHNSTON COUNTY

Utility
Buffer Drawing
Sheet 1 of 3

LOCATION: BRIDGE NO. 326 OVER MILL BRANCH CREEK ON SR 1525
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

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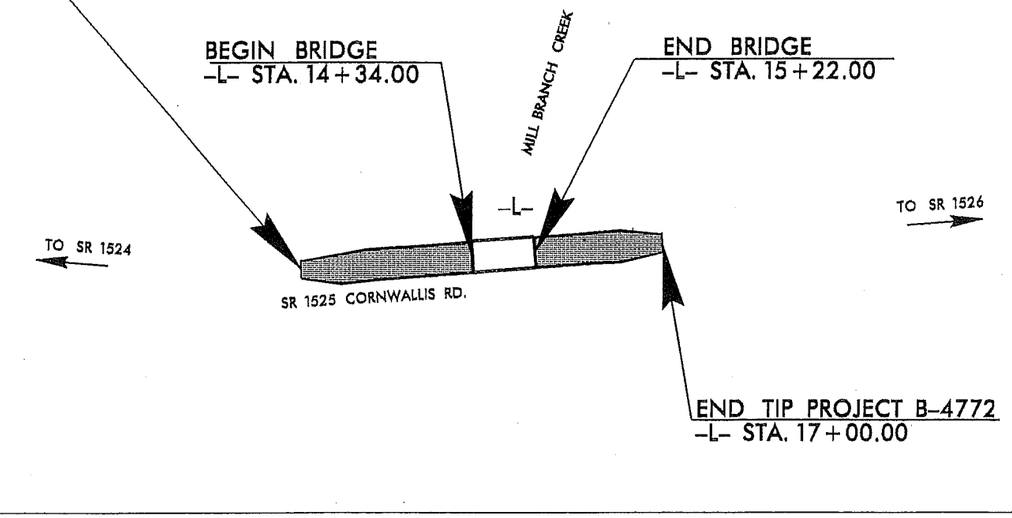

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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

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ADT 2033 = 7,715
DHV = 12 %
D = 60 %
T = 6 % *
**V= 60 MPH
(* TTST 1% + DUAL 5%)
FUNC. CLASS = LOCAL RURAL
TIER = SUBREGIONAL

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LENGTH OF ROADWAY TIP PROJECT B-4772 = 0.078 MI
LENGTH OF STRUCTURES TIP PROJECT B-4772 = 0.017 MI
TOTAL LENGTH TIP PROJECT B-4772 = 0.095 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 7, 2012

LETTING DATE: APRIL 16, 2013

BRENDA MOORE, PE
PROJECT ENGINEER

TATIA L. WHITE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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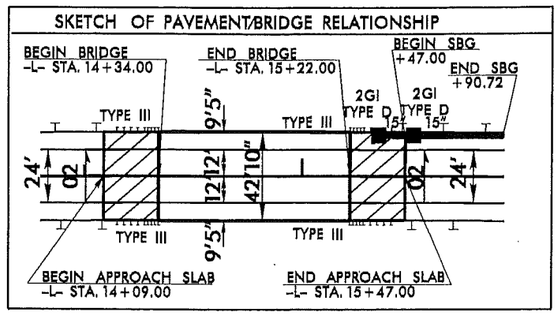
PROJECT REFERENCE NO.	SHEET NO.
B-4772	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT TO BE USED FOR CONSTRUCTION

Utility
Buffer Drawing
Sheet 2 of 3

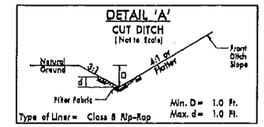
* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED

SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP

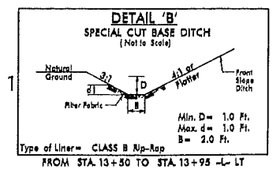


ALLOWABLE IMPACTS ZONE 2

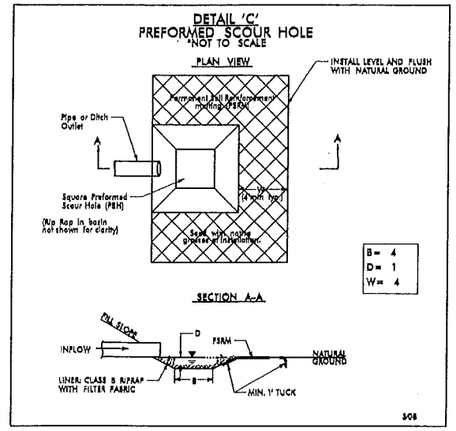
ALLOWABLE IMPACTS ZONE 1



FROM STA. 12+50 TO STA. 13+73 -L- RT



FROM STA. 13+50 TO STA. 13+95 -L- LT



STA 13+95 -L- LT
STA 13+73 -L- RT

NAD 83

-L-

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D = 0° 14' 56.8"
L = 189.16'
T = 94.58'
R = 23,000.00'
SE = 02

A3= 1244 FT SQ BZ1

A4= 832 FT SQ BZ1

A3= 1056 FT SQ HAND CLEARING IN BZ1

A1= 613 FT SQ BZ2

A2= 531 FT SQ BZ2

PROP. O/H POWER AND TEL. LINES

1 COMMUNITY BAPTIST CHURCH OF CLAYTON DB 3229 PG 248

3 CYNTHIA T. DANCE & CRAIG A. DANCE DB 387 PG 777 PB 36 PG 279

2 GERTRUDE D. HOLLAND DB 472 PG 556

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HILL BRANCH CREEK

REMOVE EXISTING BULKHEAD TO THE ELEVATION OF UNCLASSIFIED STRUCTURE EXCAVATION

BEGIN TIP PROJECT B-4772
-L- POC STA. 12+00.00

END TIP PROJECT B-4772
-L- POC STA. 17+00.00

STA 16+50 to 17+00 L LT
LINE EXIST. DITCH
WITH CLASS B RIP RAP
25 TONS, 45 SY PP

GPS B4472-2

BM#1
-L- STA 10+93.57
43.59' RIGHT
ELEV.=241.97'

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28.13' RIGHT
ELEV.=210.17'

BM#3
S 84° 54' 16.43" E 205.48'
FROM -L- STA. 17+81.14
ELEV.=226.58'

-L- PC Sta. 10+00.00

-L- PCC Sta. 12+98.92

-L- PCC Sta. 15+91.99

-L- PT Sta. 17+81.14

-BL- 100

-BL- 101

-EL-

S 87° 48' 12.8" E

N 86° 40' 19.0" E

STA. 14+67

STA. 14+32

STA. 14+11

STA. 15+59

STA. 15+91

STA. 16+11

CORNWALLIS RD SR-1525 24' BST

WOODS

FALLOW

CONCRETE PLASTIC

NOTE:

1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S-? TO S-? FOR STRUCTURE PLANS

8/17/99

REVISIONS

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BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
A1	Power Line	14+11 to 14+32-L-					613.0						
A2	Power Line	15+91 to 16+11 -L-					531.0						
A3	Power Line	14+32 to 14+67 -L-				1244.0							
A4	Power Line	15+59 to 15+91 -L-				832.0							
TOTALS:						2076.0	1144.0						

Utility
Buffer Drawing
Sheet 3 of 3

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

JOHNSTON COUNTY
PROJECT: B-4772
Revised 9/25/2012

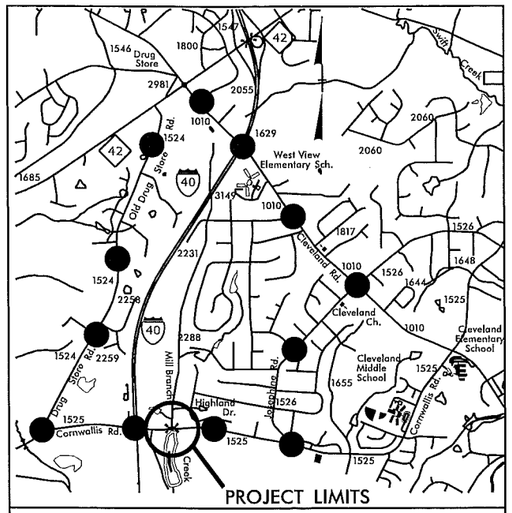
SHEET 1 OF 1

09/28/99

TIP PROJECT: B-4772

CONTRACT:

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



VICINITY MAP

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DIVISION OF HIGHWAYS

JOHNSTON COUNTY

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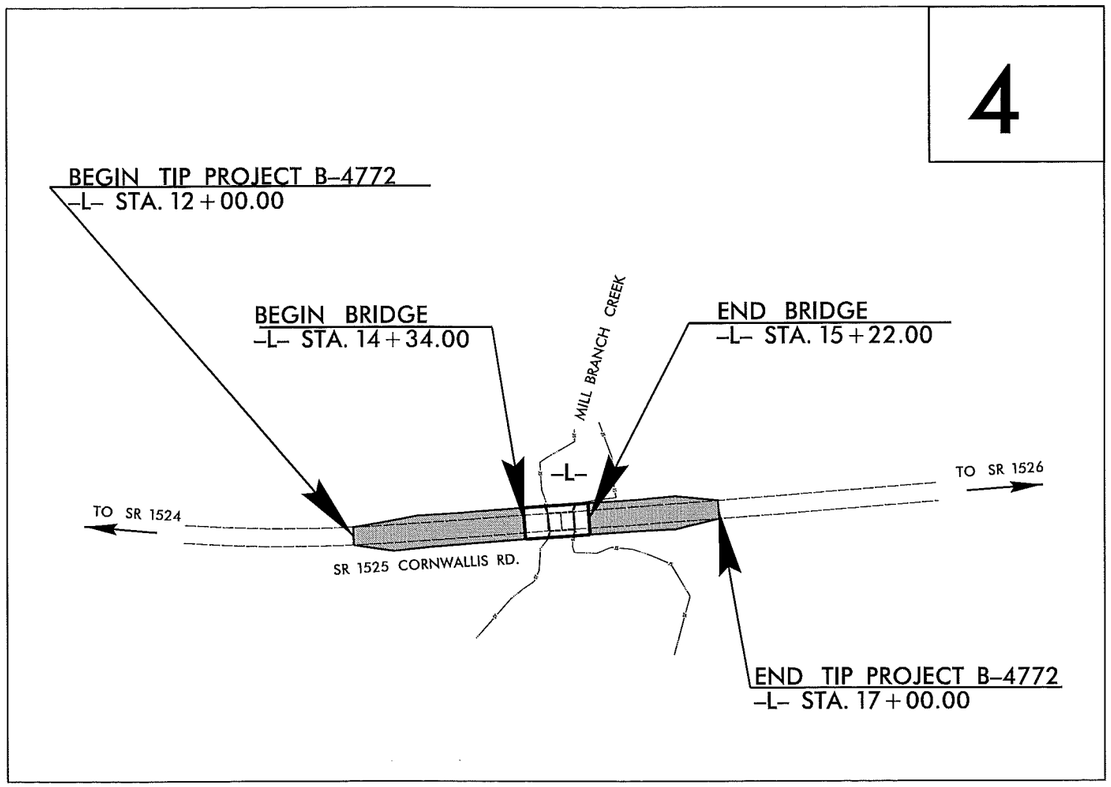

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SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

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04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-4772	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 — WLB
- Proposed Wetland Boundary — WLB
- 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 R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- 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 — SS
- 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 — ?UTL
- 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.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4772	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4772

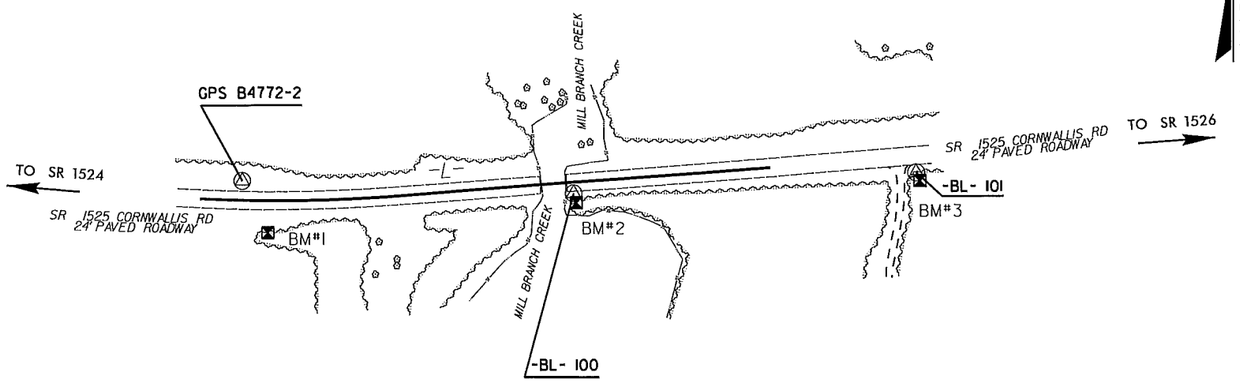
BASELINE DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
2	GPS B4772-2	664037.5790	2126683.4070	241.63	10+57.39	26.17 LT
100	BL-100	664020.2060	2127136.3710	211.37	15+10.89	15.24 RT
101	BL-101	664047.4120	2127604.2230	225.08	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

****
1229 ELEVATION = 241.97
N 663967 E 2126718
L STATION 10+94.00 44 RIGHT
BM #1 RR SPIKE IN BASE OF 8" PINE
****
****
1092 ELEVATION = 210.17
N 664008 E 2127140
L STATION 15+14.00 28 RIGHT
BM #2 RR SPIKE IN BASE OF 15" BIRCH
****
****
1097 ELEVATION = 226.58
N 664036 E 2127610
L STATION 10+00.00
N 88°41'21.89" E DIST 984.42
BM #3 RR SPIKE IN BASE OF 8" OAK
****



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS B4772-2" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 664037.579(ft) EASTING: 2126683.407(ft) ELEVATION: 241.63(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .99988159 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4772-2" TO -L- STATION 10+00.00 IS N 76°07'53" E 91.92 (ft) 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.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/*

   THE FILES TO BE FOUND ARE AS FOLLOWS: B4772_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 NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

10-MAY-2012 10:02
R:\Location&Surveys\B4772_LS_ic.dgn
$$USER$$

PROJECT REFERENCE NO.	SHEET NO.
B-4772	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

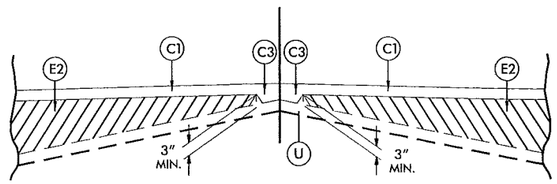
8/17/99

REVISIONS

FINAL PAVEMENT SCHEDULE

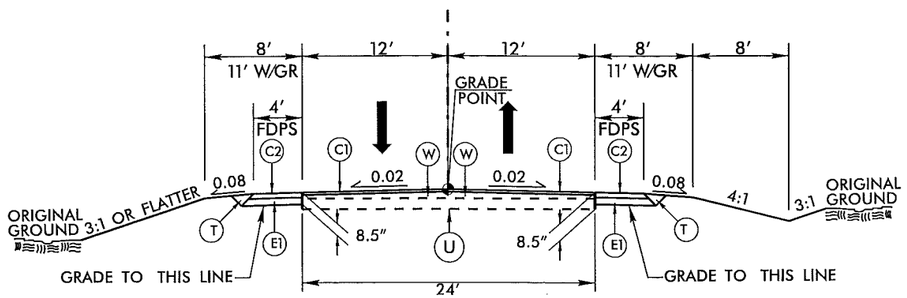
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING MATERIAL

℄ SURVEY



Detail Showing Method of Wedging

℄ –L–

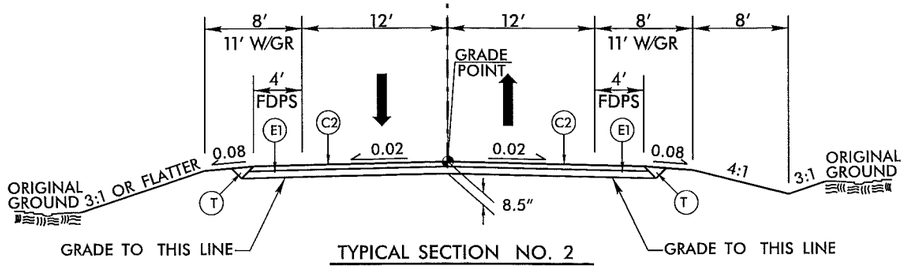


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
AT THE FOLLOWING LOCATIONS:

TRANSITION FROM EXISTING AT –L– STA. 12+00.00
TO TYPICAL SECTION NO. 1 AT –L– STA. 12+50.00
–L– STA. 12+50.00 TO –L– STA. 13+50.00
–L– STA. 15+47.00 TO 16+50.00
TRANSITION FROM TYPICAL NO. 1 AT –L– STA. 16+50.00
TO EXISTING AT –L– STA. 17+00.00

℄ –L–

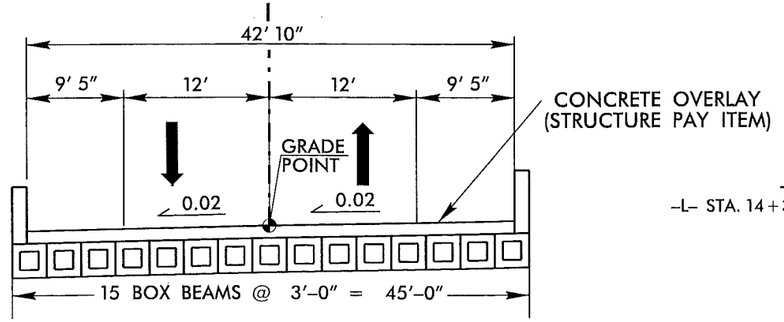


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
AT THE FOLLOWING LOCATIONS:

–L– STA. 13+50.00 TO –L– STA. 14+34.00 (BEGIN BRIDGE)
–L– STA. 15+22.00 (END BRIDGE) TO –L– STA. 15+47.00

℄ –L–



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
AT THE FOLLOWING LOCATIONS:

–L– STA. 14+34.00 (BEGIN BRIDGE) TO –L– STA. 15+22.00 (END BRIDGE)

10-MAY-2012 10:02
B4772_Rdy_typ.dgn
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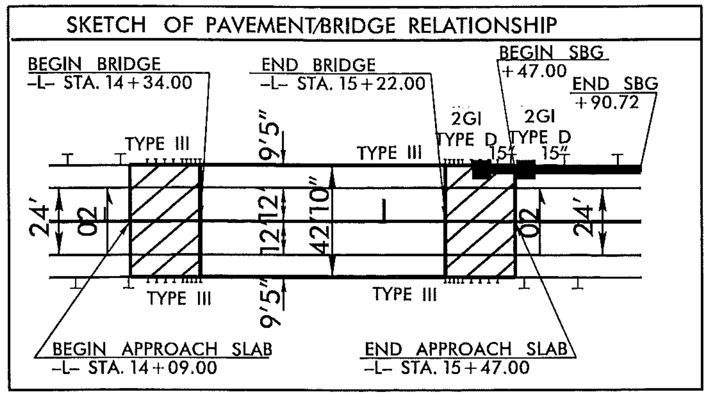
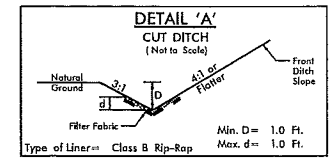
PROJECT REFERENCE NO.	SHEET NO.
B-4772	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

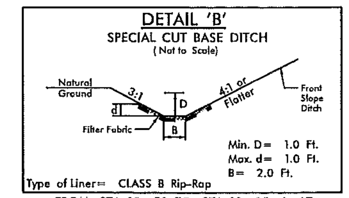
✱ DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED

REVISIONS

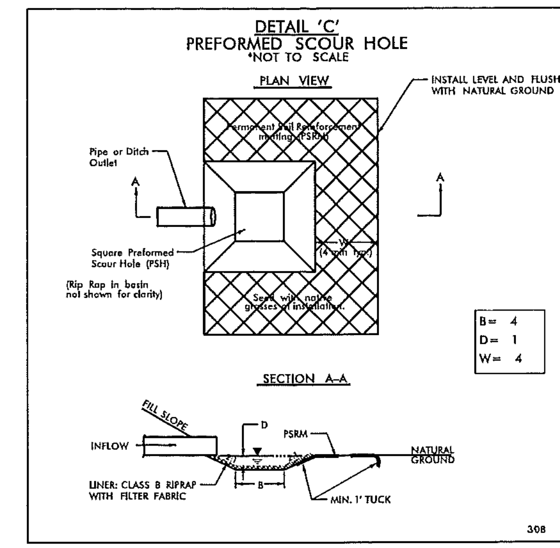




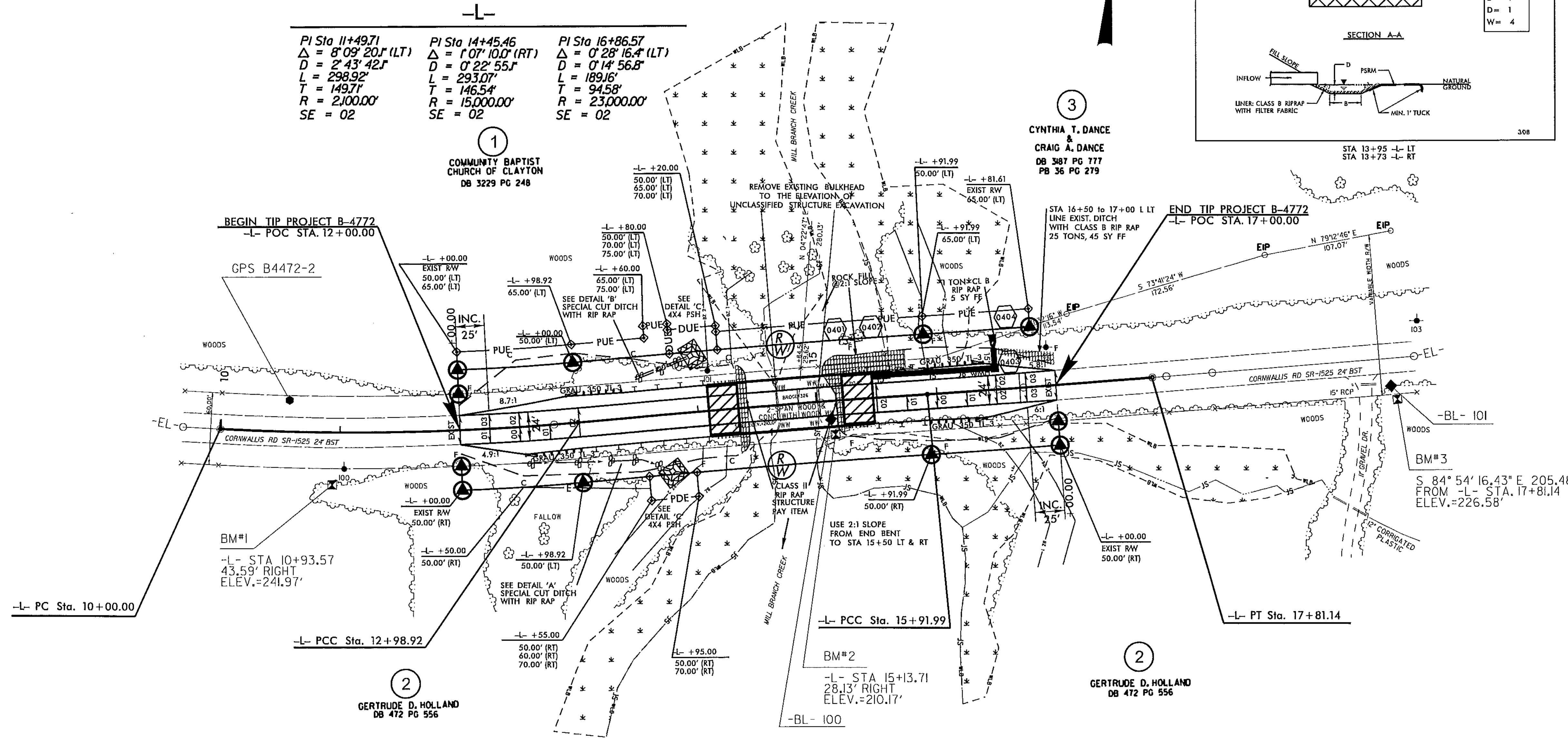
FROM STA. 12+50 TO STA. 13+73 -L- RT



FROM STA. 13+50 TO STA. 13+95 -L- LT



STA 13+95 -L- LT
STA 13+73 -L- RT



NOTE:

1) SEE SHEET 5 FOR -L- PROFILE
2) SEE SHEETS S-? TO S-? FOR STRUCTURE PLANS

8/17/99

26-SEP-2012 08:25
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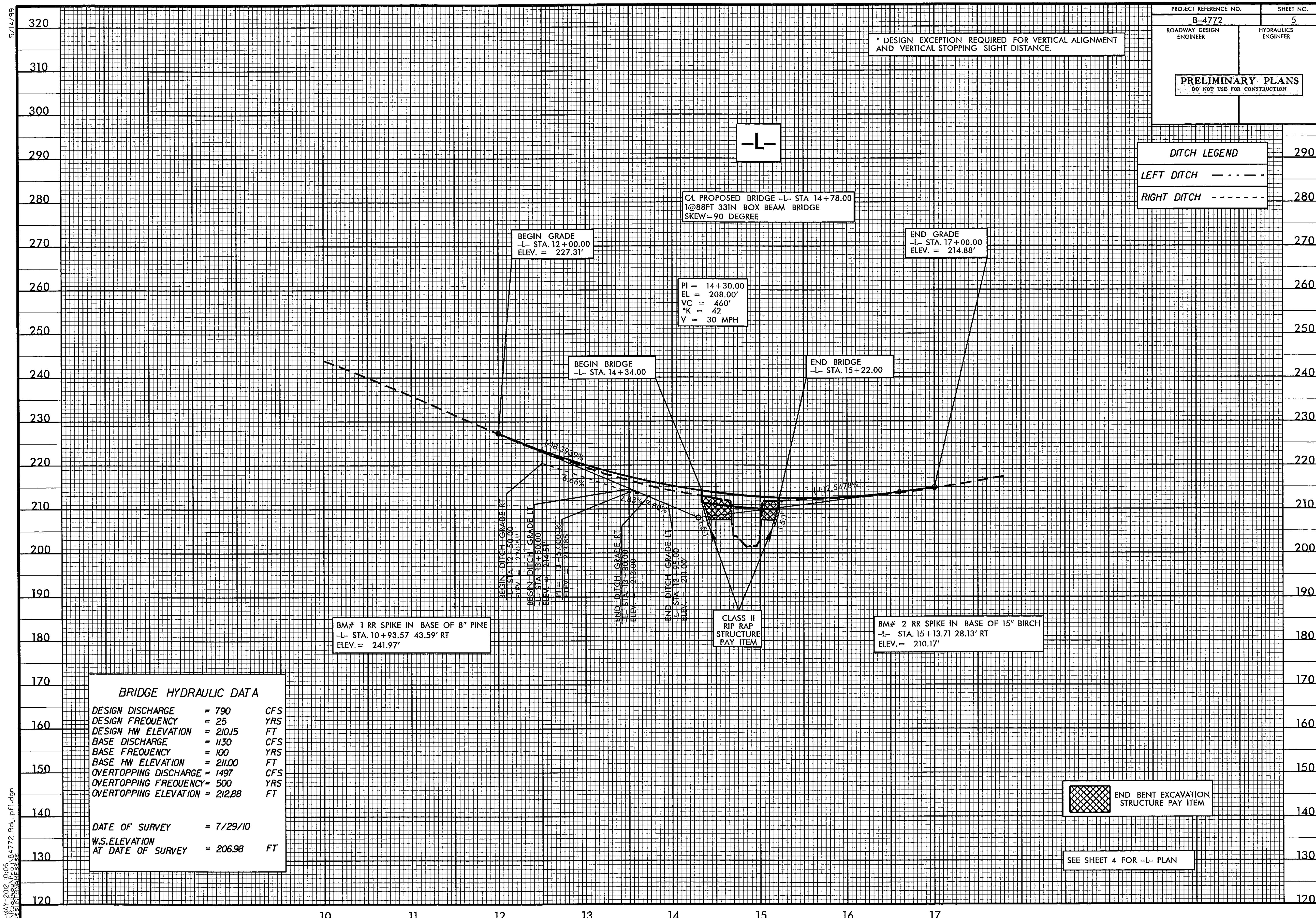
PROJECT REFERENCE NO.	SHEET NO.
B-4772	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

* DESIGN EXCEPTION REQUIRED FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	790	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	210.15	FT
BASE DISCHARGE	=	1130	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	211.00	FT
OVERTOPPING DISCHARGE	=	1497	CFS
OVERTOPPING FREQUENCY	=	500	YRS
OVERTOPPING ELEVATION	=	212.88	FT
DATE OF SURVEY	=	7/29/10	
W.S. ELEVATION AT DATE OF SURVEY	=	206.98	FT

SEE SHEET 4 FOR -L- PLAN

5/14/99

10-MAY-2012 10:06
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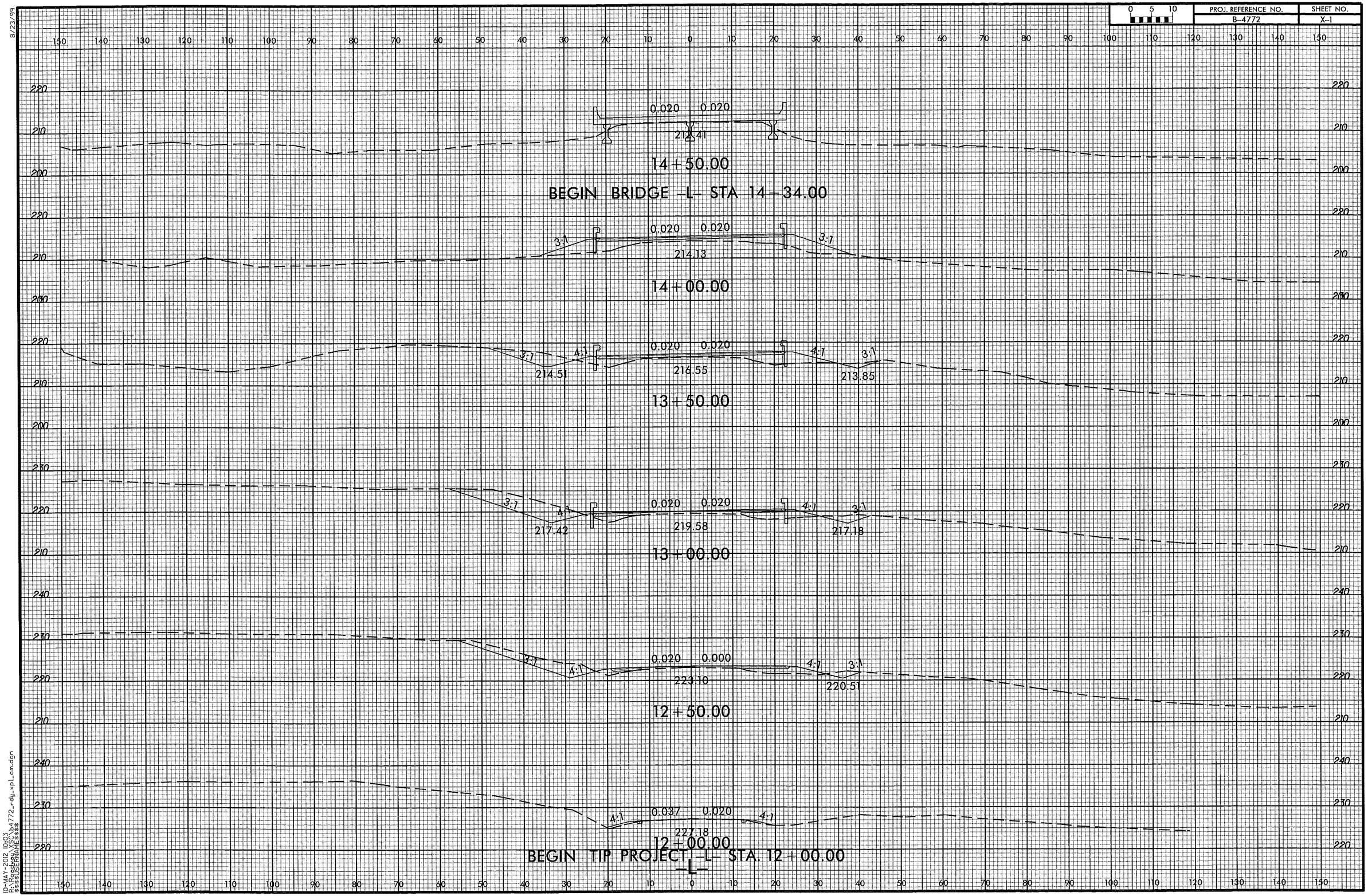
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4772	X-1



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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4772	X-2

END PROJECT -L- STA. 17+00.00

3:1 0.020 0.040 3:1

214.75

17+00.00

3:1 0.020 0.020 3:1

213.46

16+50.00

3:1 0.020 0.000 3:1

212.60

16+00.00

2:1 212.00 0.020 0.020 2:1

212.15

15+50.00

END BRIDGE -L- STA 15+22.00

0.020 0.020

205.19

15+00.00

-L-

10-MAY-2012 10:03
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$$$$USERNAME$$$$