



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

March 27, 2015

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

ATTN: Ms. Liz Hair
NCDOT Coordinator

Dear Madam:

Subject: **Application for Section 404 Nationwide Permits (NWP) 23 & 12 and Section 401 Water Quality Certification** for the replacement of Bridge No. 269 over Big Branch on SR 1849 in Columbus County; TIP Project B-5331; Federal Aid Project No. BRZ-1849(1); Debit \$240 from WBS 46045.1.1.

The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 269 over Big Branch on SR 1849 in Columbus County. The project involves replacement of the existing 55-foot bridge and approaches with a new 90-foot bridge. The roadway approaches will be improved by widening the travel lanes and shoulders for approximately 275 feet from the south end of the new bridge and 155 feet from the north. This will provide for two 11-foot travel lanes and six-foot shoulders (two-feet paved, four-foot turf).

Please see enclosed copies of the Pre-Construction Notification (PCN), Preliminary Jurisdictional Determination Form, permit drawings, utility drawings, stormwater management plan, and roadway plans for the project. A Programmatic Categorical Exclusion (PCE) was completed for this project on March 13, 2014 and distributed shortly thereafter. This project calls for a letting date of November 17, 2015 and a review date of September 29, 2015; however, the let date may advance as additional funding becomes available.

Project construction will require 0.06 acre of fill and 0.14 acre of excavation in wetlands. The project will also impact less than 0.01 acres of surface waters.

Regulatory Approvals

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

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 NW 23 for bridge construction and NW 12 for utility work.

Section 401 Permit: We anticipate 401 General Certification numbers 3891 and 3884 will apply to this project.

A copy of this permit application and its distribution list will be posted on the NCDOT Website at <https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>, under Quick Links > Permit Applications. A copy of the PCE is also available at the above website address under Quick Links > Environmental Documents. Thank you for your assistance with this project. If you have any questions or need additional information, please contact Gordon Cashin at (919) 707-6107.

Sincerely,



RW

Richard W. Hancock, P.E., 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:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> 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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input type="checkbox"/> Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacement of Bridge 269 over Big Branch on SR 1849 (Delco-Prosper Road)
2b. County:	Columbus
2c. Nearest municipality / town:	Delco
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-5331

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6107
3g. Fax no.:	(919) 431-2002
3h. Email address:	gcashin@ncdot.gov

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

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 34.300230 Longitude: -78.216016 (DD.DDDDDD) (-DD.DDDDDD)
1c. Property size:	12.2 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Big Branch
2b. Water Quality Classification of nearest receiving water:	C, Sw
2c. River basin:	Cape Fear River Basin
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Undeveloped forestland, agriculture, silviculture, and low density residential along roadways.	
3b. List the total estimated acreage of all existing wetlands on the property: 2.85	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 300	
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 55-foot bridge with a 90-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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):Veronica Barnes, Lance Fontaine	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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	fill	Riverine swamp forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input checked="" type="checkbox"/> DWQ	0.06
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	excavation	Riverine swamp forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input checked="" type="checkbox"/> DWQ	0.14
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input checked="" type="checkbox"/> DWQ	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
2g. Total wetland impacts					0.20 Perm.

2h. Comments: There will be 0.09 acre of hand clearing, and 0.02 acre of temporary fill in wetlands in hand clearing areas for erosion control measures. There will be 0.17 acre of handclearing in wetlands for utility work.

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 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts						0.0

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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Big Branch	Fill - bent placement	stream	<0.01.
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
4f. Total open water impacts				<0.01 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?			<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input type="checkbox"/> Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required? <input type="checkbox"/> Yes <input type="checkbox"/> No	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
6i. Comments:					

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The proposed bridge is 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, BMP's for the protection of surface waters 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input checked="" type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input checked="" type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	0.40 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> 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):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments: A Programmatic Categorical Exclusion was completed March 13, 2014	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation 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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input type="checkbox"/> 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, NCDOT field surveys		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
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)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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		
for <u>Richard W. Hancock, PE</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	<u>3-25-2015</u> Date



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Ecosystem Enhancement Program

Donald R. van der Vaart
Secretary

March 18, 2015

Mr. Richard W. Hancock, P.E.
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

Subject: EEP Mitigation Acceptance Letter:

B-5331, Replace Bridge 269 over Big Branch on SR 1849, Columbus County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory riparian wetland mitigation for the subject project. Based on the information supplied by you on March 11, 2015, the impacts are located in CU 03030005 of the Cape Fear River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Cape Fear 03030005 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.20	0	0	0	0

*Some of the stream impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

EEP commits to implementing sufficient compensatory riparian wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
EEP Asset Management Supervisor

cc: Ms. Liz Hair, USACE – Wilmington Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: B-5331

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-5331 Description: Replace Bridge No. 269 over Big Branch Creek on SR 1849 (Delco-Prosper Road)

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: NC County/parish/borough: Columbus City:

Center coordinates of site (lat/long in degree decimal format):

Lat. 34.300230 °N, Long. : -78.216016 ° W

Universal Transverse Mercator: NA

Name of nearest waterbody: Big Branch

Identify (estimate) amount of waters in the review area:

Non-wetland waters: See table, linear feet: 300

Cowardin Class: Riverine

Stream Flow: Perennial

Wetlands: 2.85 acres.

Cowardin Class: Forested, emergent

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: (National 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)

Goda E. Cali 3/17/15

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



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-5331 **County(ies):** Columbus **Page** 1 **of** 1

General Project Information

Project No.:	B-5331	Project Type:	Bridge Replacement	Date:	10/27/2014
NCDOT Contact:	Paul Atkinson, PE	Contractor / Designer:	Rachel Evans, PE		
Address:	1020 Birch Ridge Drive Raleigh, NC 27610	Address:	1020 Birch Ridge Drive Raleigh, NC 27610		
	Phone: 919-707-6707		Phone:	919-707-6719	
	Email:		Email:		
City/Town:	Delco	County(ies):	Columbus		
River Basin(s):	Cape Fear	CAMA County?	No		
Primary Receiving Water:	Big Branch	NCDWQ Stream Index No.:	18-64-10		
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:	Class C			
	Supplemental:	Swamp Waters (Sw)			
Other Stream Classification:	None				
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

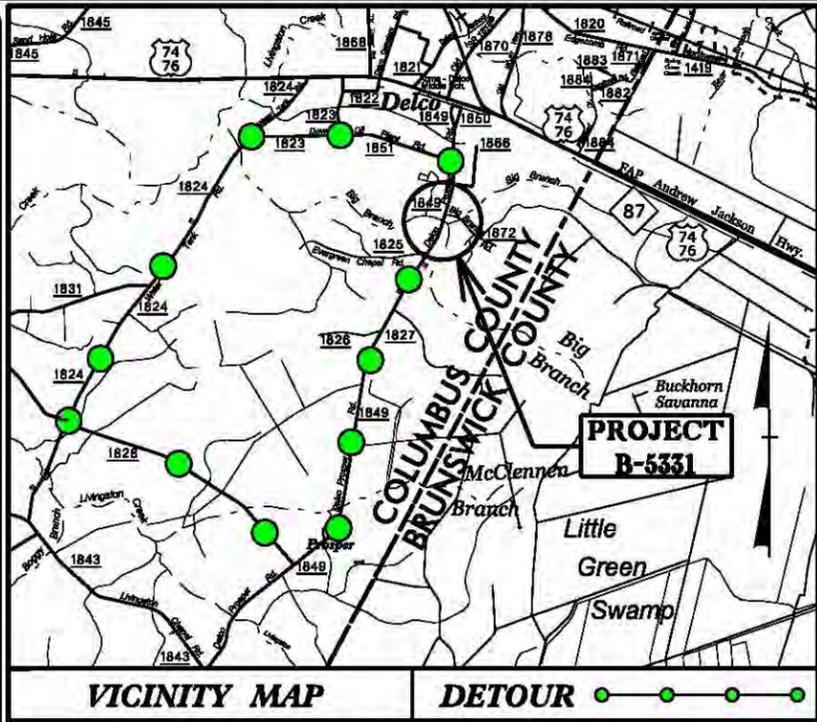
Project Description

Project Length (lin. Miles or feet):	0.087 miles	Surrounding Land Use:	rural, wooded, swamp, residential		
Project Built-Up Area (ac.)	Proposed Project ac.		Existing Site ac.		
Typical Cross Section Description:	34' Road shoulder section: 2- 11' lanes; 6' to 9' shoulders. 33' bridge out to out; 30.8' clear roadway: 2- 11' lanes; 4.4' shoulders.		18' Road shoulder section. Existing bridge: 2 lane; 25.3' bridge out to out; 24' clear roadway.		
Average Daily Traffic (veh/hr/day):	Design/Future:	2,100 (2035)	Existing:	1433 (2015)	

General Project Narrative: Replace existing bridge, length=55' with RC floor on I-beams, with a 90' long, 21" cored slab bridge at existing location. An off-site detour will be used. This project has two storm drainage systems collecting a small amount of bridge/roadway discharge which will outlet into proposed ditches that tie to existing ditches. Stream and wetland impacts are minimized by keeping fill slopes as steep as possible. Deck drains are not utilized on the bridge. Vegetated ditches are utilized where ditches are required. Existing drainage patterns are maintained to the maximum extent practicable.

References

TIP PROJECT: B-5331

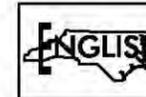


VICINITY MAP

DETOUR

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5331	1	
STATE FILING NO.	R.A. FILING NO.	DESCRIPTION	
46045.1.1	BRZ-1849(1)	PE	
46045.2.1	BRZ-1849(1)	R/W, UTIL.	

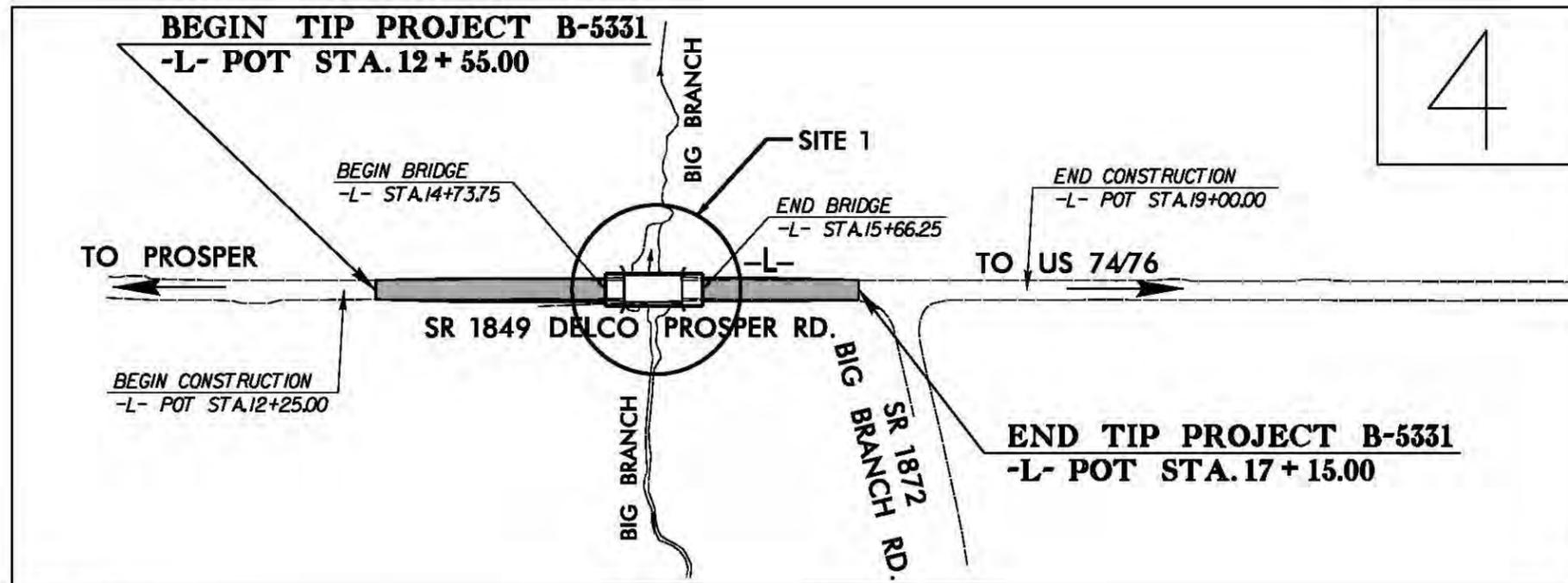
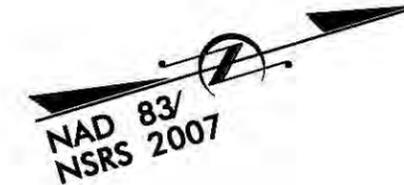
COLUMBUS COUNTY

LOCATION: BRIDGE NO. 269 OVER BIG BRANCH
ON SR 1849 (DELCO PROSPER ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

WETLAND AND STREAM IMPACTS

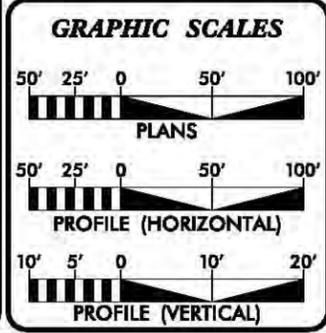
PERMIT DRAWING
SHEET 1 OF 8



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2015 = 1,433
ADT 2035 = 2,100
K = 9 %
D = 60 %
T = 5 % *
V = 60 MPH
* TTST = 2% DUAL = 3%
FUNC CLASS = RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5331 = 0.069 MI.
LENGTH STRUCTURE TIP PROJECT B-5331 = 0.018 MI.
TOTAL LENGTH OF TIP PROJECT B-5331 = 0.087 MI.

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

2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: NOVEMBER 21, 2014
LETTING DATE: NOVEMBER 17, 2015

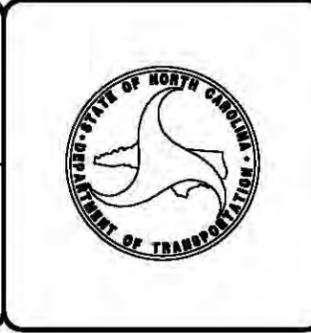
REKHA PATEL, P.E. PROJECT ENGINEER
BRIAN ROBINSON PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

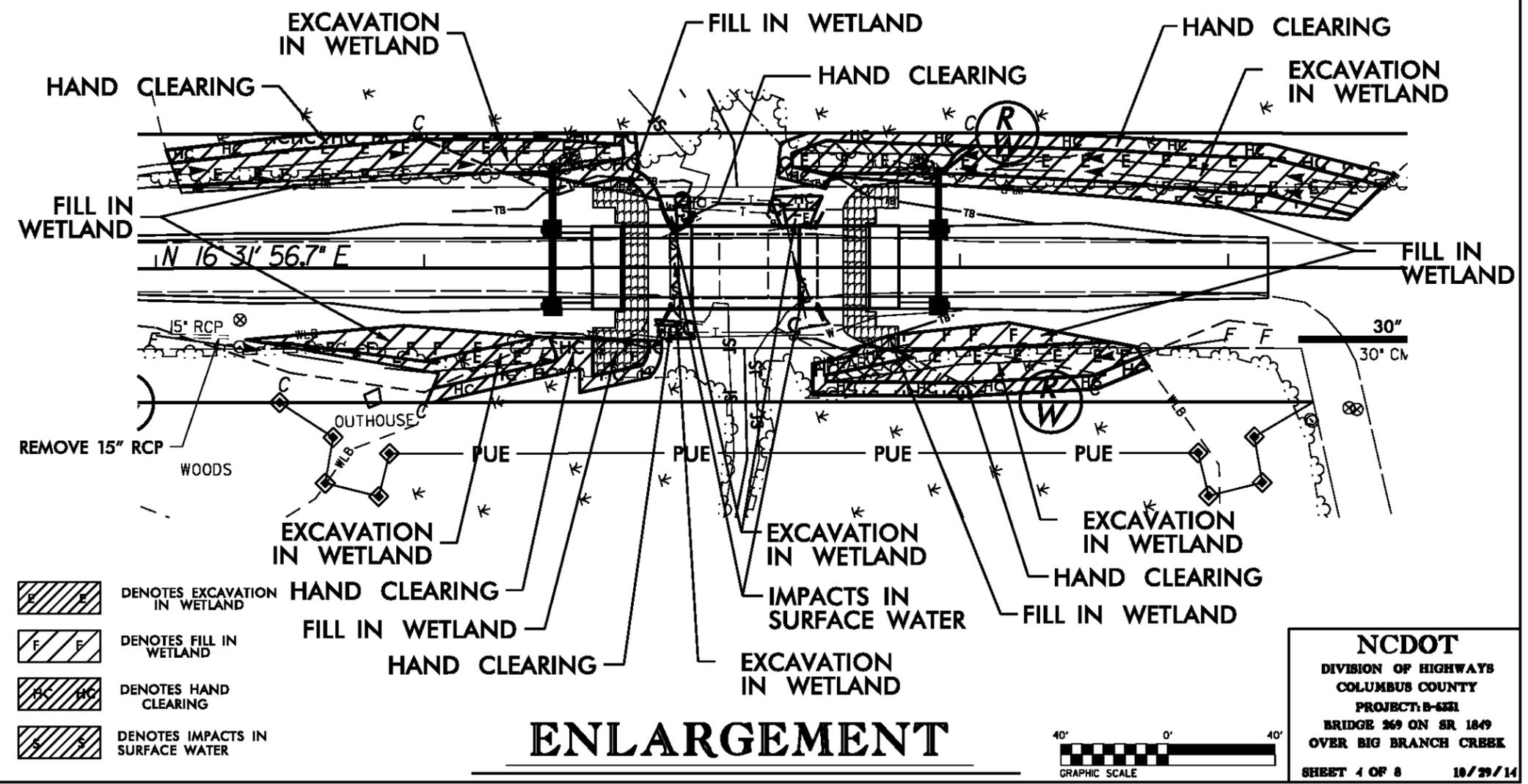
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



12/16/2014 mshaikh R:\Hydraulics\PERMITS_Environmental\Drawings\b5331_Hyd_perm_tsh.dgn

12/16/2014
 mshaikh
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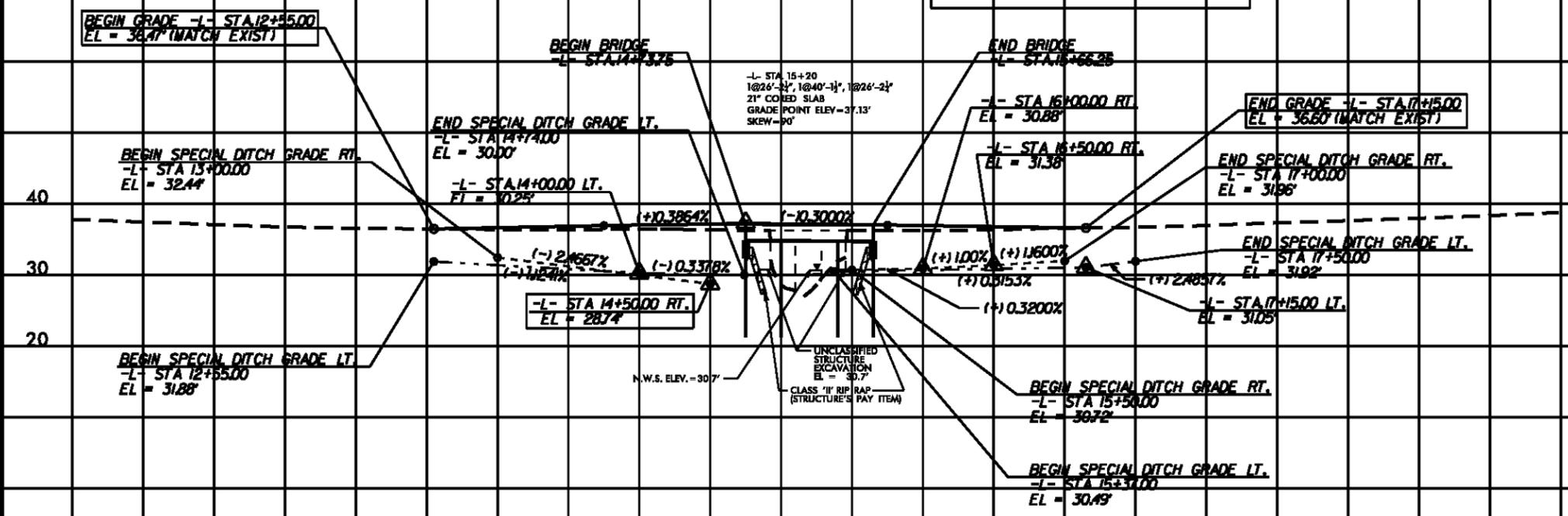


5/14/99



STRUCTURE HYDRAULIC DATA	
DESIGN DISCHARGE	= 950 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 340 FT
BASE DISCHARGE	= 1,300 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 350 FT
OVERTOPPING DISCHARGE	= 1,800+ CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 365 FT

PI = 14+75.00
 EL = 37.32'
 VC = 200'
 K = 291



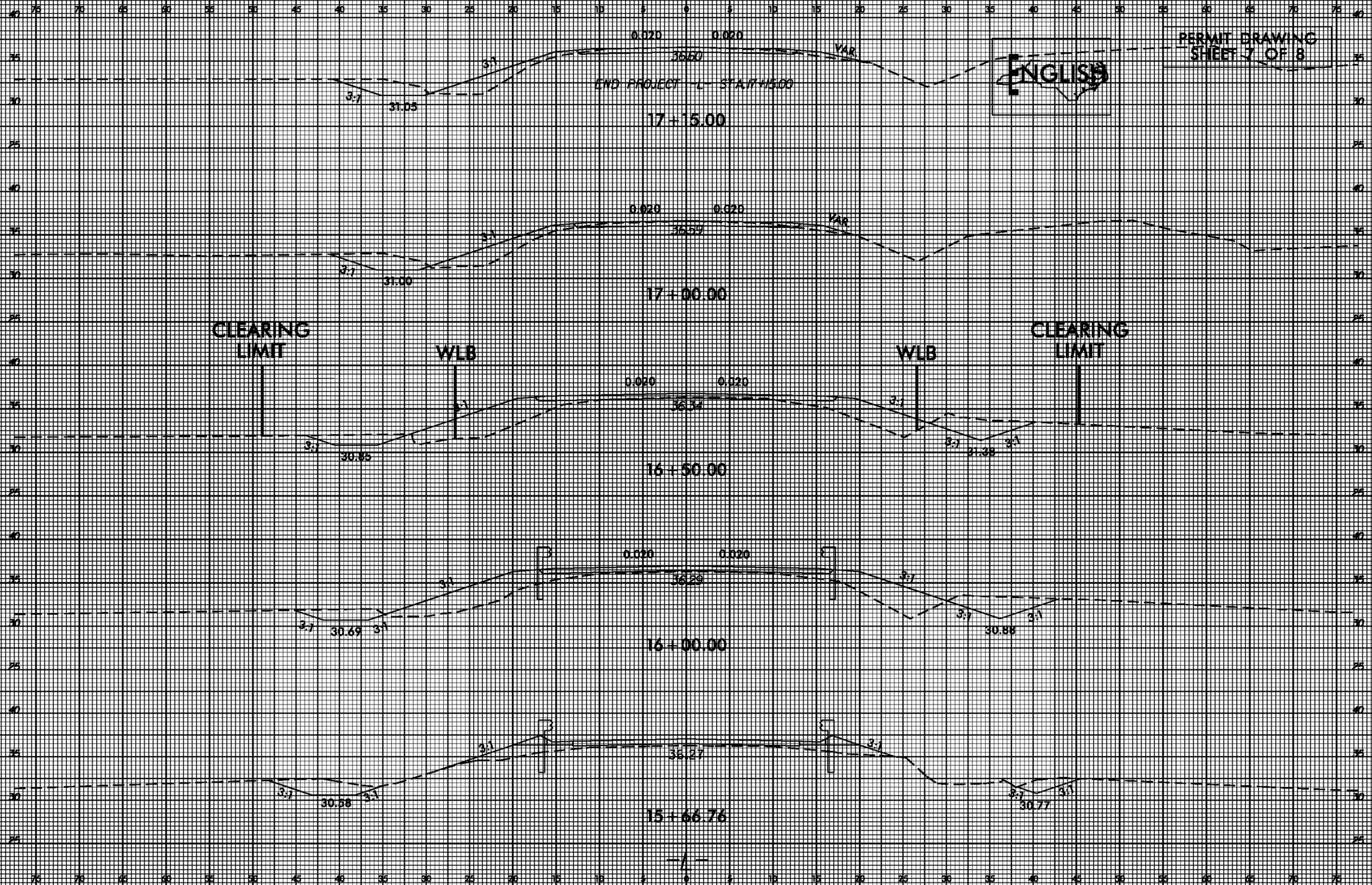
RIGHT DITCH - - - - -

LEFT DITCH - - - - -

FOR -L- PLAN VIEW
SEE SHEET 4

12/18/2014
 beanderson
 R:\Hydraulics\PERMITS_Environmental\Drawings\B5331_Hyd_prm_pfi.dgn

8/23/99



12/6/2014
mahalich
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\$\$\$\$\$USERNAME\$\$\$\$\$

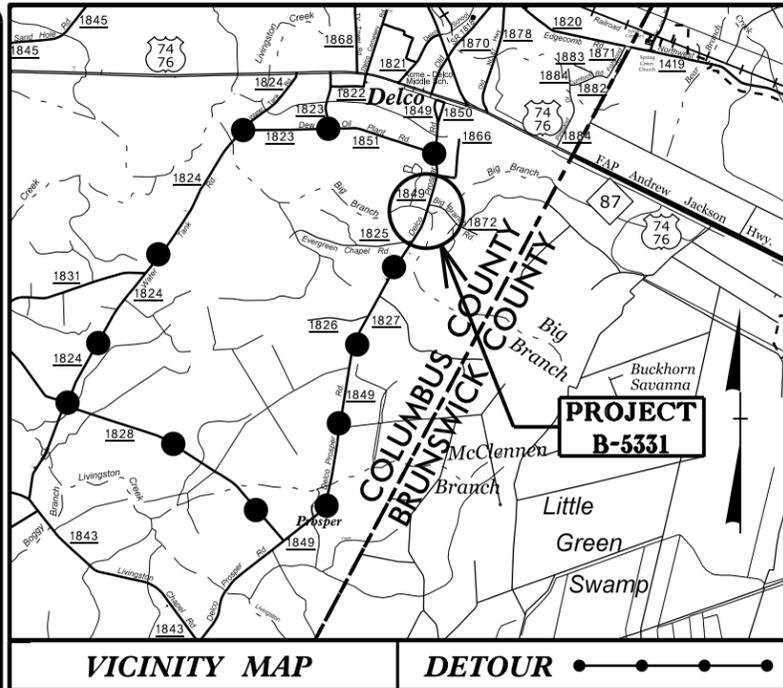
WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
1	-L- STA 13+03 TO -L- STA 17+63	BRIDGE	0.06		0.14			0.09	< 0.01				
TOTALS:			0.06		0.14			0.09	< 0.01				

NOTES:
 Permanent impacts due to bent in water or wetlands: 11.0 sq. ft.
 0.02 acres of Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 B-5331
 COLUMBUS COUNTY
 BRIDGE 0269 ON SR 1849
 OVER BIG BRANCH CREEK
 SHEET 8 OF 8 3/24/2015

TIP PROJECT: B-5331



VICINITY MAP

DETOUR

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

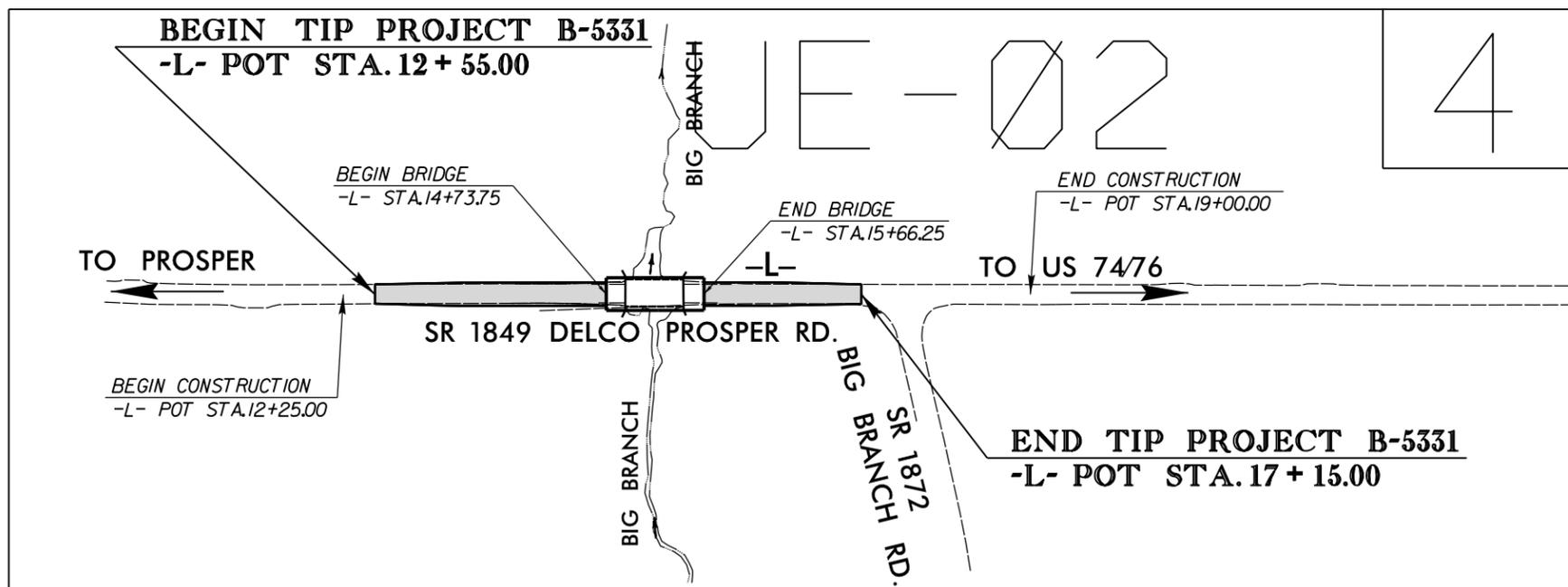
NEU PERMIT DRAWING PLANS

**LOCATION: BRIDGE NO. 269 OVER BIG BRANCH
ON SR 1849 (DELCO PROSPER ROAD)**

TYPE OF WORK: RELOCATING UTILITY LINES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5331	UE-01	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
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46045.2.1	BRZ-1849(1)	RW, UTIL.	

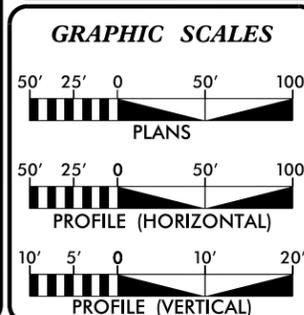
Utility Permit Drawings
Sheet 1 of 3



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2015 =	1,433
ADT 2035 =	2,100
K =	9 %
D =	60 %
T =	5 % *
V =	60 MPH
* TTST = 2% DUAL = 3%	
FUNC CLASS =	RURAL LOCAL
SUBREGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5331 =	0.069 MI.
LENGTH STRUCTURE TIP PROJECT B-5331 =	0.018 MI.
TOTAL LENGTH OF TIP PROJECT B-5331 =	0.087 MI.

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

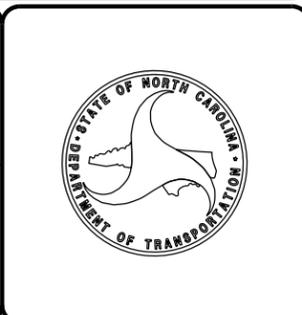
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: NOVEMBER 21, 2014	REKHA PATEL, P.E. PROJECT ENGINEER
LETTING DATE: NOVEMBER 17, 2015	BRIAN ROBINSON PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



02-JAN-2015 07:44 R:\Utilities\Engineering\NEU\Permit Plans and Narrative\b5331_ut_1sh_UE01_psh.dgn \$\$\$USERNAME\$\$\$

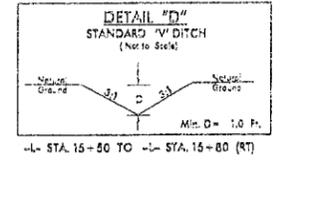
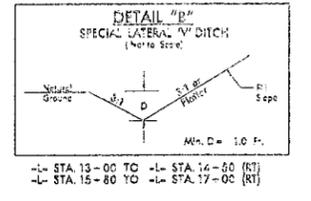
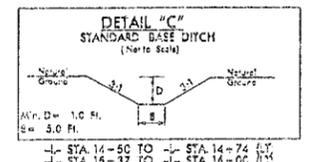
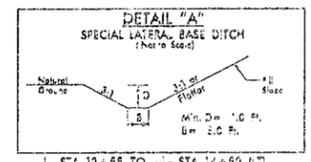
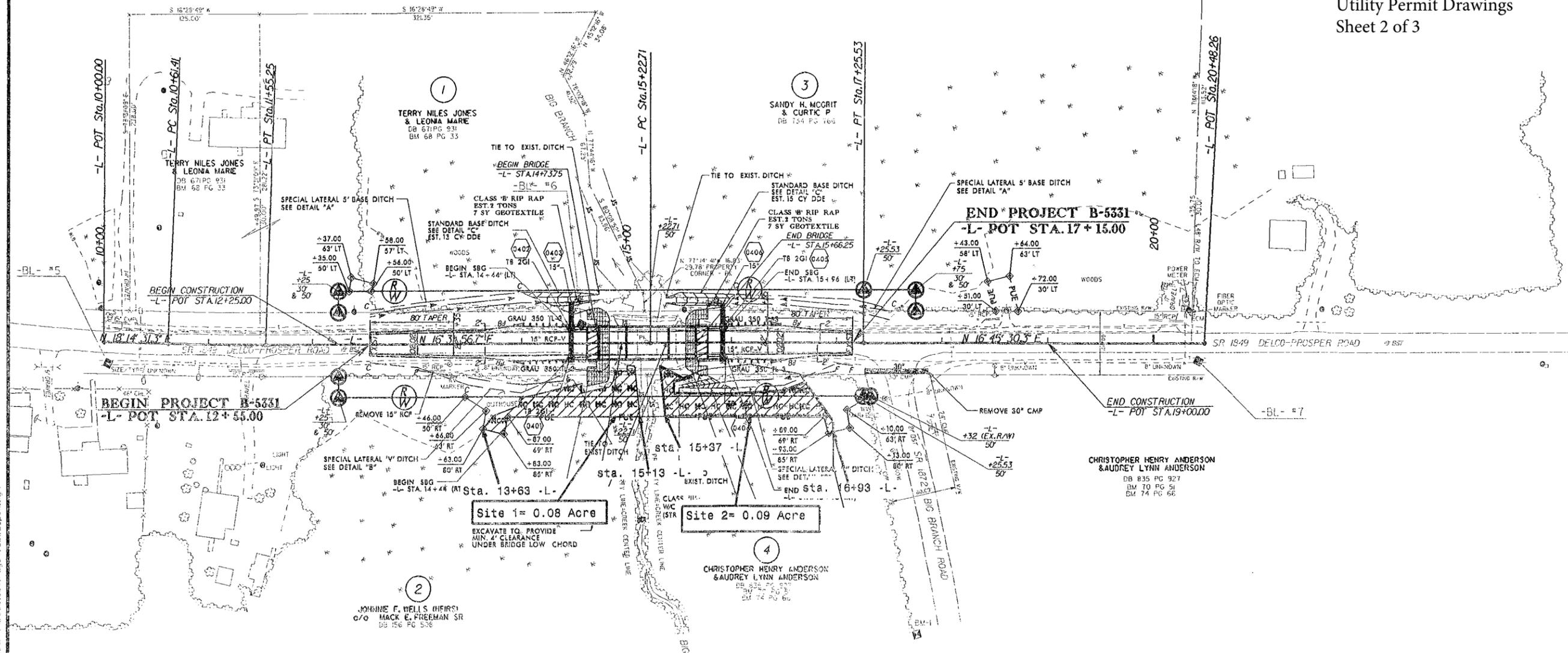
PROJECT REFERENCE NO. B-5331	SHEET NO. UE-02
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L- CURVE DATA

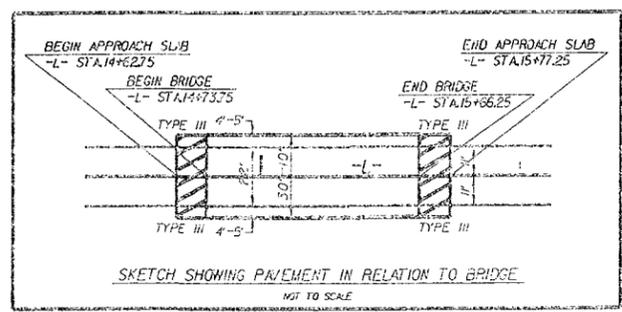
PI Sta 11+08.34	PI Sta 16+24.12
$\Delta = 1' 42' 34.6''$ (LT)	$\Delta = 0' 13' 33.6''$ (RT)
$D = 1' 49' 18.5''$	$D = 0' 06' 41''$
$L = 93.84'$	$L = 202.82'$
$T = 46.92'$	$T = 101.4'$
$R = 3,145.00'$	$R = 51,420.00'$

NAD 83/NSRS 2007

Utility Permit Drawings
Sheet 2 of 3



HC HC DENOTES HAND CLEARING



NOTES: (1) SEE SHEET 5 FOR -L- PROFILE
(2) SEE SHEETS S- TO S- FOR STRUCTURE DETAILS

REVISIONS

Revision: B-331, ut-edj04, UE02, psh/dgn

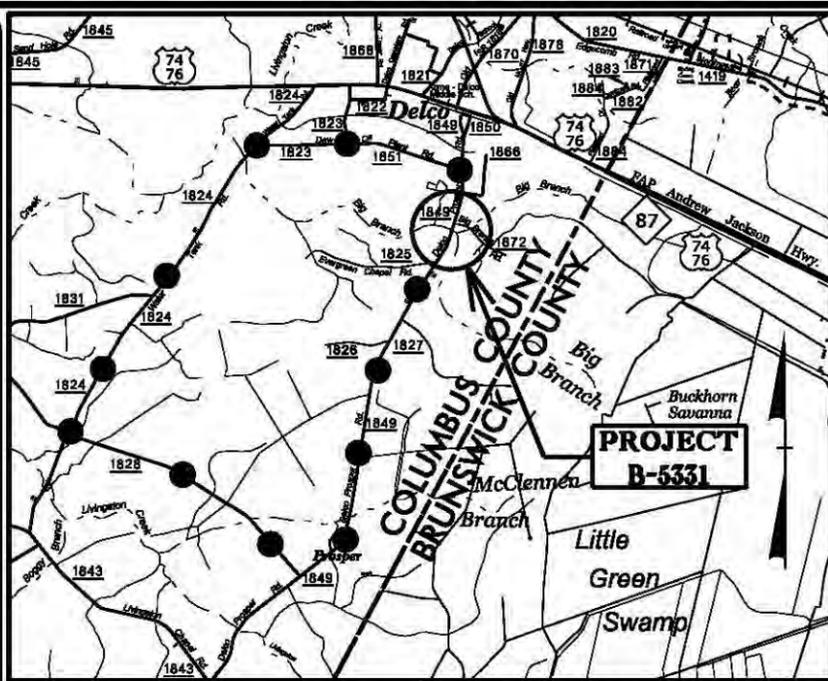
WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L-13+63 TO 15+13 (SHEET 4)	Aerial Power line					0.08					
2	-L-15+37 TO 16+93 (SHEET 4)	Aerial power lines					0.09					
TOTALS:			0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00

Utility Permit Drawings
Sheet 3 of 3

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
COLUMBUS COUNTY
TIP PROJECT (B-5331)

TIP PROJECT: B-5331



VICINITY MAP

DETOUR

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

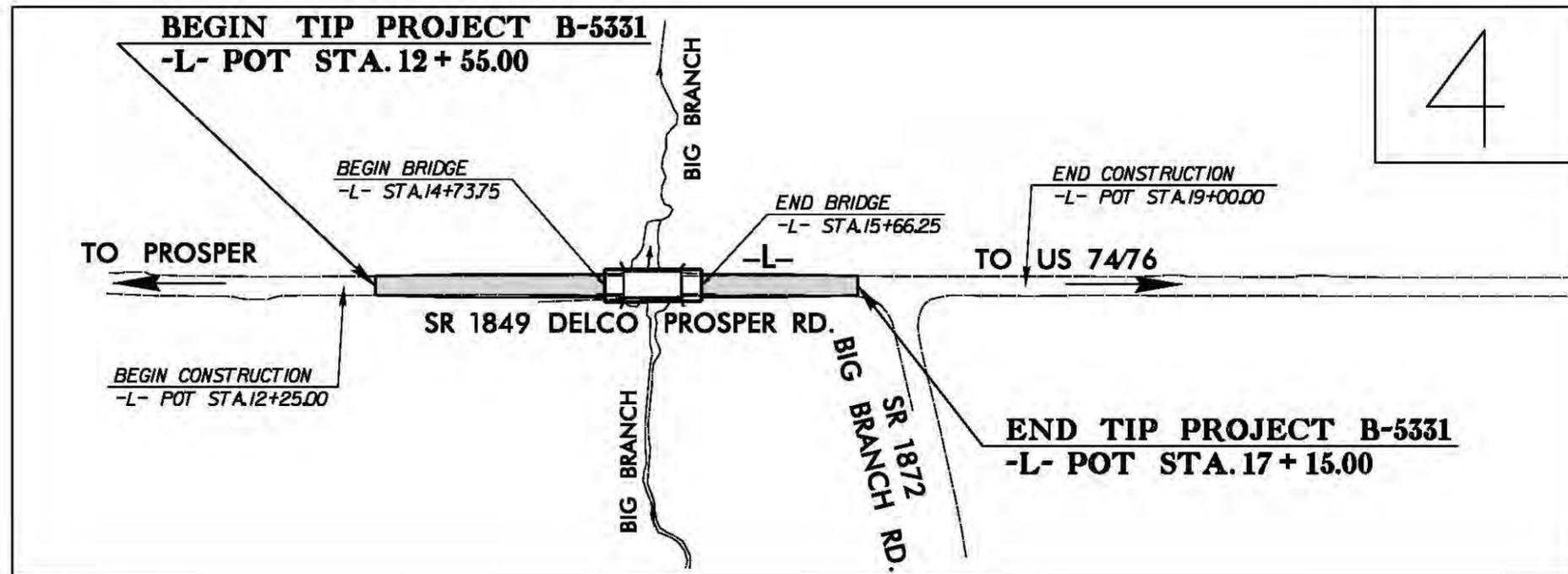
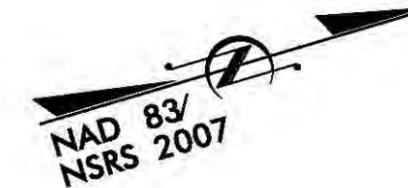
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

**LOCATION: BRIDGE NO. 269 OVER BIG BRANCH
ON SR 1849 (DELCO PROSPER ROAD)**

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5331	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46045.1.1	BRZ-1849(1)	PE	
46045.2.1	BRZ-1849(1)	RW, UTIL.	

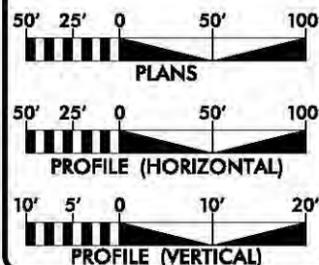


THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2015 = 1,433
ADT 2035 = 2,100
K = 9 %
D = 60 %
T = 5 % *
V = 60 MPH
* TTST = 2% DUAL = 3%
FUNC CLASS = RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5331 = 0.069 MI.
LENGTH STRUCTURE TIP PROJECT B-5331 = 0.018 MI.
TOTAL LENGTH OF TIP PROJECT B-5331 = 0.087 MI.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 26, 2014

LETTING DATE:
NOVEMBER 17, 2015

REKHA PATEL, P.E.
PROJECT ENGINEER

BRIAN ROBINSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



12/05/11

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	○
Property Corner	✕
Property Monument	□
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
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	○
Well	♀
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	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite R/W Marker	○
Proposed Control of Access Line with Concrete C/A Marker	○
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent 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	XXXX
VEGETATION:	
Single Tree	✪
Single Shrub	✪
Hedge	-----
Woods Line	-----

Orchard	✪
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	⊕
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	□
H-Frame Pole	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	⊠
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	□
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

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

TV:

TV Satellite Dish	☞
TV Pedestal	⊠
TV Tower	⊠
U/G TV Cable Hand Hole	□
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	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	----- A/G Gas

SANITARY SEWER:

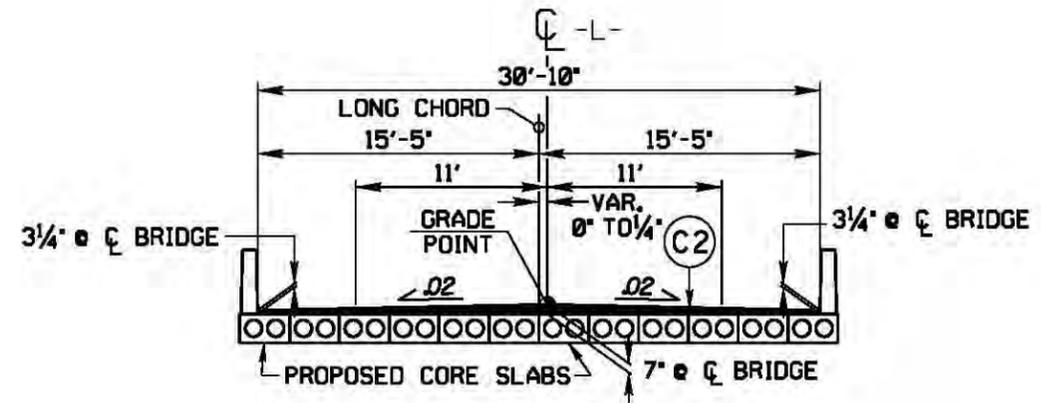
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
Recorded SS Forced Main Line	----- FMS
Designated SS Forced Main Line (S.U.E.*)	----- FMS

MISCELLANEOUS:

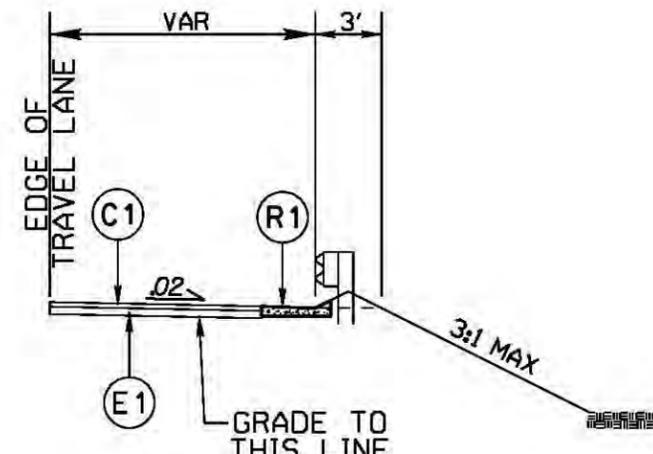
Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.6A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 455 LBS. PER SQ. YD.
R1	CONCRETE SHOULDER BERM GUTTER
T	EARTH MATERIAL

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



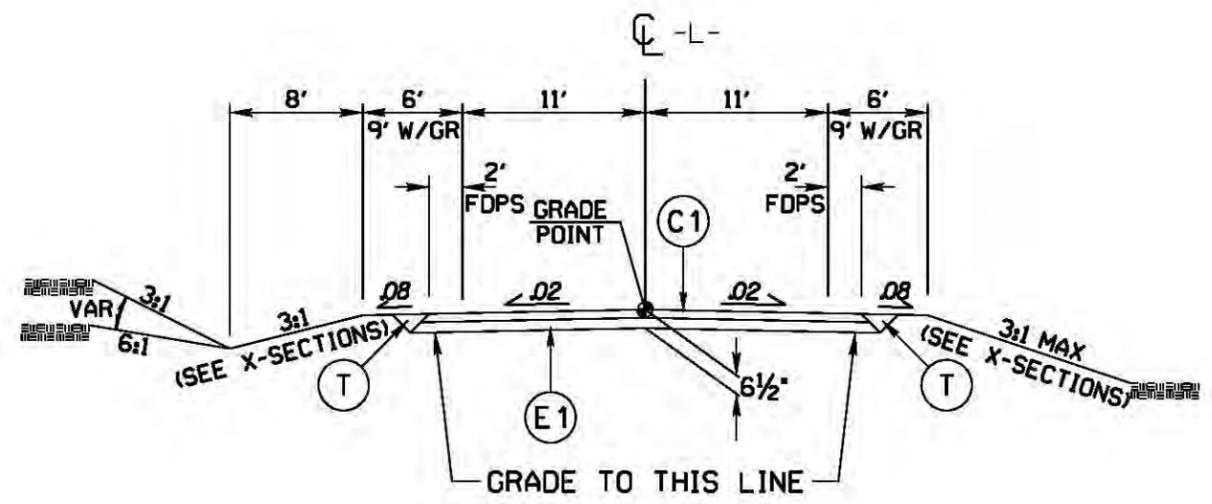
TYPICAL SECTION ON STRUCTURE
(SEE STRUCTURE PLANS)
-L- STA. 14+73.75 TO -L- STA. 15+66.25



INSET NO. 1

INSET NO. 1

Use with Typical Section No. 1
 -L- STA. 14+44.00 TO -L- STA. 14+62.75 (RT.)
 -L- STA. 14+44.00 TO -L- STA. 14+62.75 (LT.) REVERSE
 -L- STA. 15+77.25 TO -L- STA. 15+96.00 (RT.)
 -L- STA. 15+77.25 TO -L- STA. 15+96.00 (LT.) REVERSE



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 13+35.00 TO -L- STA. 14+73.75 (BEGIN BRIDGE)
 -L- STA. 15+66.25 (END BRIDGE) TO -L- STA. 16+35.00

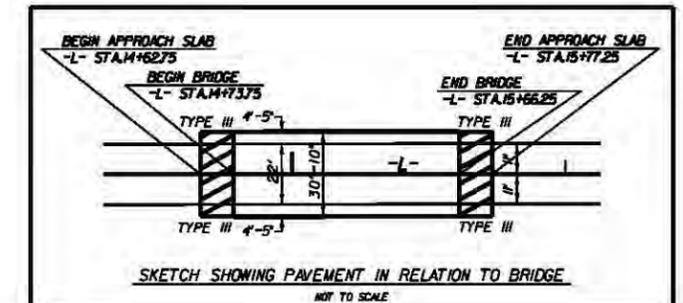
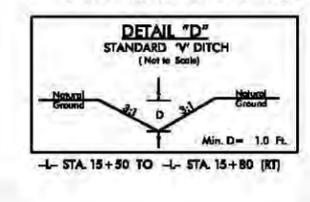
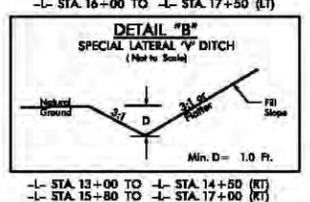
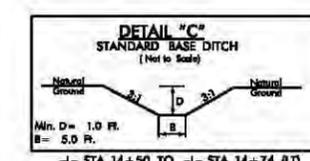
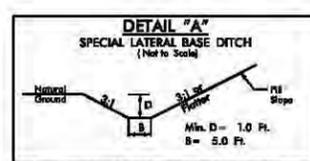
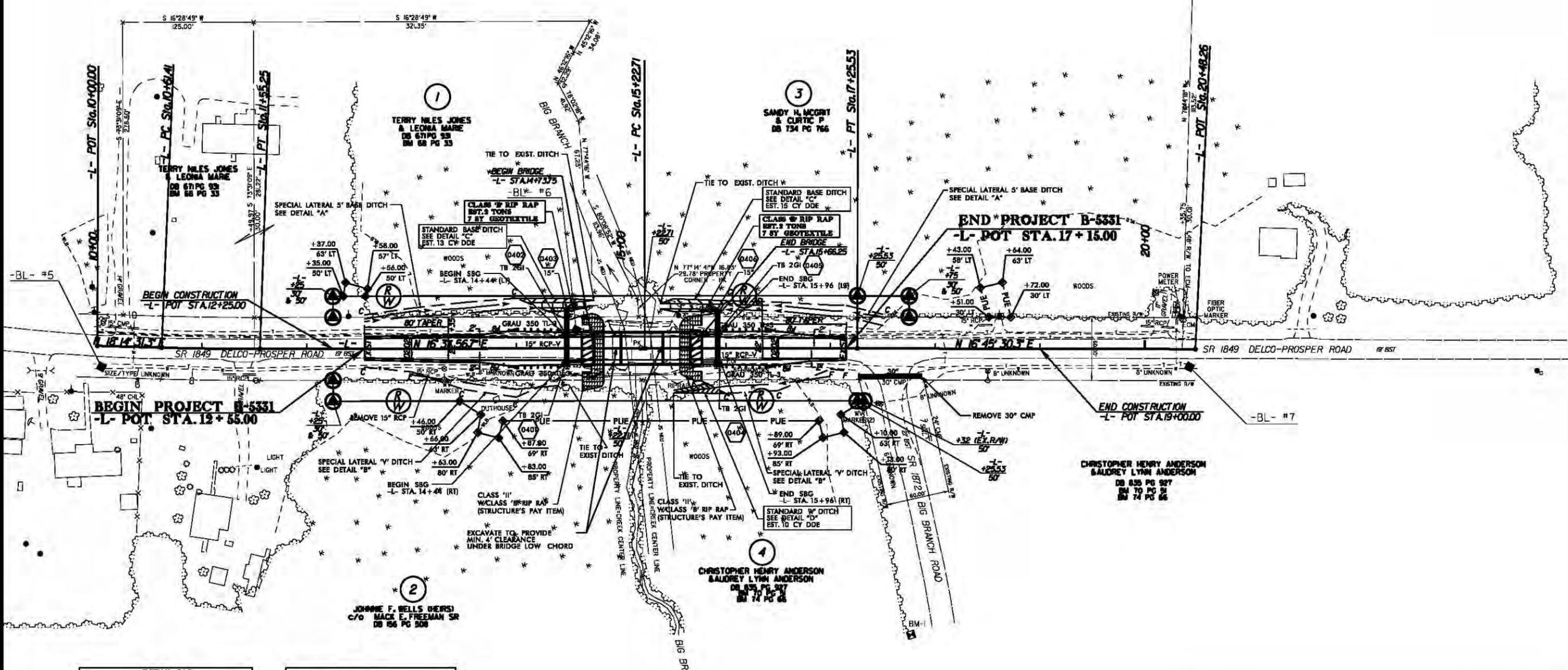
NOTES:
 (1) TRANSITION FROM EXISTING TO T.S. NO. 1
 -L- STA. 12+55.00 TO -L- STA. 13+35.00
 (2) TRANSITION FROM T.S. NO. 1 TO EXISTING
 -L- STA. 16+35.00 TO -L- STA. 17+15.00

-L- CURVE DATA

PI Sta 11+08.34	PI Sta 16+24.12
$\Delta = 142^\circ 34' 5" (LT)$	$\Delta = 013^\circ 33' 6" (RT)$
$D = 149' 18.5"$	$D = 0' 06' 4.1"$
$L = 93.84'$	$L = 202.82'$
$T = 46.92'$	$T = 101.4'$
$R = 3,145.00'$	$R = 5,1420.00'$

NAD 83/NSRS 2007

REVISIONS



NOTES: (1) SEE SHEET 5 FOR -L- PROFILE
(2) SEE SHEETS S- TO S- FOR STRUCTURE DETAILS

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