



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

December 10, 2013

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

ATTN: Mr. Ronnie Smith
NCDOT Division 8 Project Coordinator

SUBJECT: **Application for Section 404 Nationwide Permit Numbers 23 and 33 and Section 401 Water Quality Certification** for the replacement of Bridge No. 17 over Gum Swamp Creek on U.S. 15/401, Scotland County, North Carolina. Federal Aid Project No. BRSTP-15(18), TIP No. B-4639.

Debit \$240.00 from WBS Element No. 38449.1.1

Please find enclosed the Pre-Construction Notification (PCN), Preliminary Jurisdictional Determination (JD), Stormwater Management Plan, permit drawings, and roadway design plans for the subject project. A Categorical Exclusion (CE) was completed for this project in August 2012.

The proposed let date for this project is July 15, 2014, with a let review date of May 27, 2014. However, the let date may advance as additional funds become available.

A copy of this permit application 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 CE 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 Jim Mason at either jsmason@ncdot.gov or (919) 707-6136.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. W. Hancock", with a checkmark to the left.

Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List

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

PHYSICAL ADDRESS:
Century Center - Building B
1020 Birch Ridge Dr
Raleigh, NC 27610-4328



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 33 or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes ☒ No
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit ☐ 401 Water Quality Certification – Express ☐ Riparian Buffer Authorization	
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No
For the record only for Corps Permit: ☐ Yes ☒ No	
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	☒ Yes ☐ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes ☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes ☒ No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 17 over Gum Swamp Creek on U.S. 15/401
2b. County:	Scotland
2c. Nearest municipality / town:	Laurinburg
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4639

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) 707-6136
3g. Fax no.:	(919) 212-5785
3h. Email address:	jsmason@ncdot.gov

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

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 34.7126 (DD.DDDDDD) Longitude: - 79.5167 (-DD.DDDDDD)
1c. Property size:	3.9 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Gum Swamp Creek (Lytech's Pond)
2b. Water Quality Classification of nearest receiving water:	B Sw
2c. River basin:	Lumber
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: U.S. 15/401 is classified as an urban minor arterial in the Statewide Functional Classification System and is not a National Highway System Route. Land use within the vicinity includes Forested Land, Agriculture, Mid-Density Residential, and Commercial.	
3b. List the total estimated acreage of all existing wetlands on the property: 1.05 acres	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 770 linear feet	
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 consists of replacing the existing eight-span, 162-foot long bridge with a three-span, 181-foot bridge on the existing alignment. Traffic will be maintained via an on-site detour. The detour will be constructed to the north of the existing transportation facility and a temporary bridge will be employed. Portions of the detour will be constructed through wetland areas, which will require temporary fill to be placed into them. One temporary causeway is proposed to assist with bridge construction. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: On-site visit by Kim Garvey (USACE) on 3/30/2010; Prelim JD received 4/7/2010.	☒ 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): Principal Investigator: Jim Mason	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. April 7, 2010	
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	Permanent Fill	Riverine Swamp Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.10	
Site 1 ☐ P ☒ T	Temporary Fill	Riverine Swamp Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.23	
Site 2 ☒ P ☐ T	Permanent Fill	Riverine Swamp Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	<0.01	
Site 2 ☐ P ☒ T	Temporary Fill	Riverine Swamp Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.09	
Site 3 ☒ P ☐ T	Permanent Fill	Riverine Swamp Forest/ Bottomland Hardwood Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	<0.01	
Site 4 ☒ P ☐ T	Permanent Fill	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☐ DWQ	<0.01	
2g. Total wetland impacts					0.11 ac Perm.* 0.32 ac Temp.*	
2h. Comments: In addition to the impacts listed above, a total of 0.14 ac. of hand clearing will also occur (this is the rounded total based on the sum of the actual impacts), with 0.08 ac. occurring at Site 1, 0.03 ac. occurring at Site 2, 0.01 ac. occurring at Site 3, and less than 0.01 ac. occurring at site 4. Additionally, within the areas already designated as hand clearing, an additional 0.02 acres of temp. fill will also occur due to erosion control measures. The temporary fill at Sites 1 and 2 is associated with the on-site detour. The temporary fill will be underlain with geotextile fabric and, when removed, the area of impact will be restored to preconstruction slope and contours. The area will also be reforested with appropriate tree/sapling species. No grubbing will occur within either the temporary impact or hand clearing areas. *Totals due to rounding.						
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 2 ☐ P ☒ T	Temporary Causeway	Gum Swamp Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	50-80	43
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
3h. Total stream and tributary impacts						0 ft Perm. 43 ft Temp.

3i. Comments: Acreage of temporary causeway is 0.03 acres.									
4. Open Water Impacts If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.									
4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact			4d. Waterbody type	4e. Area of impact (acres)			
O1 ☐ P ☐ T									
O2 ☐ P ☐ T									
O3 ☐ P ☐ T									
O4 ☐ P ☐ T									
4f. Total open water impacts						0 Permanent 0 Temporary			
4g. Comments:									
5. Pond or Lake Construction If pond or lake construction proposed, then complete the chart below.									
5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)	
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded	
P1									
P2									
5f. Total									
5g. Comments:									
5h. Is a dam high hazard permit required?				☐ Yes ☐ No If yes, permit ID no:					
5i. Expected pond surface area (acres):									
5j. Size of pond watershed (acres):									
5k. Method of construction:									

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?			☐ Neuse ☐ Catawba			☐ Tar-Pamlico ☐ Randleman		☐ Other:	
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)				
B1 ☐ P ☐ T			☐ Yes ☐ No						
B2 ☐ P ☐ T			☐ Yes ☐ No						
B3 ☐ P ☐ T			☐ Yes ☐ No						
6h. Total buffer impacts				0	0				
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 new bridge will be longer than the existing one; An on-site detour will be employed; however, no permanent wetland or stream impacts will result from its use; A class B rip rap pad will be placed at the outlet of a stormwater pipe system at STA. 18+71 R; Class B rip rap deck drain pads will be installed from STA. 19+16 to STA. 19+39 LT/RT and from STA. 20+66 to STA. 20+89 LT/RT; A special lateral base ditch will be installed from STA. 18+51 LT to STA. 19+68 LT (LDET) during the detour phase of the project and retained for use on the main alignment; A special cut ditch will be installed along the on-site detour route from STA. 13+05 RT to STA. 14+95 RT (LDET).		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Best Management Practices for Construction and Maintenance Activities and Best Management Practices for the Protection of Surface Waters will be employed.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☒ Yes ☐ No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☒ Corps	
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: 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:	0 linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	0 square feet	
4e. Riparian wetland mitigation requested:	0.11 acres	
4f. Non-riparian wetland mitigation requested:	0 acres	
4g. Coastal (tidal) wetland mitigation requested:	0 acres	
4h. Comments: A mitigation request has been submitted to EEP for the mitigable impacts associated with this project. NCDOT will forward the EEP Mitigation Acceptance Letter when it is received.		
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:			0
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	☐ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HWQ ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ No N/A

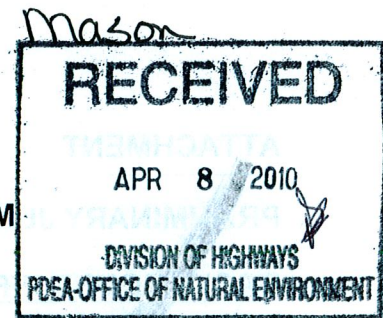
F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes ☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes ☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	☒ Yes ☐ No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes ☒ No
2b. Is this an after-the-fact permit application?	☐ Yes ☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes ☒ No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this 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, indicate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NC Natural Heritage Program data, USFWS website, NCDOT field surveys		
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		
Richard W. Hancock, P.E. Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	Dec 10, 2013 Date

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION



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

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Mr. James Mason, N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: SAW-2009-01695
(NCDOT/B-4639/ Bridge # 17 over Gum Swamp Creek on U.S. 15/401 /Scotland County)

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: NC County/parish/borough: Scotland City: Laurinburg

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

Lat. 34.7126°N, Long. -79.5168°W

Universal Transverse Mercator:

Name of nearest waterbody: Gum Swamp Creek

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

Non-wetland waters: 1465 linear feet: 30-40 (SA), 1-5 (SB) width (ft) and/or acres.

Cowardin Class: Riverine

Stream Flow: Perennial (SA), Intermittent (SB)

Wetlands: 2.14 acres.

Cowardin Class: Forested (WA), Emergent/Forested (WB)

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): March 30, 2010

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: Vicinity Map, Project Study Area Map, and Features Map (by NCDOT).

☒ 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: McColl, South Carolina (1:24,000).

☒ USDA Natural Resources Conservation Service Soil Survey.

Citation: Scotland County (2006).

☐ National wetlands inventory map(s). Cite name:

☐ State/Local wetland inventory map(s):

☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

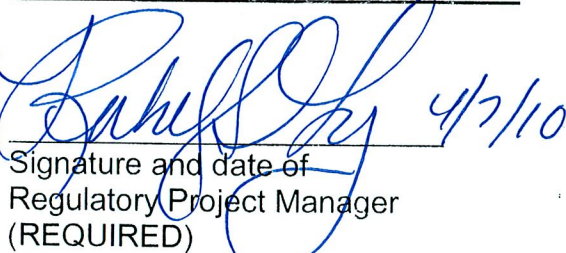
☐ Photographs: ☐ Aerial (Name & Date):

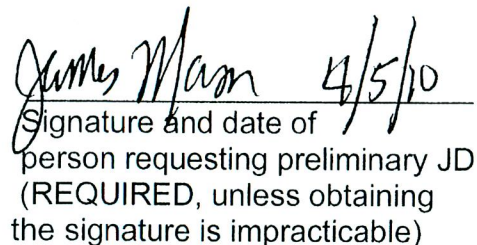
or ☐ Other (Name & Date):

☐ Previous determination(s). File no. and date of response letter:

☐ Other information (please specify):

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.

 4/7/10
Signature and date of
Regulatory Project Manager
(REQUIRED)

 4/5/10
Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

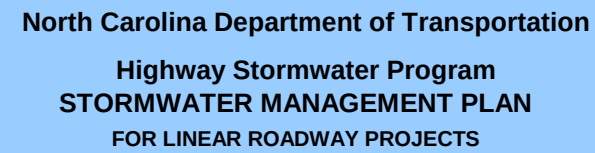
Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1 (SA)	34.7126°	-79.5168°	Riverine	500 linear feet	Non-section 10 – non-tidal, Perennial
1 (SB)	34.7126°	-79.5168°	Riverine	965 linear feet	Non-section 10 – non-tidal, Intermittent
1 (WA)	34.7126°	-79.5168°	Forested	0.90 acres	Non-section 10 – non-tidal
1 (WB)	34.7126°	-79.5168°	Emergent/ Forested	1.24 acres	Non-section 10 – non-tidal

		North Carolina Department of Transportation Highway Stormwater Program STORMWATER MANAGEMENT PLAN FOR LINEAR ROADWAY PROJECTS					
(Version 1.2; Released July 2012)							
Project/TIP No.: B-4639		County(ies): Scotland			Page 1 of 3		
General Project Information							
Project No.:		B-4639		Project Type:		Bridge Replacement	
NCDOT Contact:		Marshall Clawson, PE		Contractor / Designer:		John F. Oglesby, PE (ATKINS NA, Inc.)	
	Address:	1590 Mail Service Center, Raleigh, NC 27699 1020 Birch Ridge Road, Raleigh, NC 27610			Address:	1616 E. Millbrook Road, Suite 310 Raleigh, NC 27609	
	Phone:	(919) 707-6700			Phone:	(919) 431-5281	
	Email:	mclawson@ncdot.gov			Email:	john.oglesby@atkinsglobal.com	
City/Town:		Laurinburg		County(ies):		Scotland	
River Basin(s):		Lumber		CAMA County?		No	
Primary Receiving Water:		Gum Swamp		NCDWQ Stream Index No.:		14-32-(10)	
NCDWQ Surface Water Classification for Primary Receiving Water		Primary:		Class C			
		Supplemental:		Swamp Waters (Sw)			
Other Stream Classification:							
303(d) Impairments:							
Buffer Rules in Effect							
Project Description							
Project Length (lin. Miles or feet):		0.207 miles		Surrounding Land Use:		Highway right-of-way; power transmission, water,telephone and fiber optics in right-of-way; woods/wetland	
		Proposed Project			Existing Site		
Project Built-Upon Area (ac.)		0.38 ac.			0.40 ac.		
Typical Cross Section Description:		Roadway: 2 Lanes at 12' each with 4' Paved Shoulders; Bridge: 34'-0" OUT-OUT, 29'-10" Clear Roadway Width.			Roadway: 2 Lanes at 11' each with 3' Paved Shoulders; Bridge: 33'-4" OUT-OUT, 29'-6" Clear Roadway Width.		
Average Daily Traffic (veh/hr/day):		Design/Future: 16800			Existing: 9400		
General Project Narrative:		The project consists of replacing NCDOT BMU bridge number 810066 over Gum Swamp in Scotland County. The recommended permanent structure consists of 3 spans at 60' in length; replaces an existing The project consists of an on-site detour during construction and a bridge survey report has been completed for both the permanent and temporary structures. All new and temporary construction is located withing NCDOT right-of-way; no aquistion of property for permanent right-of-way and temporary easement is required. The roadway emabankment for the temporary detour road is located ont he west side of the existing bridge and will impact vegetated wetlands. The impacts will be considered temporary as matting will be placed under the temporary fill to assist in removing fill and returning the wetland area to original elevation.					
References							



Page 2 of 3

1



Project/TIP No.:	B-4639	County(ies):	Scotland	Page	3	of	3
-------------------------	--------	---------------------	----------	-------------	----------	-----------	----------

[illegible]

☒	YES	☐	NO	Have minimum design criteria, as presented in the NCDOT Best Management Practices Toolbox (2008), NCDOT Standard Details, or FHWA HEC-14 (July 2006), been met and verified, as applicable? If No, provide further explanantion of why design criteria was not met.
--	-----	--------------------------	----	---

[illegible]

* Refer to the NCDOT Best Management Practices Toolbox, Version 1 (March 2008), NCDOT Standard Details, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

09/08/99

See Sheet 1-A For Index of Sheets

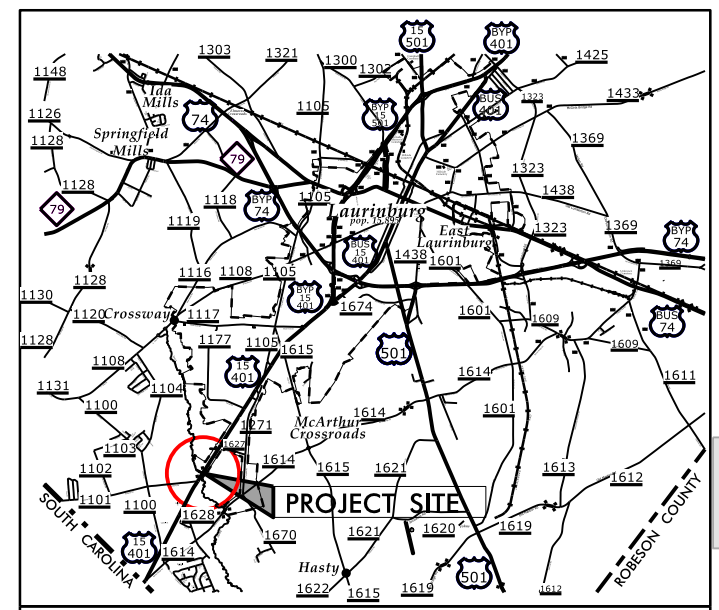
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SCOTLAND COUNTY

LOCATION: BRIDGE NO.17 OVER GUM SWAMP ON US 15-US 401

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

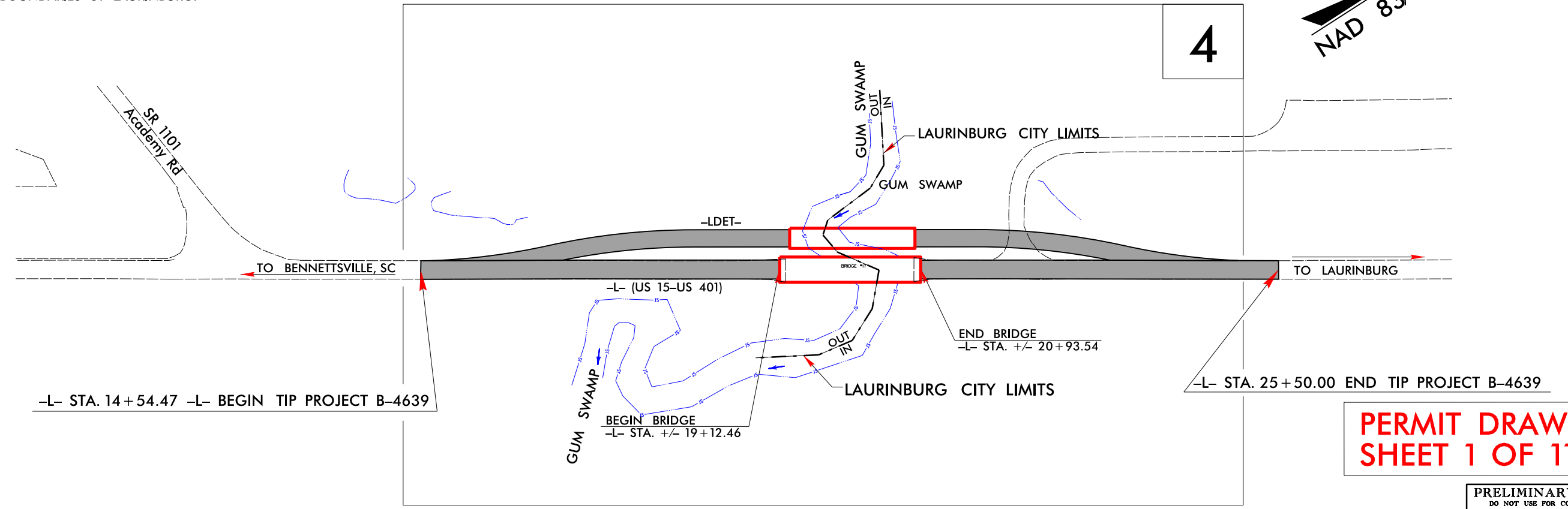
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4639	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38449.1.1	BRSTP-15(18)	PE	
38449.2.1	BRSTP-15(18)	R/W	
38449.2.U1	BRSTP-15(18)	UTILITIES	



VICINITY MAP

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF LAURINBURG.

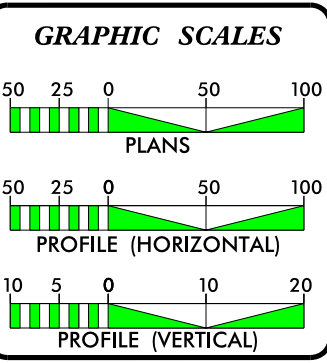
WETLAND AND SURFACE WATER IMPACTS



PERMIT DRAWING
SHEET 1 OF 11

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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



DESIGN DATA

ADT 2014 =	9,400
ADT 2035 =	16,800
K =	10 %
D =	60 %
T =	6 % *
V =	60 MPH
* TTST =	2% DUAL 4%
FUNC CLASS =	MINOR ARTERIAL
REGIONAL TIER	

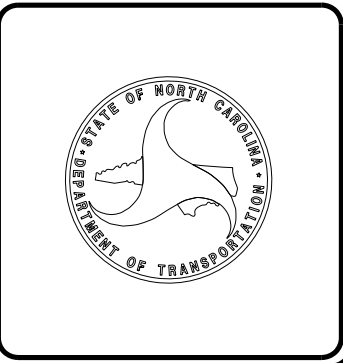
PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4639 =	0.173 MILES
LENGTH STRUCTURE TIP PROJECT B-4639 =	0.034 MILES
TOTAL LENGTH OF TIP PROJECT B-4639 =	0.207 MILES

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JULY 17, 2013	G. E. BREW, PE PROJECT ENGINEER
LETTING DATE: JULY 15, 2014	I.T. YOUNIS PROJECT DESIGN ENGINEER

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



TIP PROJECT: B-4639

CONTRACT:

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DCN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

PERMIT DRAWING
SHEET 2 OF 11

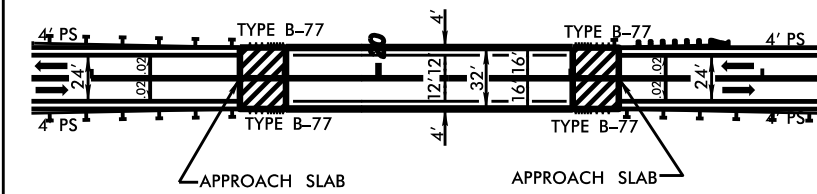
SEE SHEET 4-A FOR TEMPORARY
ON-SITE DETOUR

SEE SHEET 5 FOR -L- PROFILE

NAD 83/96

1000 Genomes Project timeline diagram showing phases and participating countries/regions.

(NTS)



SKETCH SHOWING BRIDGE/ROADWAY RELATIONSHIP

 DENOTES TEMPORARY
IMPACTS IN SURFACE WATER DENOTES TEMPORARY
FILL IN WETLAND DENOTES HAND CLEARING

 DENOTES FILL IN WETLAND

MATERIAL TO BE EXCAVATED=600 CY

MATERIAL TO BE EXCAVATED=600 CY

DEBRA EVANS
DB 554 PG 156

CLARK'S SOUTHWOOD SUPPLY AND RENTAL, INC.
DB 664 PG 108

-DRVI- POT Sta. 10+86.83

-DRVI- POT Sta. 10+00.00
-1- POT Sta. 22+15.26

3.0' LATERAL BASE
DITCH SEE DETAIL 2

TBM #2
OUT OF PROJECT LIMITS
N+351327 E+844960
ELEV. -163.92'

ROBERT C. COOPER, ET UX
DB 64 PG 335

-L- PINC Sta. 22+43.71
 $\Delta = 0^{\circ} 06' 57.25''$ (RT)

-L- POT Sta 25+85.43

WILLIAM M. ADAMS, ET AL
DB 84 PG 500

-L- PINC Sta 14+54.47
 $\Delta = 0^{\circ} 21' 10.22''$ (LT)

RANDY D. CHAVIS, ET UX
VS. The State

RANDY D. CHAVIS, ET UX
DB, SA, PH 749

DETAIL 1
RIP RAP DECK DRAIN PAD
(Not to Scale)

1' 3' 4' d

Natural Ground Outside of Bridge Rail Natural Ground Geotextile

$d = 1.5 \text{ Ft. (2xD50)}$
Type of Material = CLASS 8 Rip-Rap

FROM STA. 19+16 TO STA. 19+39 L/RT
FROM STA. 20+66 TO STA. 20+89 L/RT

DETAIL 2
SPECIAL LATERAL BASE DITCH
(Not to Scale)

R/W
Natural Ground
3:1
D
B
3:1
Natural Ground
Fill Slope

Min. D = 2.0 Ft.
B = 3.0 Ft.

FROM STA. 18+51 LT TO STA. 19+68 LT (LDET)

DETAIL 3
TEMPORARY SPECIAL CUT DITCH
 (Not to Scale)

2:1 VAR. Front Ditch Slope

D Min. D = 1 Ft.

FROM STA. 13+05 RT TO STA. 14+95 RT (LDET)

EVISIONS

3/17/99

[illegible]

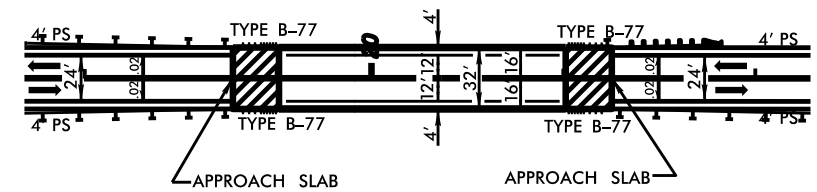
PERMIT DRAWING
SHEET 3 OF 11

SEE SHEET 5 FOR -L- PROFILE

SEE SHEET 5 FOR -L- PROFILE

NAD 83/96

(NTS)



SKETCH SHOWING BRIDGE/ROADWAY RELATIONSHIP

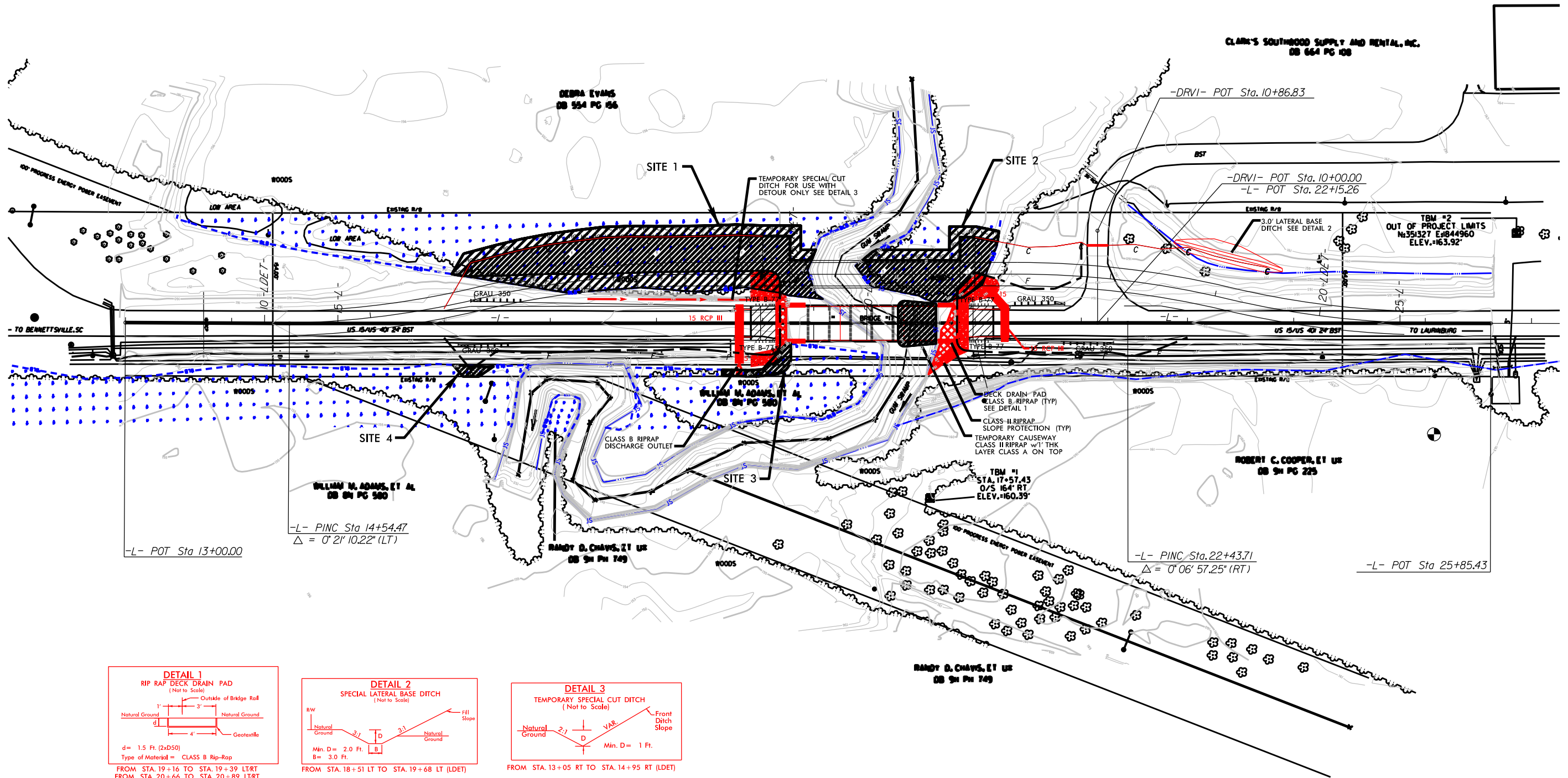
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY
FILL IN WETLAND DENOTES HAND CLEARING

 DENOTES FILL IN WETLAND

MATERIAL TO BE EXCAVATED=600 CY

REVISIONS



DETAIL 1
RIP RAP DECK DRAIN PAD
(Not to Scale)

3' Outside of Bridge Rail
Natural Ground
d
4' Geotextile
Natural Ground

$d = 1.5 \text{ Ft. (2x D50)}$
Type of Material = CLASS B Rip-Rap

FROM STA. 19+16 TO STA. 19+39 LT/RT
FROM STA. 20+66 TO STA. 20+89 LT/RT

DETAIL 2
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Min. D = 2.0 Ft.
B = 3.0 Ft.

FROM STA. 18+51 LT TO STA. 19+68 LT (LDET)

DETAIL 3
TEMPORARY SPECIAL CUT DITCH
 (Not to Scale)

2:1 Natural Ground

VAR. Front Ditch Slope

D Min. D = 1 Ft.

FROM STA. 13+05 RT TO STA. 14+95 RT (LDET)

SEE SHEET 4-A FOR TEMPORARY
ON-SITE DETOUR

SEE SHEET 5 FOR -L- PROFILE

PERMIT DRAWING
SHEET 5 OF 11

NAD 83/96

 DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY
FILL IN WETLAND DENOTES HAND CLEARING

 DENOTES FILL IN WETLAND

MATERIAL TO BE EXCAVATED=600 CY

- SITE 2

EXISTING R/W

— 3.0' LATERAL BASE
DITCH SEE DETAIL 2

BRIDGE #17

GRAU 350

TYPE-B-7

GRAIL 350

~~US 15/US 401 24' BST~~

EXISTING R/W

WOODS

DECK DRAIN PAD
● CLASS B RIPRAP (TYP)
SEE DETAIL 1

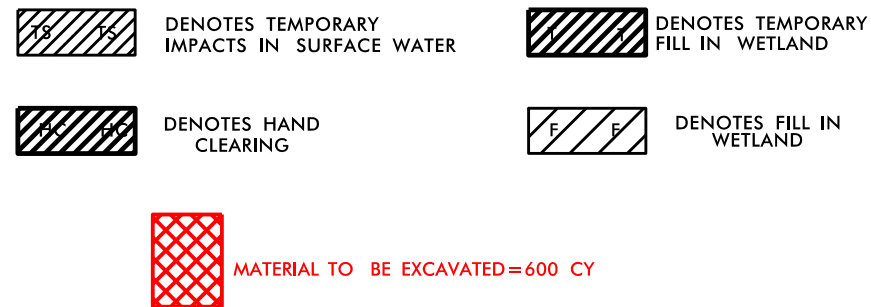
— CLASS II RIPRAP
SLOPE PROTECTION (TYP)

TEMPORARY CAUSEWAY
CLASS II RIPRAP w/1' THK
LAYER CLASS A ON TOP

TBM #1
STA. 17+57.43
O/S 164' RT
- ELEV.=160.39'

ROBERT C. COOPER, ET UX
DB 9H PG 225

SYTIME\$\$\$\$\$
DGN\$\$\$\$\$



SEE SHEET 4-A FOR TEMPORARY
ON-SITE DETOUR

SEE SHEET 5 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
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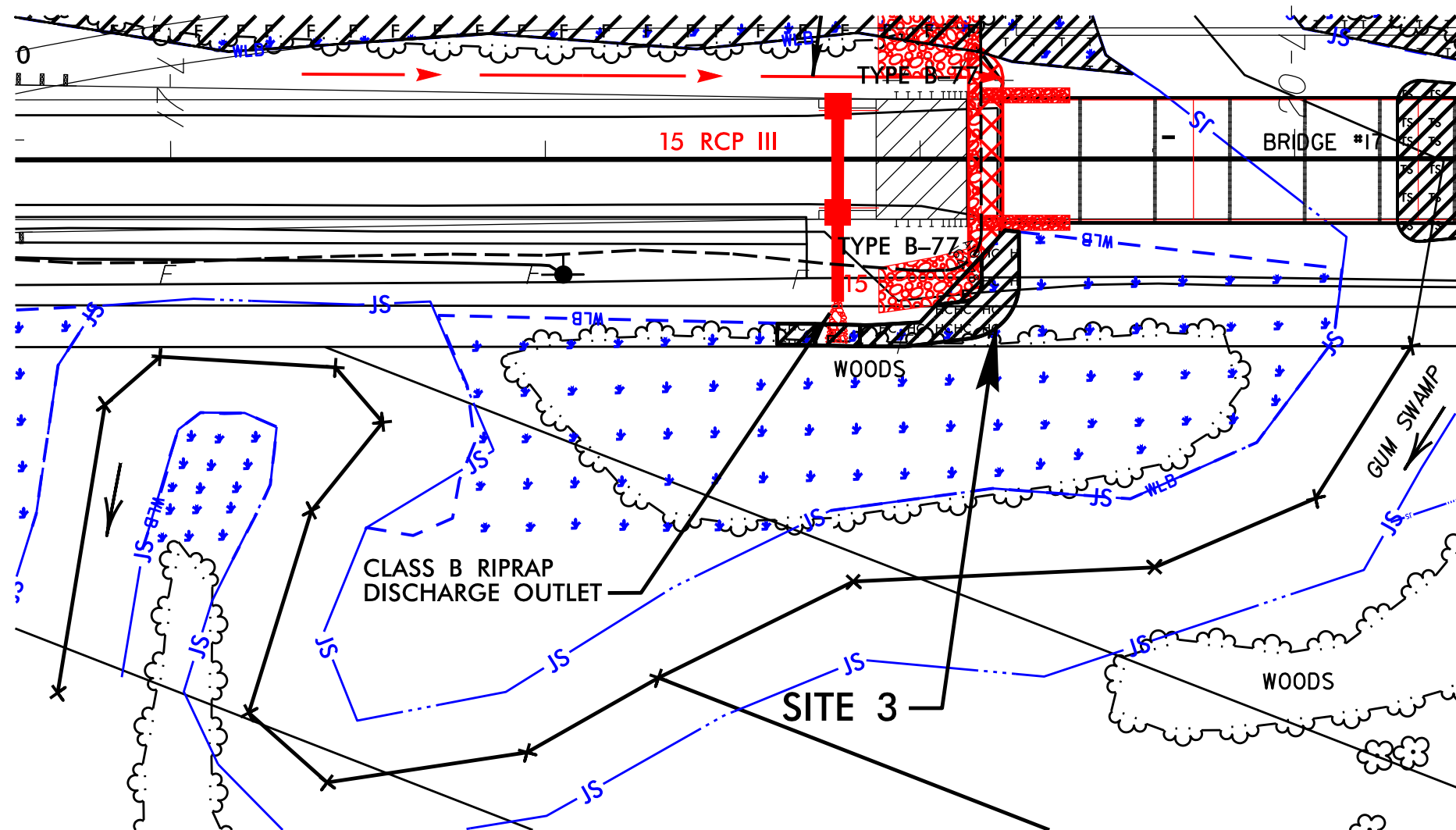
B-4639	4C
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R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
----------------------------	------------------------

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

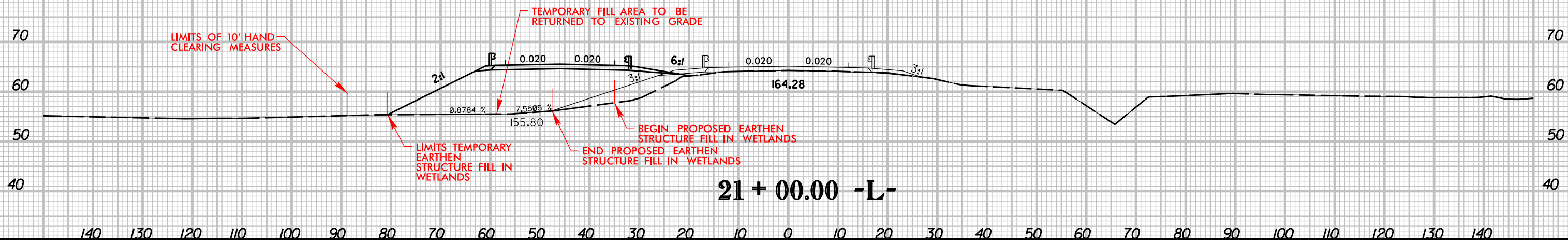
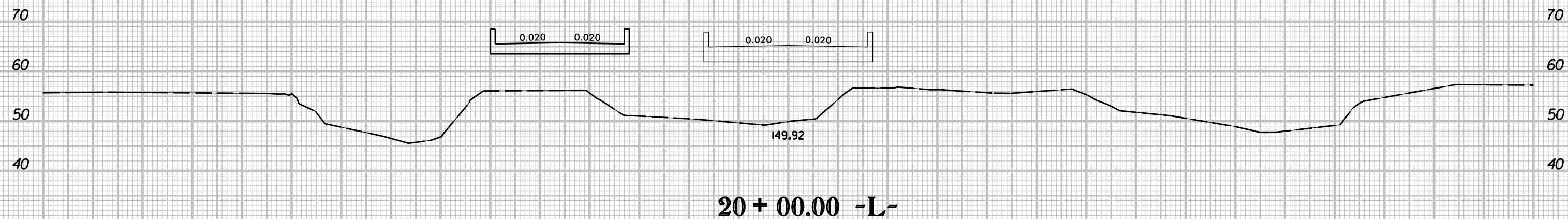
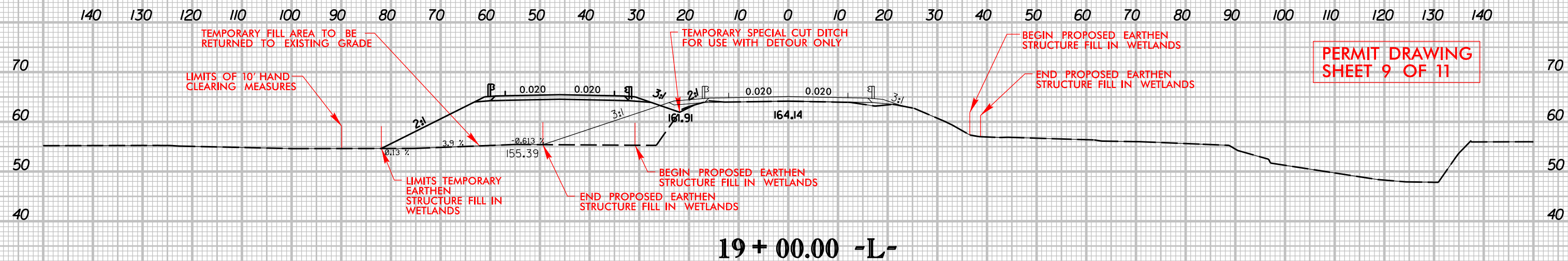
PERMIT DRAWING
SHEET 6 OF 11



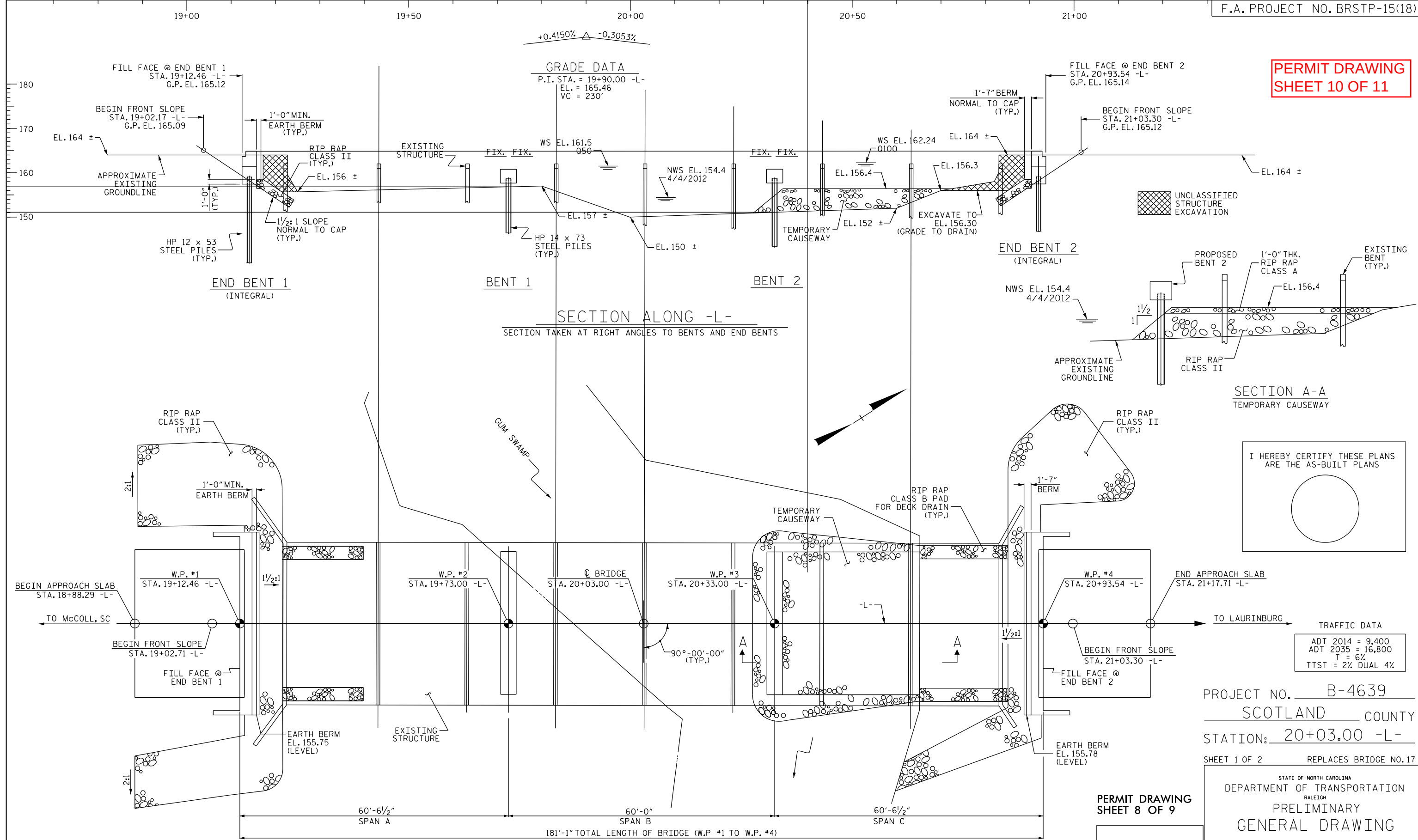
BM * 2 ELEVATION = 163.92'
N = 351327 E = 1844873
RR SPIKE IN 15' OAK

BRIDGE INFORMATION DATA		
DESIGN DISTANCE	=	3550
DESIGN SPEED (MI/H)	=	30
DESIGN HW ELEVATION	=	2180
ROAD DISTANCE	=	3700
BASE ELEVATION	=	100
BASE HW ELEVATION	=	2224
OUTSTANDING DISTANCE	=	3520
OUTSTANDING ELEVATION	=	315
OUTSTANDING ELEVATION	=	2190
	=	_____
WIND UP SURFACE	=	_____
WIND ELEVATION	=	_____
WIND OF SURFACE	=	_____





PERMIT DRAWING
SHEET 10 OF 11



SECTION ALONG -L-
SECTION TAKEN AT RIGHT ANGLES TO BENTS AND END BENTS

SECTION A-A
TEMPORARY CAUSEWAY

I HEREBY CERTIFY THESE PLANS
ARE THE AS-BUILT PLANS

TRAFFIC DATA

ADT 2014 = 9,400
ADT 2035 = 16,800
T = 6%
TTST = 2% DUAL 4%

PROJECT NO. B-4639
SCOTLAND COUNTY
STATION: 20+03.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 17

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PRELIMINARY
GENERAL DRAWING
BRIDGE OVER GUM SWAMP ON
US 15/US 401 BETWEEN
SR 1101 AND SR 1627

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

DRAWN BY : S.B. WILLIAMS DATE : 7/12
CHECKED BY : FR. LEA DATE : 7/25/12

*****SYTIME*****
*****DGN*****
*****USERNAME*****

PLAN
CLASS B RIP RAP PADS TO BE LAID ON NATURAL GROUND UNDER DECK DRAIN.
PILES NOT SHOWN FOR CLARITY

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 8 OF 9

09/08/99

See Sheet 1-A For Index of Sheets

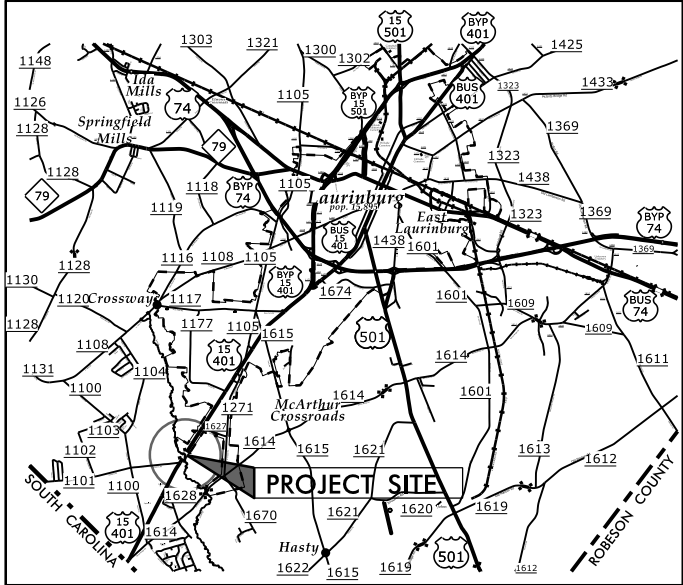
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SCOTLAND COUNTY

LOCATION: BRIDGE NO.17 OVER GUM SWAMP ON US 15-US 401

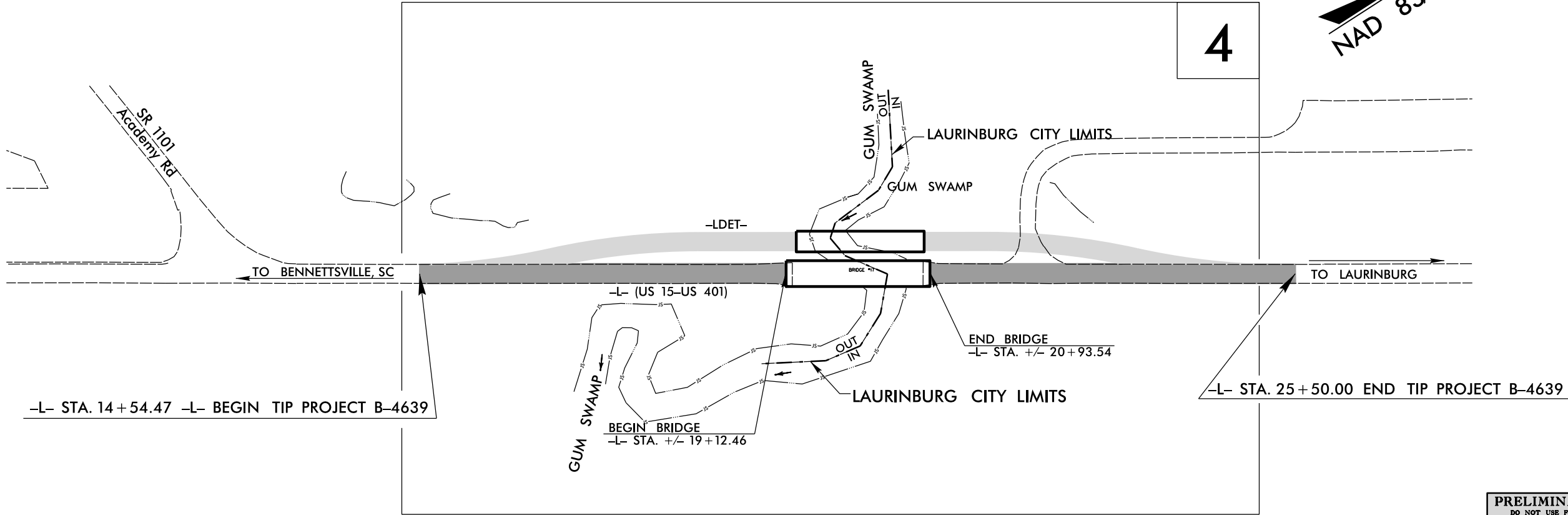
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4639	1	
STATE PROJ.NO.	F.A.PROJ.NO.	DESCRIPTION	
38449.1.1	BRSTP-15(18)	PE	
38449.2.1	BRSTP-15(18)	R/W	
38449.2.U1	BRSTP-15(18)	UTILITIES	



VICINITY MAP

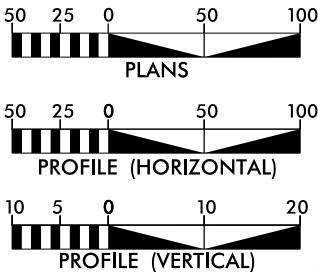
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF LAURINBURG.



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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

GRAPHIC SCALES



DESIGN DATA

ADT 2014 = 9,400
ADT 2035 = 16,800
DHV = 10 %
D = 60 %
T = 6 % *
V = 60 MPH
* TTST = 2% DUAL 4%
FUNC CLASS =
MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4639 = 0.173 MILES
LENGTH STRUCTURE TIP PROJECT B-4639 = 0.034 MILES
TOTAL LENGTH OF TIP PROJECT B-4639 = 0.207 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 17, 2013

LETTING DATE:
JULY 15, 2014

G. E. BREW, PE
PROJECT ENGINEER

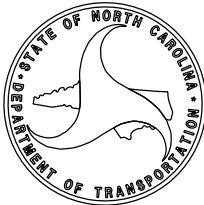
I.T. YOUNIS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: P.E.



TIP PROJECT: B-4639

CONTRACT:

I3-SEP-2013 08:16
R:\Roadway\Proj\B4639_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

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	○ EP
Property Corner	-----x-----
Property Monument	□ ECM
Parcel/Sequence Number	⑫3
Existing Fence Line	-x-x-x-
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	○
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	----- FLW
False Sump	◇

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite RW 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	□ 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	-----S-----

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	-----P-----
Designated U/G Power Line (S.U.E.*)	-----P-----

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	-----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	⊙
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	⊠
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	-----G-----
Designated U/G Gas Line (S.U.E.*)	-----G-----
Above Ground Gas Line	-----A/G Gas-----

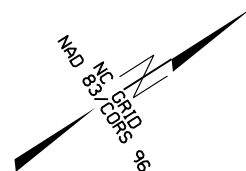
SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	-----ZUTL-----
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.

SURVEY CONTROL SHEET B-4639



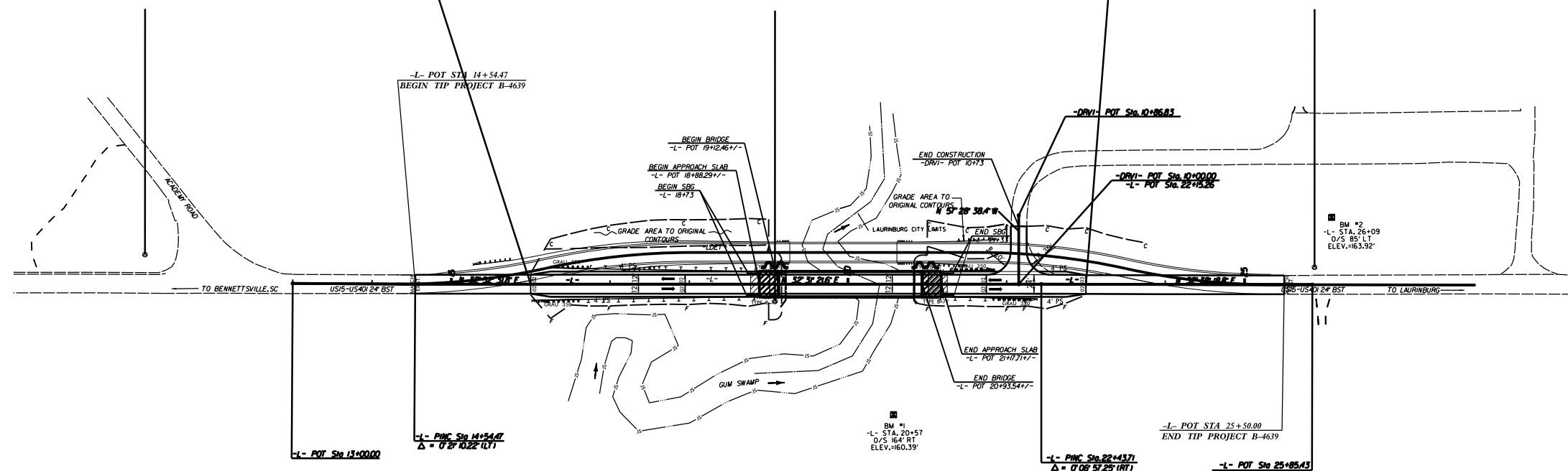
LOCALIZED PROJECT COORDINATES
-L- STA. 16+00.00 BEGIN TIP PROJECT B-4639
N = 350430.5119
E = 1844488.8814

LOCALIZED PROJECT COORDINATES
-L- STA. 23+00.00 END TIP PROJECT B-4639
N = 351020.6758
E = 1844865.3205

NCDOT BASELINE STATION "B4639-1"
LOCALIZED PROJECT COORDINATES
N = 350040.5920
E = 1844196.0590

NCDOT BASELINE STATION "BL-101"
LOCALIZED PROJECT COORDINATES
N = 350678.4910
E = 1844672.7130

NCDOT BASELINE STATION "BL-102"
LOCALIZED PROJECT COORDINATES
N = 351275.1810
E = 1845002.1420

[illegible]

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCDOT FOR MONUMENT "B4639-2"
WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF
NORTHING: 351720.6280(±) EASTING: 1845347.0080(±)
ELEVATION: 169.160(±)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.99990686
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"B4639-2" TO L- STATION 16+00.00 IS
S 33° 37' 48.2" W 1,549.445'
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/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)
- THE FILES TO BE FOUND ARE AS FOLLOWS:
B4639_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)

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		B4639.1	350040.5920	1844196.0590	160.32	11+13.57	35.17 LT
101		BL 101	350678.4910	1844672.7130	162.78	19+07.92	21.68 RT
102		BL 102	351275.1810	1845002.1420	164.82	25+88.11	22.05 LT

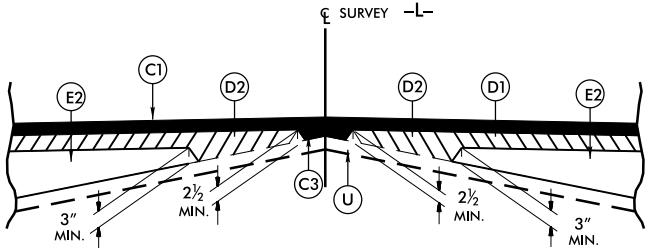
.....
BM1 ELEVATION - 160.39
N 350727 E 1844873
L STATION 20-57.00 164 RIGHT
RR SPIKE IN BASE OF 20' PINE
.....
BM2 ELEVATION - 163.92
N 351327 E 1844960
L STATION 26-09.00 85 LEFT
RR SPIKE IN BASE OF 15' OAK
.....

NOTE: DRAWING NOT TO SCALE

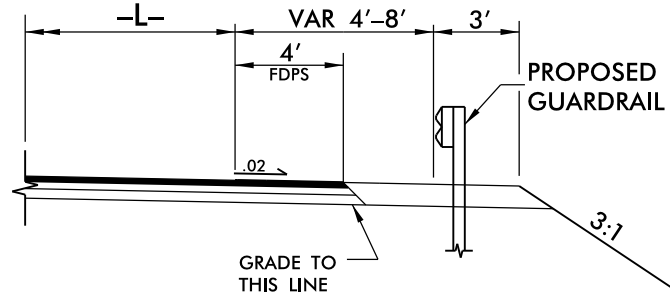
PROJECT REFERENCE NO.	SHEET NO.
B-4639	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" 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.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 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.
J	PROP. 8" AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF 0.35 GAL. PER SQ. YD.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL

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



Detail Showing Method of Wedging

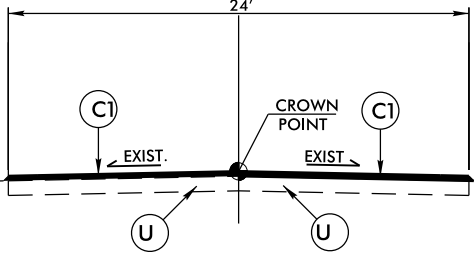


GUARDRAIL TREATMENT AT ESA
(USE IN CONJUNCTION W/TS 2 & 3)

-L- STA. 16+00.00 TO STA. 19+12.46 +/- RT.

'ESA' DENOTES: ENVIRONMENTALLY SENSITIVE AREA

CL -L- US 15/401

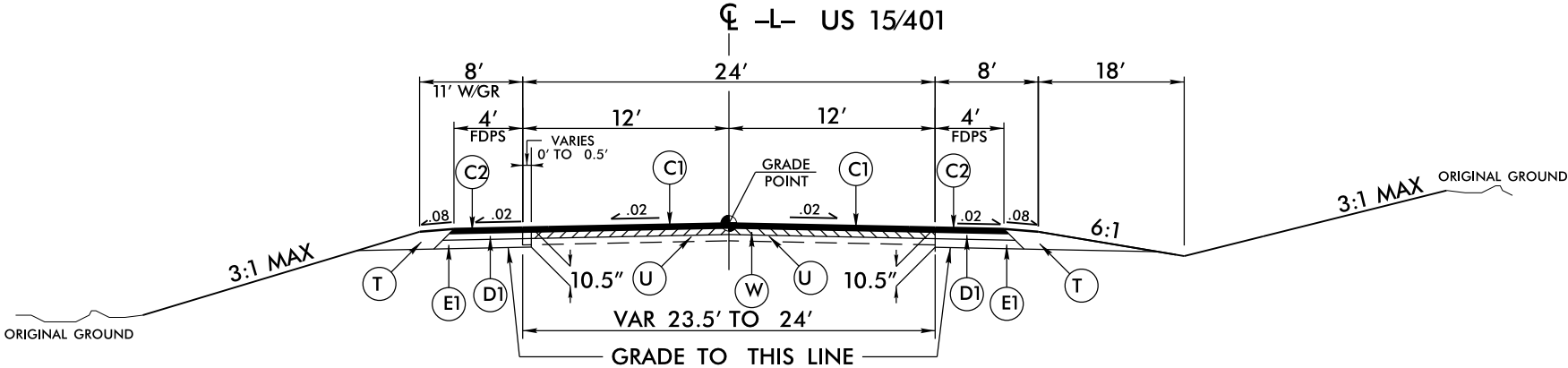


TYPICAL SECTION NO. 1

-L- STA. 14+54.47 TO STA. 16+00.00

-L- STA. 23+00.00 TO STA. 25+50.00

CL -L- US 15/401

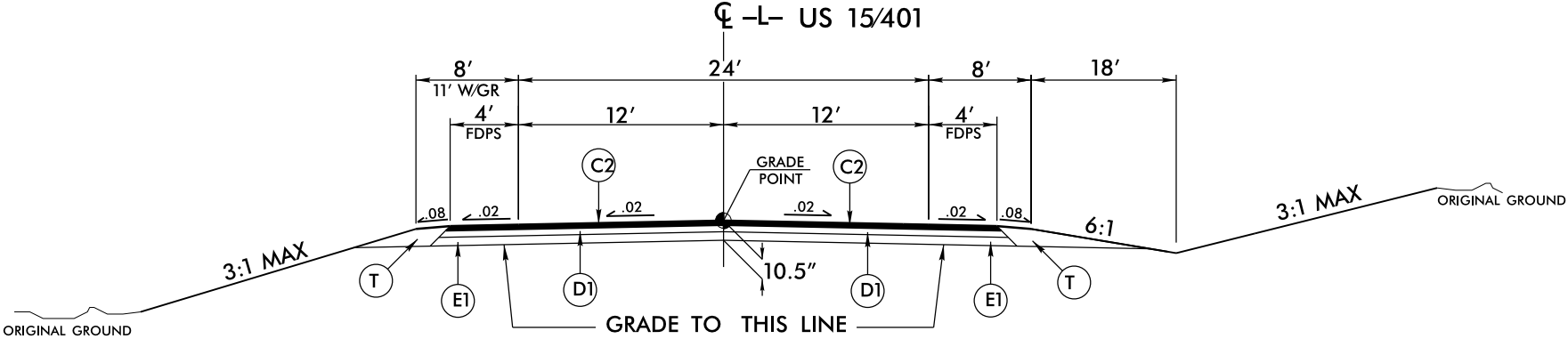


TYPICAL SECTION NO. 2

-L- STA. 16+00.00 TO STA. 18+25.00

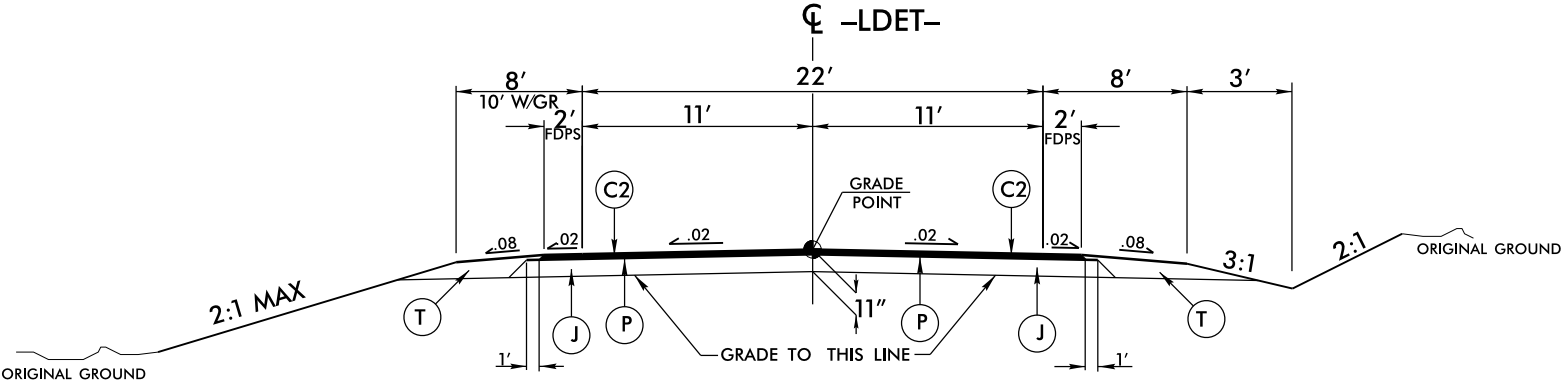
-L- STA. 22+00.00 TO STA. 23+00.00

PROJECT REFERENCE NO.	SHEET NO.
B-4639	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
FINAL PAVEMENT DESIGN	
C1	1.5" S9.5B
C2	3.0" S9.5B
D1	2.5" I19.0B
E1	5.0" B25.0B
J	8" ABC
P	PRIME COAT
T	EARTH MATERIAL



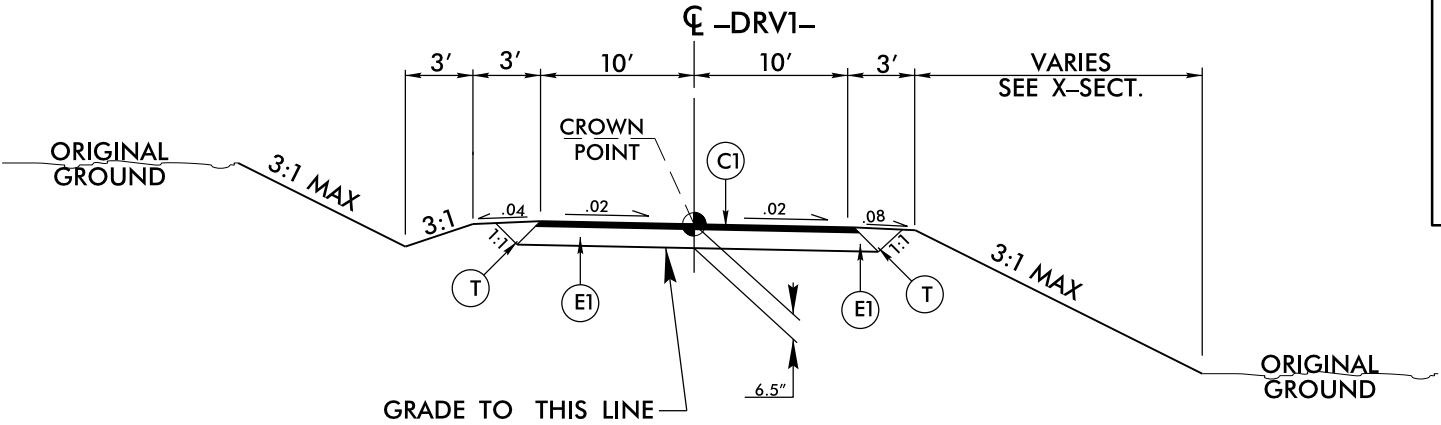
TYPICAL SECTION NO. 3

-L- STA. 18+25.00 TO STA. 19+12.46 +/- (BEGIN BRIDGE)
-L- STA. 20+93.54 +/- (END BRIDGE) TO STA. 22+00.00



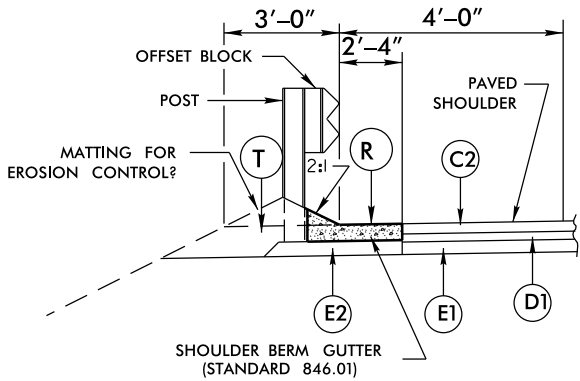
TYPICAL SECTION NO. 4

-LDET- STA. 10+00.00 TO STA. 11+94.82
TRANSITION FROM EXISTING TO TYPICAL SECTION 4
-LDET- STA. 11+94.82 TO STA. 14+98.25 +/- (BEGIN BRIDGE)
-LDET- STA. 16+58.25 +/- (END BRIDGE) TO STA. 18+34.61
NOTE: TRANSITION FROM TYPICAL SECTION 4 TO EXISTING
-LDET- STA. 18+34.61 TO STA. 20+30.93



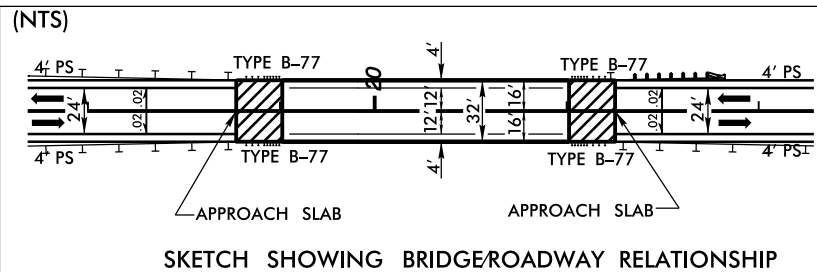
TYPICAL SECTION NO. 5

-DRV1- STA. 10+41.98 TO STA. 10+73.00



DETAIL SHOWING SHOULDER BERM GUTTER

USE WITH TYPICAL SECTION NO. 3
-L- STA. 18+73.00 TO 18+88.29 LT & RT
-L- STA. 21+17.71 TO 21+33.00 LT & RT

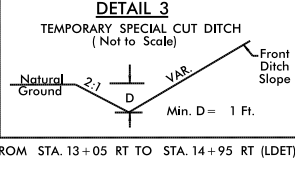
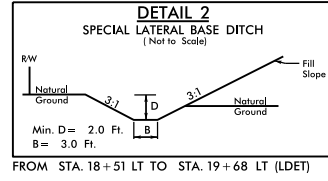
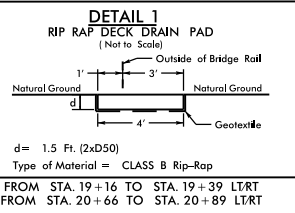
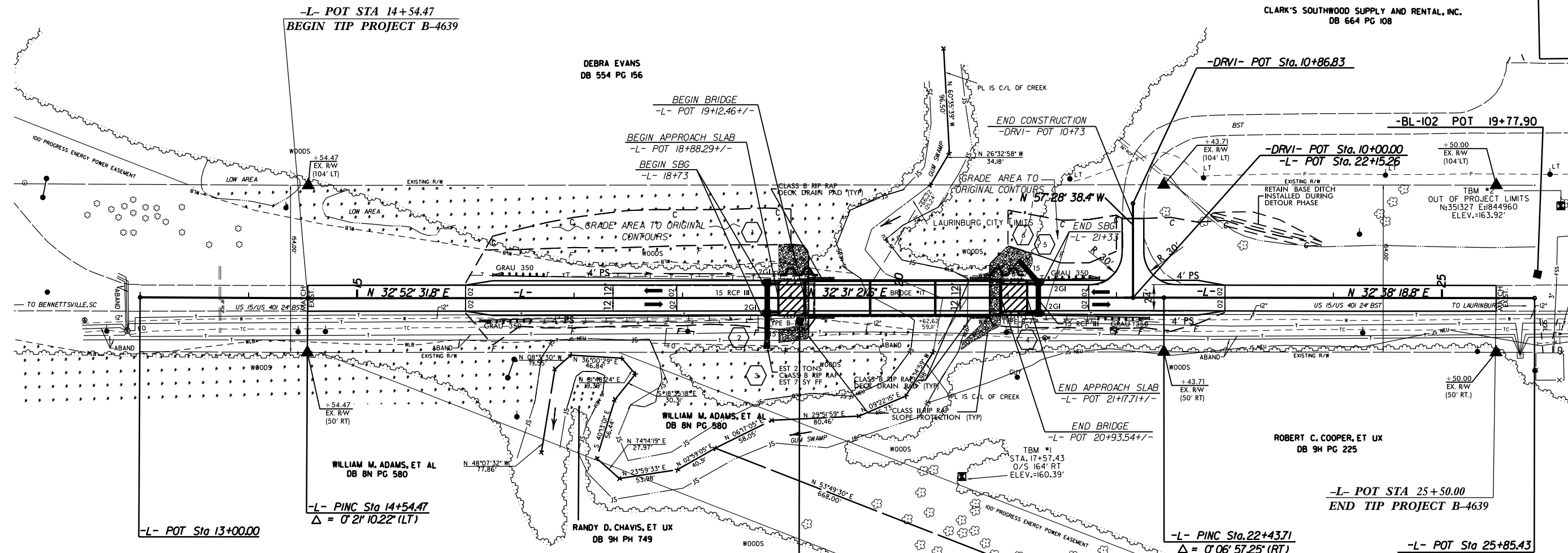


SEE SHEET 4-A FOR TEMPORARY ON-SITE DETOUR

SEE SHEET 5 FOR -L- PROFILE

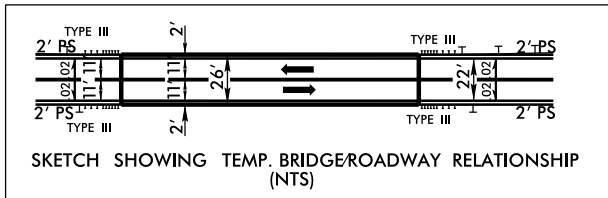
TEMPORARY SHORING (SEE TMP PLANS)

PROJECT REFERENCE NO.	SHEET NO.
B-4639	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



REVISIONS

8/17/99



-LDET-			
PI Sta 11+02.06 $\Delta = 13^\circ 41' 35.5''$ (LT) $D = 6' 44' 26.4''$ $L = 203.14'$ $T = 102.06'$ $R = 850.00'$ $e = \text{SEE PLANS}$	PI Sta 13+02.55 $\Delta = 13^\circ 20' 25.3''$ (RT) $D = 6' 44' 26.4''$ $L = 197.91'$ $T = 99.40'$ $R = 850.00'$ $e = \text{SEE PLANS}$	PI Sta 18+12.29 $\Delta = 13^\circ 26' 40.0''$ (RT) $D = 6' 44' 26.4''$ $L = 199.45'$ $T = 100.19'$ $R = 850.00'$ $e = \text{SEE PLANS}$	PI Sta 20+10.87 $\Delta = 13^\circ 19' 42.8''$ (LT) $D = 6' 44' 26.4''$ $L = 197.73'$ $T = 99.31'$ $R = 850.00'$ $e = \text{SEE PLANS}$

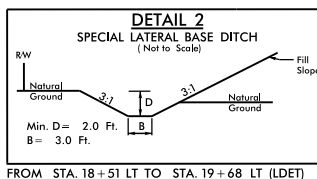
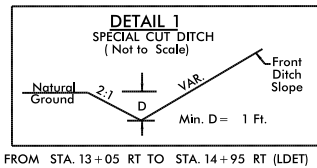
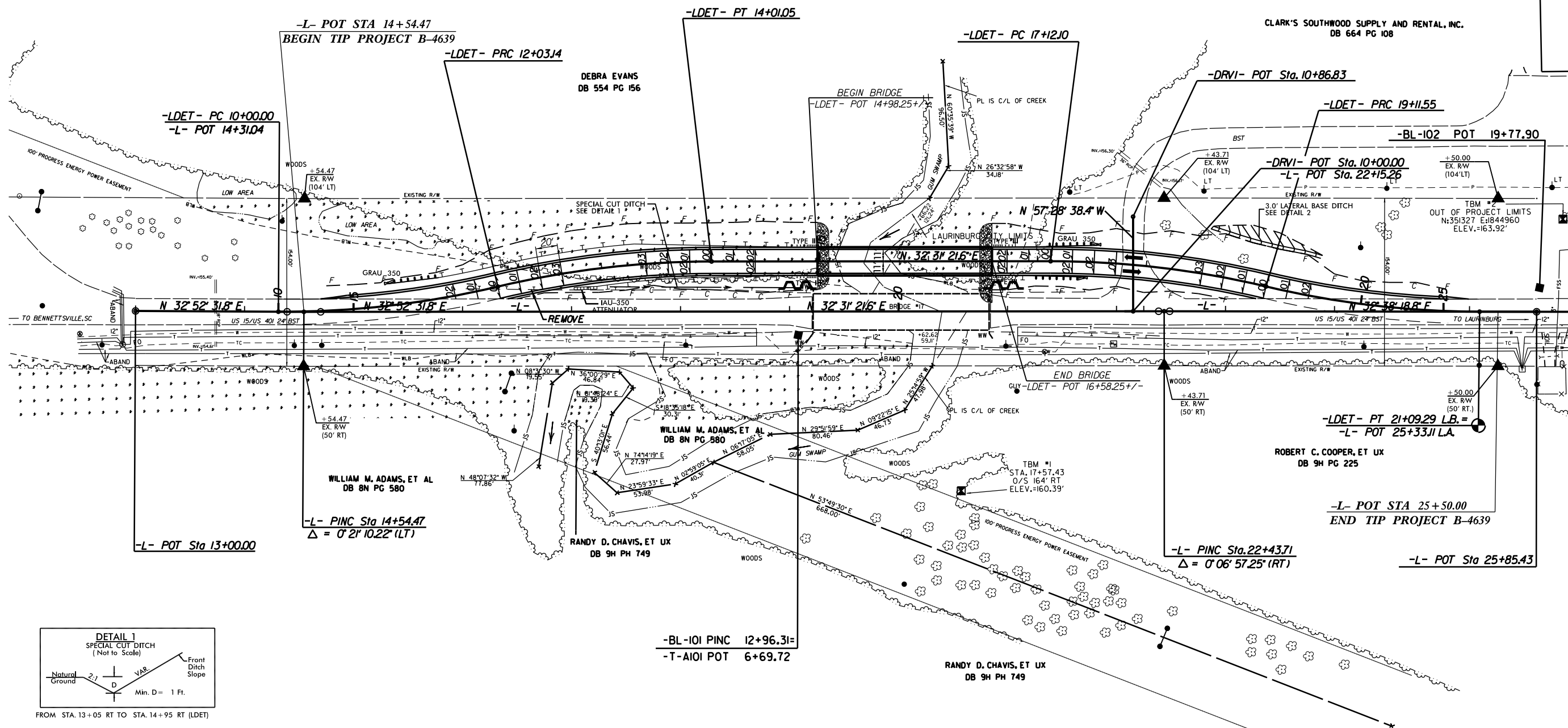
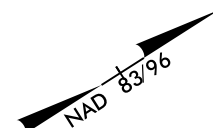
SEE SHEET 4 FOR -L- PLAN

USE THIS SHEET FOR TEMPORARY
DETOUR CONSTRUCTION ONLY

SEE SHEET 5 FOR -LDET- PROFILE

TEMPORARY SHORING
(SEE TMP PLANS)

PROJECT REFERENCE NO.		SHEET NO.
B-4639		4-A
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		



DETOUR DESIGN SPEED= 45 MPH

NOTE: USE THIS SHEET FOR TEMPORARY TRAFFIC MAINTENANCE DURING CONSTRUCTION.

REVISIONS

13-SEP-2013 08:13
R:\Roadway\Projects\B4639_Rdy_pah04a.dgn
R:\Roadway\Projects\B4639_Rdy_pah04a.dgn

BM * 1 ELEVATION = 160.39'
N = 350727 E = 1844873
-EL- STATION 17+57 O/S 164' RT.
RR SPIKE IN 20" PINE

FOR PLAN OF -L- SEE SHEET 4

BM * 2 ELEVATION = 163.92'
N = 351327 E = 1844873
RR SPIKE IN 15" OAK

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	3800	CFS
DESIGN FREQUENCY	=	50	YRS
DESIGN HW ELEVATION	=	161.50	FT
BASE DISCHARGE	=	4300	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	162.24	FT
OVERTOPPING DISCHARGE	=	3925	CFS
OVERTOPPING FREQUENCY	=	50 +	YRS
OVERTOPPING ELEVATION	=	161.70	FT

DATE OF SURVEY =
W.S.ELEVATION
AT DATE OF SURVEY = FT

BEGIN GRADE	-L-	STA. 16+00.00
ELEV.= 163.27'		

$$\begin{aligned} PI &= 17+90.00 \\ EL &= 164.63' \\ VC &= 150' \\ K &= 499 \end{aligned}$$
$$\begin{aligned} PI &= 19+90.00 \\ EL &= 165.46'_{\text{L}} \\ VC &= 230' \\ K &= 319 \end{aligned}$$
$$\begin{aligned} PI &= 21+80.00 \\ EL &= 164.88' \\ VC &= 150' \\ K &= 279 \end{aligned}$$

END GRADE -L-	STA. 23+00.00
ELEV.= 165.16'	

CLASS	II RIPI
(TYP)	

3.5' (TV

156.3'
(TYP)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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CLASS II
(TYP)

	MATERIAL TO	BE EXCAVATED
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—LDET—

FOR PLAN OF -LDET- SEE SHEET 4-A

BEGIN GRADE -LDET- STA. 11+45.89	
ELEV.= 162.694	

$$\begin{aligned} PI &= 12+25.00 \\ EL &= 163.20' \\ VC &= 150' \\ K &= 553 \end{aligned}$$
$$\begin{aligned} PI &= 15+50.00 \\ EL &= 166.16' \\ VC &= 190' \\ K &= 124 \end{aligned}$$
$$\begin{aligned} PI &= 17+20.00 \\ EL &= 165Jr \\ VC &= 150' \\ K &= 476 \end{aligned}$$
$$\begin{aligned} PI &= 18+80.00 \\ EL &= 164.626 \\ VC &= 160' \\ K &= 126 \end{aligned}$$

END GRADE - LDET - STA. 19+68.35					
ELEV. = 165.48'					

BEGIN RT.DITCH GRD.
-DETOUR - STA 13+05

END RI. DITCH GRD.
-DETOUR- STA 14+98

BEGIN LEFT DITCH GRD.
-DETOUR- STA 18+55

END LEFT DITCH GRD.
-DETOUR - STA 19+68



