



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

April 7, 2017

Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403

N.C. Dept. of Environmental Quality
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

ATTN: Mr. Brad Shaver
NCDOT Coordinator

ATTN: Mr. Stephen Lane
NCDOT Coordinator

Subject: **Application for Section 10 Permit, Nationwide Permit 23, Section 401 Water Quality Certification and CAMA Major Development Permit** for the Proposed Replacement of Bridge No. 19 over Lords Creek on SR 1100 (River Road) in New Hanover County, North Carolina; TIP No. B-5236; Federal Aid Project No. BRZ-1100(29); Debit \$475 from WBS No. 42840.1.1

Dear Sirs,

The North Carolina Department of Transportation (NCDOT) proposes to replace the existing 91-foot, three-span bridge No. 19 with a 120-foot, two-span bridge on existing alignment. Traffic will be maintained using an off-site detour. Permanent impacts to coastal wetlands total 0.18 acre. An additional 42 linear feet of permanent stream impact will occur to Lords Creek due to bank stabilization. All utilities will be relocated with no impacts to jurisdictional streams or wetlands.

Please see enclosed copies of the Pre-Construction Notification (PCN), Division of Coastal Management Major Permit Forms 1, 2 and 5, Division of Mitigation Services Acceptance Letter, permit drawings, stormwater management plan, utility drawings, and roadway plans for the above referenced project. A Programmatic Categorical Exclusion (PCE) was completed in January 2015, and distributed shortly after. Additional copies are available at the NCDOT website: <http://207.4.62.65/PDEA/EnvironmentalDocs/>

This project calls for a letting date of September 19, 2017 and a review date of August 1, 2017. The project schedule may be advanced if funding becomes available.

Regulatory Approvals

Section 10 Permit: Application is hereby made for a Section 10 Permit as required for the above-described activities in accordance with Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403)

Section 404 Permit: We anticipate that the bridge replacement, including all approach work will be authorized under Section 404 Nationwide Permit 23 in accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344).

Section 401 Permit: We anticipate 401 General Certification number 4093 will apply to this project. NCDOT is requesting written concurrence from the North Carolina Department of Environmental Quality, Division of Water Resources.

CAMA Major Development Permit: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Permit. Adjacent riparian landowner certified mail return receipts will be provided once they are received. Authorization to debit the \$475 Permit Application Fee from WBS Element 42840.1.1 is hereby given.

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*. Should you have any questions regarding this information, please contact Jason Dilday at (919) 707-6111 or jldilday@ncdot.gov.

Sincerely,



for Philip S. Harris III, P.E., C.P.M., Manager
Natural Environment Section

cc: NCDOT Permit Application Standard Distribution List



Office Use Only:
 Corps action ID no. _____
 DWQ project no. _____
 Form Version 1.4 January 2009

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 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: B-5236 - PROPOSED REPLACEMENT OF BRIDGE NO. 19 ON SR 1100 (RIVER ROAD) OVER LORDS CREEK

2b. County: New Hanover

2c. Nearest municipality / town: Wilmington

2d. Subdivision name: n/a

2e. NCDOT only, T.I.P. or state project no: B-5236

3. Owner Information

3a. Name(s) on Recorded Deed: North Carolina Department of Transportation

3b. Deed Book and Page No.

3c. Responsible Party (for LLC if applicable):

3d. Street address: 1598 Mail Service Center

3e. City, state, zip: Raleigh, NC 27699-1598

3f. Telephone no.: 919-707-6111

3g. Fax no.: 919-212-5785

3h. Email address: jldilday@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	<input type="checkbox"/> Agent <input type="checkbox"/> Other, specify:
4b. Name:	
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:	
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):	
1b. Site coordinates (in decimal degrees):	Latitude: 34.0864 (DD.DDDDDD) Longitude: - 77.9212 (-DD.DDDDDD)
1c. Property size:	Approximately 8.5 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Lords Creek
2b. Water Quality Classification of nearest receiving water:	C; Sw
2c. River basin:	Cape Fear
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Land use is primarily forested and residential development.	
3b. List the total estimated acreage of all existing wetlands on the property: Approximately 4 acre	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 250'	
3d. Explain the purpose of the proposed project: Replace a structurally deficient bridge and functionally obsolete bridge. Replacement of the bridge will result in safer traffic operations.	
3e. Describe the overall project in detail, including the type of equipment to be used: The proposed replacement of Bridge No. 19 over Lords Creek in New Hanover County involves replacement of the existing 91-foot, three-span bridge with a 120-foot, two-span bridge on existing alignment. Traffic will be maintained on an off-site detour during construction. Standard road and bridge 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:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): NCDOT	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. September 19, 2011, Action ID 2011 26	
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. Please see attached cover letter.	
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):					
<input checked="" type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input type="checkbox"/> Buffers	
<input checked="" type="checkbox"/> Open Waters		<input type="checkbox"/> 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)
W2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	roadway, bridge, bridge approaches	coastal marsh	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.18
W2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	excavation	coastal marsh	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01
W2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
W7 <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					0.18 permanent
2h. Comments: See attached Permit Drawings and Wetland Permit Impact Summary for additional detail. There will be 0.21 ac. of hand clearing. Temporary fill in wetlands in hand clearing areas for erosion control measures =0.04 ac.					

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)
S1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	bank stabilization	Lords Creek	<input checked="" type="checkbox"/> PER	<input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps	<input checked="" type="checkbox"/> DWQ	30	42
S2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER	<input type="checkbox"/> INT	<input type="checkbox"/> Corps	<input type="checkbox"/> DWQ		
S3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER	<input type="checkbox"/> INT	<input type="checkbox"/> Corps	<input type="checkbox"/> DWQ		
S4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER	<input type="checkbox"/> INT	<input type="checkbox"/> Corps	<input type="checkbox"/> DWQ		
S5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER	<input type="checkbox"/> INT	<input type="checkbox"/> Corps	<input type="checkbox"/> DWQ		
S6 <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								42
3i. Comments: Permanent stream impact due to interior bent = 25 sq ft. Temporary stream impact due to work coffer dams =1056 sq ft.								
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		Fill			Ditches	0.03		
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								
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?	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 replacement bridge is two spans as opposed to the old three span bridge, meaning less bents in the water. The proposed bridge will be on the existing alignment. Slopes were armored with riprap to achieve 1.5:1 slopes, where practicable, within the project limits to reduce coastal marsh impacts. The new bridge will have no deck drains or direct discharge into Lords Creek. An off-site detour will be used during construction. See Stormwater Management Plan for more measures.					
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Design Standards in Sensitive Waters will be employed. NCDOT will implement "Guidelines for Avoiding Impacts to the West Indian Manatee, Precautionary Measures for Construction Activities in North Carolina Water," during work on this project.					
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		
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:					
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:			0 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):			0 square feet	
4e. Riparian wetland mitigation requested:			0 acres	
4f. Non-riparian wetland mitigation requested:			0 acres	
4g. Coastal (tidal) wetland mitigation requested:			0.18 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?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 and stormwater management plan.	
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?	N/A
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 checked="" 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 N/A
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input 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:	<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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input checked="" 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 & NOAA Fisheries websites and agency consultations		
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA documentation; EA/FONSI		
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:		
8c. What source(s) did you use to make the floodplain determination? approved NEPA documents		
for Philip S. Harris III, P.E., C.P.M. Applicant/Agent's Printed Name	 _____ Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	04-07-2017 Date

APPLICATION for Major Development Permit

(last revised 12/27/06)



North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information			
Business Name NC Department Of Transportation		Project Name (if applicable) New Hanover Bridge 19 (B-5236)	
Applicant 1: First Name Philip	MI S	Last Name Harris	
Applicant 2: First Name	MI	Last Name	
<i>If additional applicants, please attach an additional page(s) with names listed.</i>			
Mailing Address Natural Environment Section 1593 Mail Service Center		PO Box	City Raleigh
			State NC
ZIP 27610	Country USA	Phone No. 919 - 707 - 6111 ext.	FAX No. 919 - 212 - 5785
Street Address (if different from above) PDEA - Century Center B, 1020 Birch Ridge Drive		City Raleigh	State NC
			ZIP 27610-
Email jldilday@ncdot.gov			

2. Agent/Contractor Information			
Business Name NA			
Agent/ Contractor 1: First Name	MI	Last Name	
Agent/ Contractor 2: First Name	MI	Last Name	
Mailing Address		PO Box	City
			State
ZIP		Phone No. 1 - - ext.	Phone No. 2 - - ext.
FAX No.	Contractor #		
Street Address (if different from above)		City	State
			ZIP -
Email			

<Form continues on back>

3. Project Location			
County (can be multiple) New Hanover	Street Address River Road 0.4 miles north of SR2343 (Royal Fern Rd)	State Rd. # SR 1100	
Subdivision Name <p style="text-align: center;">NA</p>	City Wilmington	State NC	Zip 28412-
Phone No. NA - - ext.		Lot No.(s) (if many, attach additional page with list) NA , , , ,	
a. In which NC river basin is the project located? Cape Fear	b. Name of body of water nearest to proposed project Lords Creek		
c. Is the water body identified in (b) above, natural or manmade? <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Manmade <input type="checkbox"/> Unknown	d. Name the closest major water body to the proposed project site. Cape Fear River		
e. Is proposed work within city limits or planning jurisdiction? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. n/a		

4. Site Description	
a. Total length of shoreline on the tract (ft.) 225.0	b. Size of entire tract (sq.ft.) 19141
c. Size of individual lot(s) n/a, (if many lot sizes, please attach additional page with a list)	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) 1.48' <input checked="" type="checkbox"/> NHW or <input type="checkbox"/> NWL
e. Vegetation on tract low growing grasses : bahiagrass, fescue, clover, blackberry and pennywort fringe evergreen forest: loblolly pine with understory of wax myrtle, redbay. yaupon, eastern red cedar and dwarf palmetto salt marsh: black needlerush, smooth cordgrass, bulrush and sawgrass.	
f. Man-made features and uses now on tract Existing 1 @ 30'8"; 1 @ 30'1"; 1 @ 30'8" bridge and roadway approaches. Aerial sanitary and water lines	
g. Identify and describe the existing land uses <u>adjacent</u> to the proposed project site. Wooded swamp	
h. How does local government zone the tract? public use	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is the proposed activity part of an urban waterfront redevelopment proposal? <input type="checkbox"/>Yes <input checked="" type="checkbox"/>No	
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. <input checked="" type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>NA If yes, by whom? NCDOT	
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? <input type="checkbox"/>Yes <input checked="" type="checkbox"/>No <input type="checkbox"/>NA	

<Form continues on next page>

m. (i) Are there wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(ii) Are there coastal wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? <i>(Attach documentation, if available)</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
n. Describe existing wastewater treatment facilities. None from site	
o. Describe existing drinking water supply source. None on site	
p. Describe existing storm water management or treatment systems. Non-concentrated sheet flow to wetlands. Concentrated flow from bridge to be outletted on to rip rap pads to dissipate flow before entering wetlands.	

5. Activities and Impacts	
a. Will the project be for commercial, public, or private use?	<input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Public/Government <input type="checkbox"/> Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. The project will replace an existing insufficient bridge for the safety of the travelling public.	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. Removal of existing bridge; top down bridge construction; roadbed compaction and paving. Using Excavator, backhoe, forklift, lattice crane, grader, dump trucks and paving machine. Equipment to be stored on site. Fill slopes were steepened to 1.5:1 to lessen impacts to coastal marshes using riprap to armor banks within the footprint of the project, reducing wetland impacts by an additional 0.05 ac.. Slopes reverted to 3:1 once the extent of guardrail had been reached. Guardrail lengths were determined by the extents of the project and conflicts with existing driveways.	
d. List all development activities you propose. Relocate utilities; remove existing bridge; construct proposed bridge and modify roadway bed.	
e. Are the proposed activities maintenance of an existing project, new work, or both?	both
f. What is the approximate total disturbed land area resulting from the proposed project?	1.3 <input type="checkbox"/> Sq.Ft or <input checked="" type="checkbox"/> Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
h. Describe location and type of existing and proposed discharges to waters of the state. For the small concentrated area for the bridge the flow will be dissipated through a rip rap pad into the wetlands. All other discharge will sheet flow into adjacent wetlands.	
i. Will wastewater or stormwater be discharged into a wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
If yes, will this discharged water be of the same salinity as the receiving water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
j. Is there any mitigation proposed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
If yes, attach a mitigation proposal.	

<Form continues on back>

6. Additional Information
In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name See attachments	Phone No.
Address	
Name	Phone No.
Address	
Name	Phone No.
Address	

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*


k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 03-31-2017 Print Name PHILIP S. HARRIS, PE
 for 
 Signature _____

- Please indicate application attachments pertaining to your proposed project.
- DCM MP-2 Excavation and Fill Information DCM MP-5 Bridges and Culverts
- DCM MP-3 Upland Development
- DCM MP-4 Structures Information

EXCAVATION and FILL

(Except for bridges and culverts)

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

Describe below the purpose of proposed excavation and/or fill activities. **All values should be given in feet.**

	Access Channel (NLW or NWL)	Canal	Boat Basin	Boat Ramp	Rock Groin	Rock Breakwater	Other (excluding shoreline stabilization)
Length							
Width							
Avg. Existing Depth					NA	NA	
Final Project Depth					NA	NA	

1. EXCAVATION

This section not applicable

- a. Amount of material to be excavated from below NHW or NWL in cubic yards. _____
- b. Type of material to be excavated. _____
- c. (i) Does the area to be excavated include coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW _____ SAV _____ SB _____
 WL _____ None _____
- (ii) Describe the purpose of the excavation in these areas:

- d. High-ground excavation in cubic yards. _____

2. DISPOSAL OF EXCAVATED MATERIAL

This section not applicable

- a. Location of disposal area. _____
- b. Dimensions of disposal area. _____
- c. (i) Do you claim title to disposal area?
 Yes No NA
- (ii) If no, attach a letter granting permission from the owner. _____
- e. (i) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW _____ SAV _____ SB _____
 WL _____ None _____
- (ii) Describe the purpose of disposal in these areas:

- d. (i) Will a disposal area be available for future maintenance?
 Yes No NA
- (ii) If yes, where?

- f. (i) Does the disposal include any area in the water?
 Yes No NA
- (ii) If yes, how much water area is affected?

3. SHORELINE STABILIZATION

This section not applicable

(If development is a wood groin, use MP-4 – Structures)

- a. Type of shoreline stabilization:
 Bulkhead Riprap Breakwater/Sill Other: _____
- b. Length: 480
Width: 20
- c. Average distance waterward of NHW or NWL: 7.5
- d. Maximum distance waterward of NHW or NWL: 10
- e. Type of stabilization material:
Class II Rip Rap
- f. (i) Has there been shoreline erosion during preceding 12 months?
 Yes No NA
 (ii) If yes, state amount of erosion and source of erosion amount information.
- g. Number of square feet of fill to be placed below water level.
 Bulkhead backfill _____ Riprap 225
 Breakwater/Sill _____ Other _____
- h. Type of fill material.
Class II Rip Rap
- i. Source of fill material.
Local Quarry

4. OTHER FILL ACTIVITIES

This section not applicable

(Excluding Shoreline Stabilization)

- a. (i) Will fill material be brought to the site? Yes No NA
 If yes,
 (ii) Amount of material to be placed in the water _____
 (iii) Dimensions of fill area _____
 (iv) Purpose of fill _____
- b. (i) Will fill material be placed in coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW _____ SAV _____ SB _____
 WL _____ None _____
 (ii) Describe the purpose of the fill in these areas:

5. GENERAL

- a. How will excavated or fill material be kept on site and erosion controlled?
 NCDOT Design Standards in Sensitive Watersheds

 will be implemented during project construction
- b. What type of construction equipment will be used (e.g., dragline, backhoe, or hydraulic dredge)?
 Excavator, backhoe, lattice crane, forklift, dump trucks paving machines, bull dozer, grader

- c. (i) Will navigational aids be required as a result of the project?
 Yes No NA
 (ii) If yes, explain what type and how they will be implemented.

- d. (i) Will wetlands be crossed in transporting equipment to project site? Yes No NA
 (ii) If yes, explain steps that will be taken to avoid or minimize environmental impacts.

Date 03-31-2017

Applicant Name
 For PHILIP S. HARRIS, P.E.

Project Name

Applicant Signature


BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES This section not applicable

a. Is the proposed bridge:
 Commercial Public/Government Private/Community

b. Water body to be crossed by bridge:
Lords Creek

c. Type of bridge (construction material):
1 @ 55'; 1 @ 65' 45" Prestressed Concrete Girder

d. Water depth at the proposed crossing at NLW or NWL:
7.0'

e. (i) Will proposed bridge replace an existing bridge? Yes No
If yes,
(ii) Length of existing bridge: 91'
(iii) Width of existing bridge: 31"
(iv) Navigation clearance underneath existing bridge: 3.0'
(v) Will all, or a part of, the existing bridge be removed?
(Explain) All

f. (i) Will proposed bridge replace an existing culvert? Yes No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed?
(Explain)

g. Length of proposed bridge: 120'

h. Width of proposed bridge: 36'7"

i. Will the proposed bridge affect existing water flow? Yes No
If yes, explain: Bent in main channel

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? Yes No
If yes, explain:

k. Navigation clearance underneath proposed bridge: 3.0'

l. Have you contacted the U.S. Coast Guard concerning their approval? Yes No
If yes, explain: Advanced approval received dated
October 22, 2013

m. Will the proposed bridge cross wetlands containing no navigable waters? Yes No
If yes, explain:

n. Height of proposed bridge above wetlands: 3.0'

2. CULVERTS This section not applicable

a. Number of culverts proposed: _____

b. Water body in which the culvert is to be placed:

< Form continues on back >

c. Type of culvert (construction material):

d. (i) Will proposed culvert replace an existing bridge? Yes No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed? (Explain)

e. (i) Will proposed culvert replace an existing culvert? Yes No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or NWL: _____

(v) Will all, or a part of, the existing culvert be removed? (Explain)

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL.

i. Depth of culvert to be buried below existing bottom contour.

j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? Yes No

If yes, explain:

k. Will the proposed culvert affect existing water flow? Yes No

If yes, explain:

3. EXCAVATION and FILL

This section not applicable

a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? Yes No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

CW 235 SAV _____ SB _____

WL _____ None

(ii) Describe the purpose of the excavation in these areas:

114 sq. ft. - removal of existing bridge; 121 sq. ft. roadway ditch

c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? Yes No

If yes,

(ii) Avg. length of area to be excavated: 45'

(iii) Avg. width of area to be excavated: 30'

(iv) Avg. depth of area to be excavated: 1'

(v) Amount of material to be excavated in cubic yards: 50

- d. If the placement of the bridge or culvert involves any excavation, please complete the following:
- (i) Location of the spoil disposal area: Proposed roadway bed; material to be compacted for use as roadway fill and embankment
 - (ii) Dimensions of the spoil disposal area: 60' x 800'
 - (iii) Do you claim title to the disposal area? Yes No (If no, attach a letter granting permission from the owner.)
 - (iv) Will the disposal area be available for future maintenance? Yes No
 - (v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?
 CW SAV WL SB None
 If any boxes are checked, give dimensions if different from (ii) above. _____
 - (vi) Does the disposal area include any area below the NHW or NWL? ? Yes No
 If yes, give dimensions if different from (ii) above. _____

- e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed below NHW or NWL? Yes No
 If yes,
 (ii) Avg. length of area to be filled: 380'
 (iii) Avg. width of area to be filled: 13'
 (iv) Purpose of fill: Roadway embankment

- f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
 CW 7390 sq ft SAV _____ SB _____
 WL _____ None _____
 (ii) Describe the purpose of the excavation in these areas:
roadway embankment

- g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed on high-ground? Yes No
 If yes,
 (ii) Avg. length of area to be filled: 380'
 (iii) Avg. width of area to be filled: 13'
 (iv) Purpose of fill: Roadway and shoulder bed

4. GENERAL

- a. Will the proposed project require the relocation of any existing utility lines? Yes No
 If yes, explain: See attached utility narrative and drawings.

- b. Will the proposed project require the construction of any temporary detour structures? Yes No
 If yes, explain:

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

< Form continues on back >

Form DCM MP-5 (Bridges and Culverts, Page 4 of 4)

c. Will the proposed project require any work channels?
 Yes No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

NCDOT Design Standards in Sensitive Watersheds

will be implemented during project construction

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?
excavator, backhoe, forklift, lattice crane, dump trucks
paving machines, bull dozer, grader

f. Will wetlands be crossed in transporting equipment to project site?
 Yes No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization?
 Yes No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

Date

03-31-2017

Project Name

PHILIP S. HARRIS PE

Applicant Name



Applicant Signature

NO PREHISTORIC OR HISTORIC PROPERTIES PRESENT/AFFECTED FORM

PROJECT INFORMATION

Project No: B-5236 *County:* New Hanover
WBS No: 42840.1.1 *Document:* PCE or CE
F.A. No: BRZ-1100(29) *Funding:* State Federal

Federal (USACE) Permit Required? Yes No *Permit Type:* Unknown at this time

Project Description: Replacement of Bridge No. 19 on SR1100 (River Road) over Lords Creek in New Hanover County, North Carolina. No project alternatives or proposed detour routes were defined at the time of archaeological survey. As such, the archaeological APE encompasses a rather capacious area in order to accommodate minor alignment shifts and temporary on-site detour options. The APE measures 2000ft. in length and 200ft. in width. It extends approximately 600ft. from the bridge center-point to the northern project limits and 1400ft. from the bridge center-point to the southern project limits; and protrudes 100ft. laterally from the SR1100 center-line.

SUMMARY OF FINDINGS

The North Carolina Department of Transportation (NCDOT) reviewed the subject project and determined:

Historic Architecture/Landscapes

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- There are no properties within the project's area of potential effects.
- There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- All properties greater than 50 years of age located in the APE have been considered and all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- There are no historic properties present or affected by this project. *(Attach any notes or documents as needed)*

Archaeology

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- No subsurface archaeological investigations are required for this project.
- Subsurface investigations did not reveal the presence of any archaeological resources.
- Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.

- All identified Archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- There are no historic properties present or affected by this project. (*Attach any notes or documents as needed*)

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:

A site file search and map review was conducted at the Office of State Archaeology (OSA) on March 8, 2011. This work disclosed the location of several previously recorded archaeological sites (31NH33, 31NH135, 31NH509**) situated within or abutting the project APE. In addition, numerous other archaeological sites have been recorded nearby to the north and south along SR1100 in similar topographic, pedological, and hydrological environmental contexts. A cultural resources survey of the project study area was therefore recommended.

During the site visit on March 21, 2011 a transect was established on each side of SR1100 approximately 75ft. from the road center-line. Transect #1 subsumed the eastern portion of the project APE while transect #2 encompassed the western area. Shovel test pits (stp) were excavated at 50ft. intervals along these transects and numbered sequentially south to north with the project area (see attached stp map). Shovel testing was conducted in areas not observed to be saturated or inundated and areas not radically disturbed by erosion or past/on-going human earth-moving activities. Essentially, all areas characterized by well drained soils and slight elevation rises were subjected to subsurface inquiry. Radial stps were excavated at 50ft. intervals perpendicular to the transect in order to establish the site's boundary as it relates to the project APE. In total, 12 shovel test pits were excavated along transect #1 (2 positive + 2 radials) and 10 shovel test pits along transect #2 (3 positive + 3 radials). One new archaeological site (31NH807) was recorded near the southern project limits and a previously known resource (31NH509**) situated immediately south of Bridge No. 19 was revisited and delineated in respect to the project construction footprint. Both of the resources constitute surface/subsurface artifact scatters that have been truncated by the SR1100 road construction, as well as have suffered other impacts including erosion, grading, and development. While these sites may lend some very general perspective on the settlement patterns, landform/environmental preferences, and prehistoric ceramic series distributions of the local Woodland period inhabitants, they lack attributes essential for establishing integrity, preservation, uniqueness, and relevance and are therefore recommended NOT ELIGIBLE for listing on the National Register of Historic Places (NRHP). In addition, site 31NH33 could not be relocated within the northwestern APE quadrant. The site is likely situated further to the north/northwest beyond the project limits and will not be affected by the project as proposed. Also, this survey determined that 31NH135 had been misplotted on the Carolina Beach topo map maintained at the OSA and is not located within the project APE. Instead, this survey found that 31NH509** extends westerly across SR1100 and into the area previously mislabeled as NH135.

31NH509** - is a surface/subsurface, prehistoric/historic artifact scatter located on a raised dune-like upland feature immediately south of the Bridge No. 19 structure. A total of thirteen shovel test pits were excavated along the two transects and including radials upon this landform-type feature. Three of these returned artifacts of prehistoric affiliation. Tiny residual ceramic sherds were recovered from the upper 20cms of the two positive test pit locations on transect #1 and one sand-tempered punctated body sherd with interior incising was found at 60cms-80cms at T=2 STP=8. Erosion, grading, and other heavy earth-moving machinery utilization has severely disturbed the eastern surface and subsurface portions of 31NH509**. Artifacts collected from the surface of the eastern portion of the site include multiple examples of an Early Woodland fine sand tempered punctated ware, presumably from a single vessel or "pot bust", Middle Woodland sand and coarse sand tempered ceramic fragment specimens (particularly along the northeastern site periphery), and two historic ceramic examples that likely date to the mid-nineteenth century. In addition, brick fragments were noted on the surface in the northeastern core site area. The original site form reported a colonial foundation in this area of the site, and the brick fragments may constitute the remains of this foundation following the grading and pseudo-development of this area for home site construction. Despite the number of artifacts collected from disturbed surface contexts, 31NH509** is unlikely to contain significant, intact subsurface cultural features or meaningful artifact concentrations capable of addressing important regional research agendas. The site is recommended not eligible for listing on the NRHP and no further work is advocated. Additional information can be attained from the NC Archaeological Site Form.

31NH807 - is a subsurface prehistoric-ceramic artifact scatter situated at the southern project limits on both eastern and western sides of SR1100. A total of nine shovel test pits including radials were excavated to delineate the boundaries of the site as it relates to the project APE. Four of these test pits returned primarily Middle Woodland period ceramic vessel fragments and a single quartzite flake. The construction and maintenance of SR1100 and it's associated right-of-way, home development in the eastern site area, erosion, and perched water tables/sea level rise are all factors contributing to the site's past and on-going disturbance. Due to low artifact densities and multiple disturbances the site is recommended not eligible for listing on the NRHP under criterion D. No further work is recommended. Additional information about the resource can be attained from the North Carolina Archaeological Site Form.

A finding of "no historic properties affected" is considered appropriate for the project as proposed.

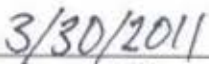
*"No Historic Properties Present" form for Minor Transportation Projects as Qualified in the 2007 Programmatic Agreement,
NCDOT Archaeology & Historic Architecture Groups*

SUPPORT DOCUMENTATION

See attached: Map(s), Previous Survey Info, Photos, Correspondence, Photocopy of notes from survey.

Signed:


Cultural Resources Specialist, NCDOT


Date



ROY COOPER
Governor

March 28, 2017

Mr. Philip S. Harris, III, P.E., CPM
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

B-5236, Replace Bridge 19 on SR 1100 over Lords Creek, New Hanover County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory coastal marsh mitigation for the subject project. Based on the information supplied by you on March 28, 2017, the impacts are located in CU 03030005 of the Cape Fear River basin in the Southern Outer Coastal Plain (SOCP) Eco-Region, and are as follows:

Cape Fear 03030005 SOCP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0	0	0.18	0	0

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

This mitigation acceptance letter replaces the mitigation acceptance letter issued on October 20, 2016. The impacts and associated mitigation needs were under projected by the NCDOT in the 2016 impact data. DMS will commit to implement sufficient compensatory coastal marsh mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the 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 DMS.

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

Sincerely,

James B. Stanfill
Credit Management Supervisor

cc: Mr. Brad Shaver, USACE – Wilmington Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: B-5236 Revised





North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 2.02; Released April 2015)

WBS Element: 42840.1.1 TIP No.: B-5236 County(ies): New Hanover Page 1 of 1

General Project Information

WBS Element:	42840.1.1	TIP Number:	B-5236	Project Type:	Bridge Replacement	Date:	12/28/2015
NCDOT Contact:	Jonathan Moore, PE		Contractor / Designer:	Wetherill Engineering/Anne Gamber			
Address:	Hydraulics Unit 1020 Birch Ridge Road Raleigh, NC 27610		Address:	1223 Jones Franklin Road Raleigh, NC 27506			
	Phone: (919)707-6734			Phone: (919)851-8077			
	Email: jlmoore@ncdot.gov			Email: agamber@wetherilleng.com			
City/Town:	Wilmington		County(ies):	New Hanover			
River Basin(s):	Cape Fear		CAMA County?	Yes			
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	0.18	Surrounding Land Use:	Forest / Some Residential				
Project Built-Up Area (ac.)		Proposed Project			Existing Site		
0.8 ac.					0.6 ac.		
Typical Cross Section Description:	2 @ 12' lanes with 5' paved shoulder			2 @ 11' travel lane with 4' paved shoulder and 2' grassed shoulder.			

Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	8885	Year:	2036	Existing:	5220	Year:	2016
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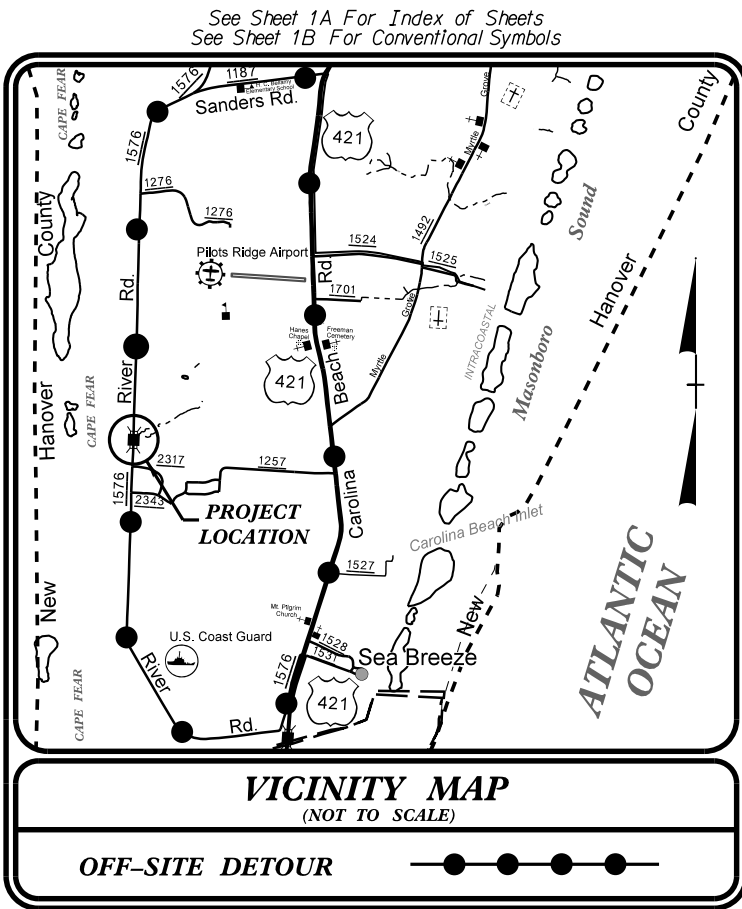
General Project Narrative:
(Description of Minimization of Water Quality Impacts)
REPLACE BRIDGE NO. 19 OVER LORDS CREEK ON SR 1100 (RIVER ROAD) WITH A 1@55'; 1@65' 45" PRESTRESSED CONCRETE GIRDER BRIDGE. NO DIRECT DISCHARGE WILL BE ALLOWED INTO THE SURFACE WATERS. THE RUNOFF FROM THE BRIDGE WILL BE DISCHARGED ON TO A RIP RAP PAD TO DIFFUSE FLOW WITHIN THE WETLAND BOUNDARY. FILL SLOPES ALONG THE NORTHERN ROADWAY APPROACH WILL BE STEEPENED AND REINFORCED WITH RIP RAP TO MINIMIZE IMPACTS IN WETLANDS.

Waterbody Information

Surface Water Body (1):	LORDS CREEK		NCDWR Stream Index No.:	18-84				
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C						
	Supplemental Classification:	Swamp Waters (Sw)						
Other Stream Classification:								
Impairments:	mercury (Hg)							
Aquatic T&E Species?	Comments:							
NRTR Stream ID:							Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A				Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)				(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)								

09/08/09

TIP PROJECT: B-5236



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 10

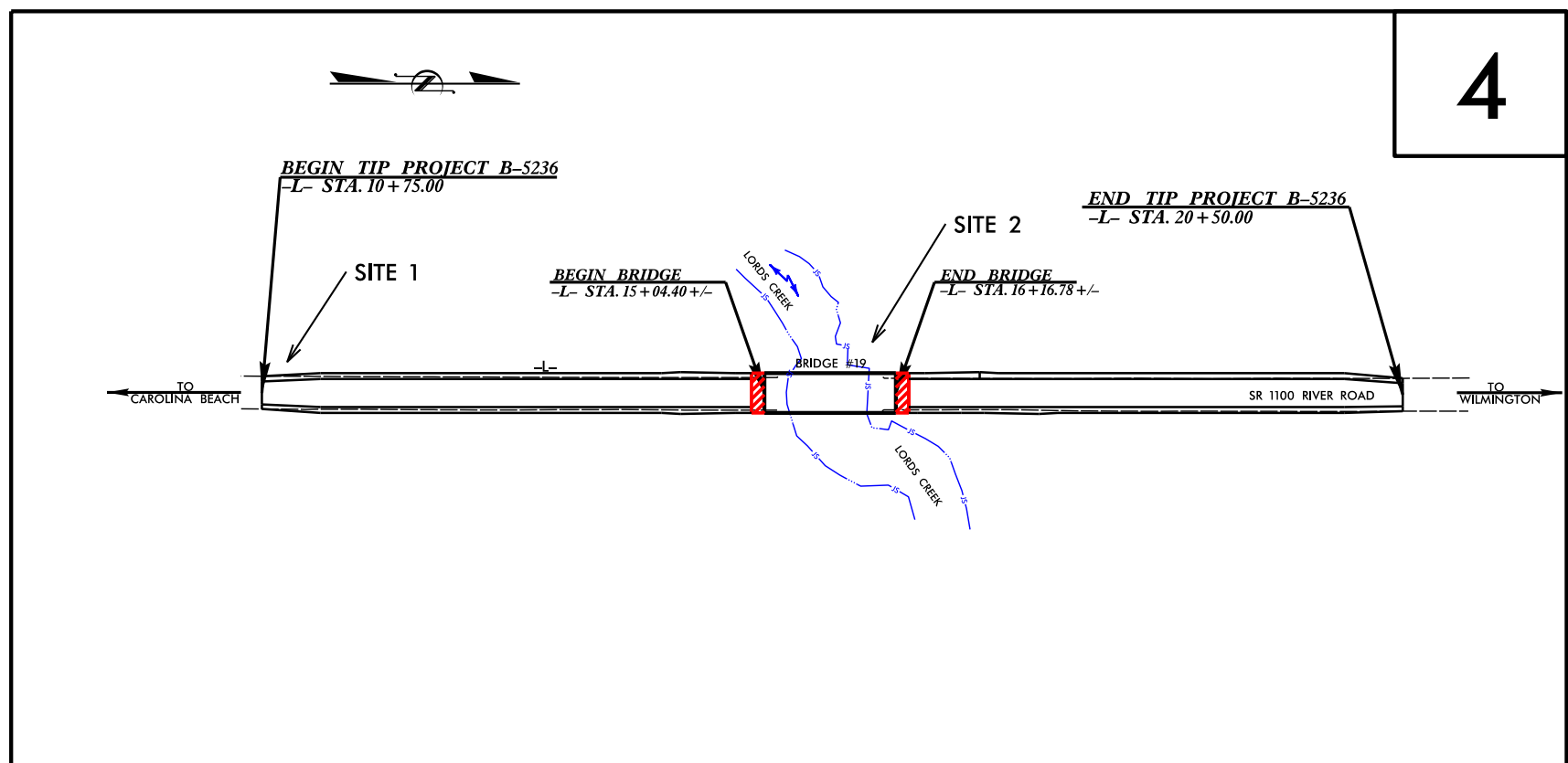
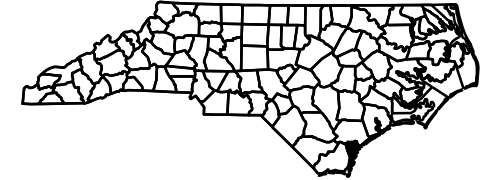
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5236	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42840.1.1	BRZ-1100(29)	P.E.	

NEW HANOVER COUNTY

**LOCATION: REPLACE BRIDGE NO. 19 OVER LORDS CREEK
ON SR 1100.**

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

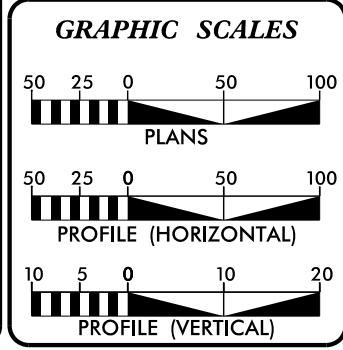
WETLAND AND SURFACE WATER IMPACTS PERMIT



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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2016	=	5220
ADT 2036	=	8885
K	=	11 %
D	=	80 %
T	=	3 % *
V	=	60 MPH
* (TTST = 1% + DUALS 2%)		
FUNC CLASS	=	MINOR ARTERIAL
SUB-REGIONAL TIER		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5236	=	0.163 MI
LENGTH STRUCTURE TIP PROJECT B-5236	=	0.021 MI
TOTAL LENGTH TIP PROJECT B-5236	=	0.184 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 16, 2016

LETTING DATE:
SEPTEMBER 19, 2017

GARY LOVERING, PE
PROJECT ENGINEER

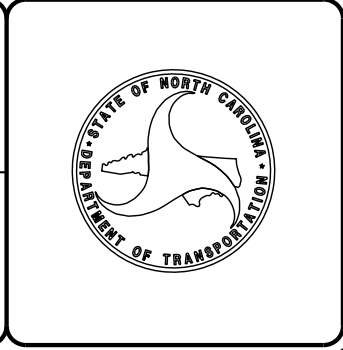
SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER





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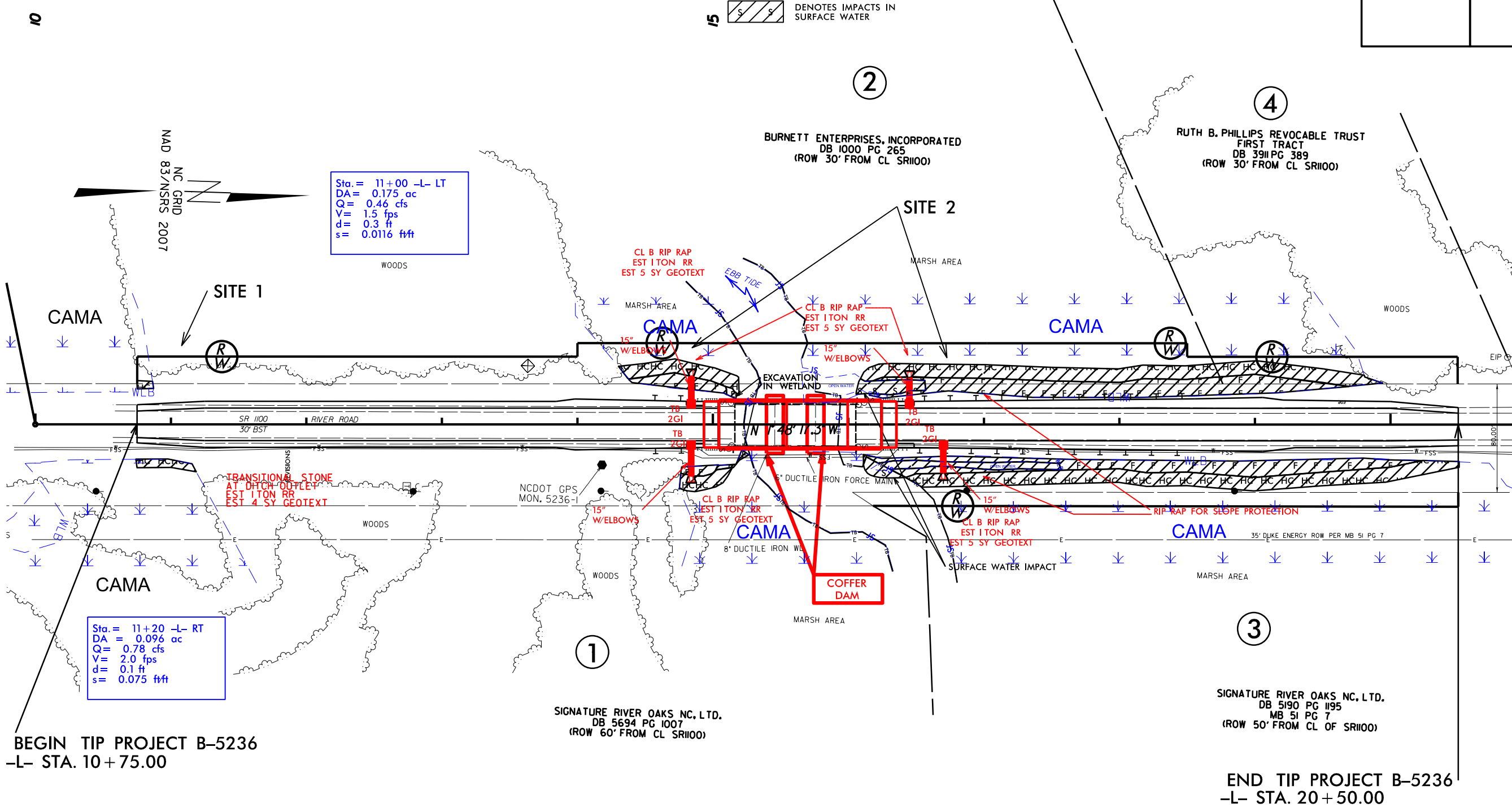
9/8/2016
B5236_Hyd_perm_wet_tsh.dgn
USER:FKAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5236	
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 2 OF 10

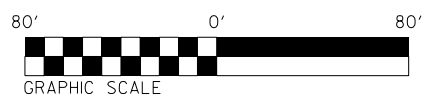
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING
-  DENOTES IMPACTS IN SURFACE WATER

8/17/99
REVISIONS
8/27/2016
B-5236-Hydraulics-Permits-Environment\p1\B5236-Hyd-prm-wet2.dgn







BEGIN TIP PROJECT B-5236
-L- STA. 10+75.00

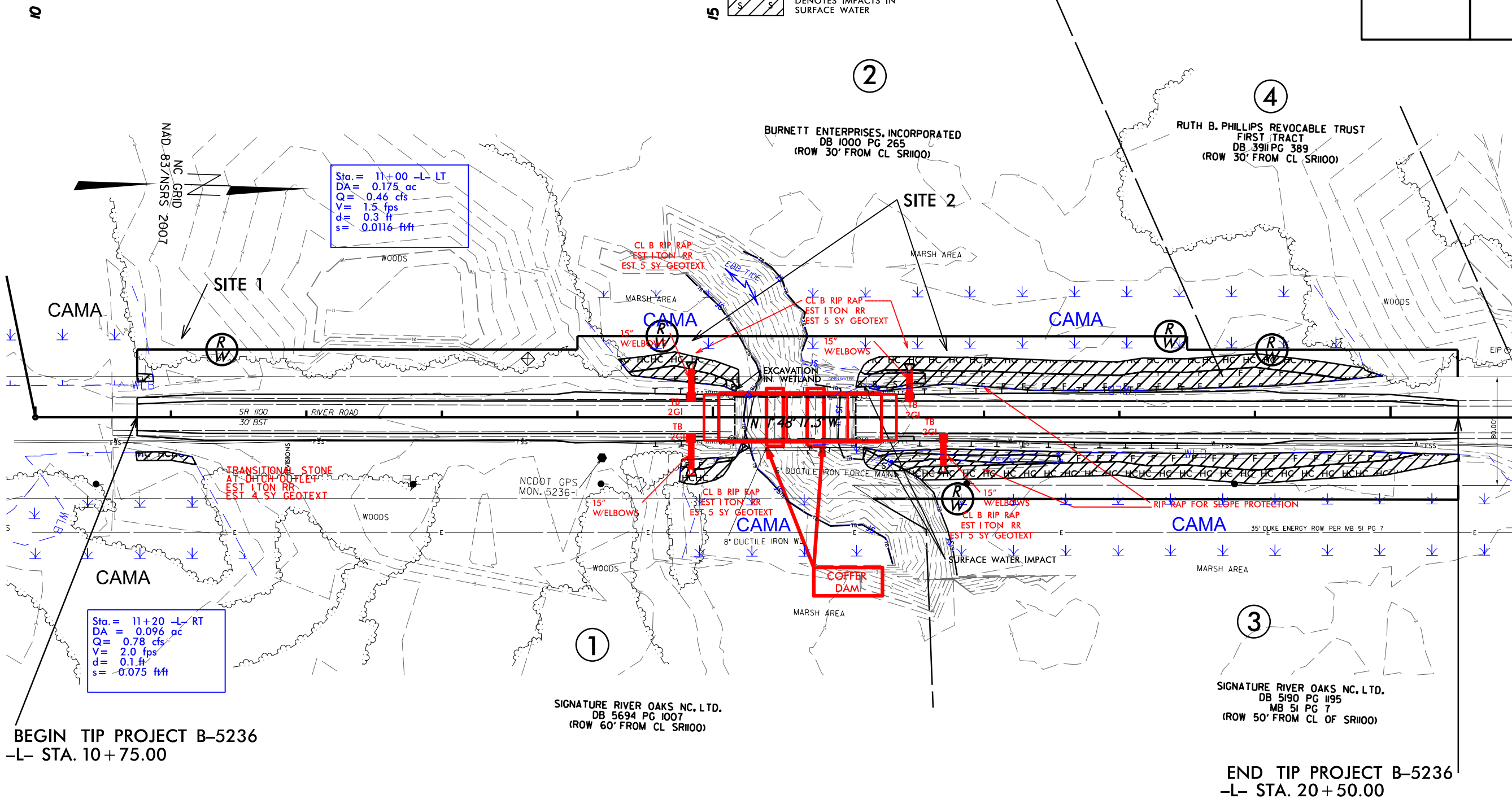
END TIP PROJECT B-5236
-L- STA. 20+50.00



PROJECT REFERENCE NO. B-5236	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 3 OF 10

-  DENOTES EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING
-  DENOTES IMPACTS IN SURFACE WATER

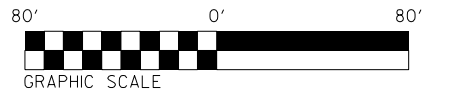


Sta. = 11+00 -L- LT
DA = 0.175 ac
Q = 0.46 cfs
V = 1.5 fps
d = 0.3 ft
s = 0.0116 ft/ft

Sta. = 11+20 -L- RT
DA = 0.096 ac
Q = 0.78 cfs
V = 2.0 fps
d = 0.1 ft
s = -0.075 ft/ft

BEGIN TIP PROJECT B-5236
-L- STA. 10+75.00

END TIP PROJECT B-5236
-L- STA. 20+50.00



8/17/99
REVISIONS
2/2/2016
B:\5236\Hydraulics\PERMITS_Environment\p1\B5236_Hyd.prm_wet2.dgn

5/14/99

PERMIT DRAWING
SHEET 4 OF 10

PROJECT REFERENCE NO.	SHEET NO.
B-5236	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BM #1 RR SPIKE SET IN 14" PINE
-L- STA. 13+63.00 43.00' LT, ELEV. = 7.98'
N 124023 E 2326627

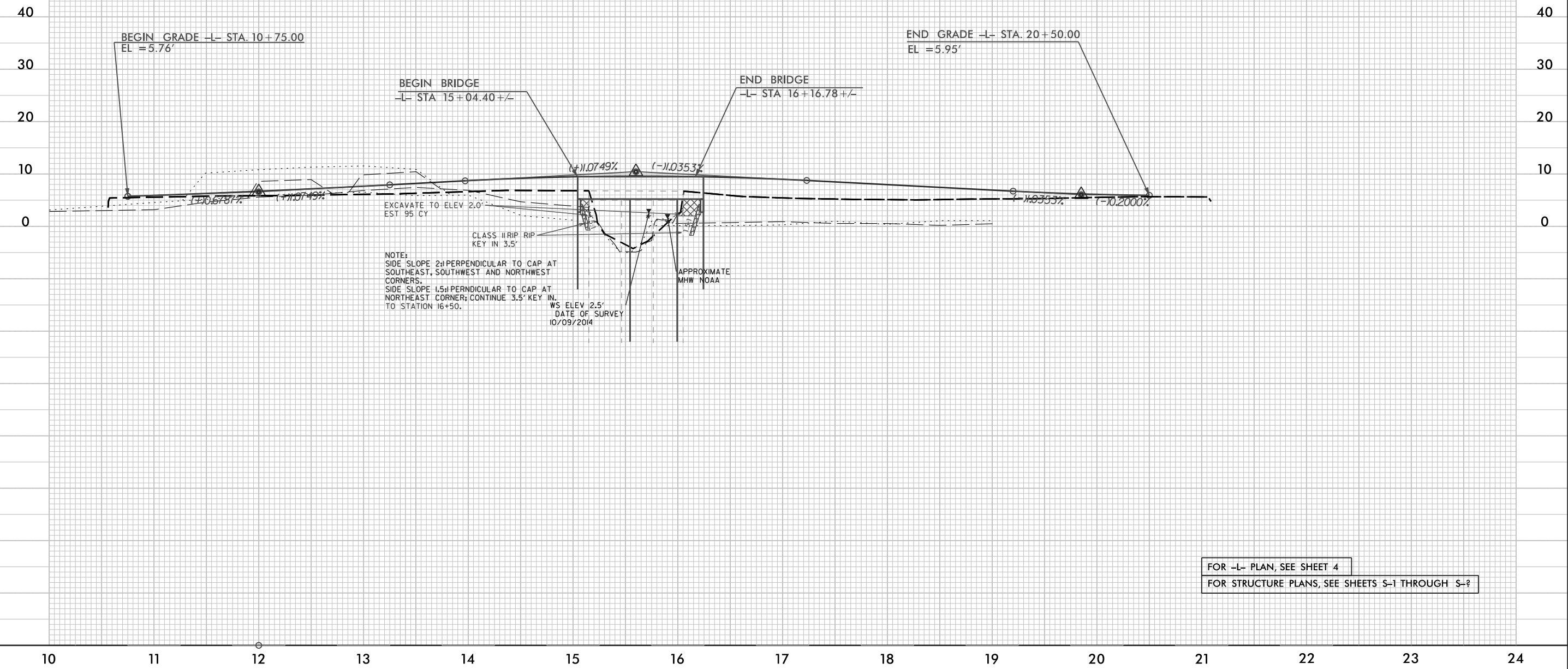


PI = 12+00.00
EL = 6.61'
VC = 250'
K = 631'
V = 80 mph

PI = 15+60.00
EL = 10.48'
VC = 326'
K = 154'
V = 60 mph

PI = 19+85.00
EL = 6.08'
VC = 130'
K = 156'
V = 60 mph

REVISIONS



USERNAME
R57814014\cs\CADD\PROFILES\B5236_Hyd.pfl.dgn
5/18/2016

FOR -L- PLAN, SEE SHEET 4
FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-?

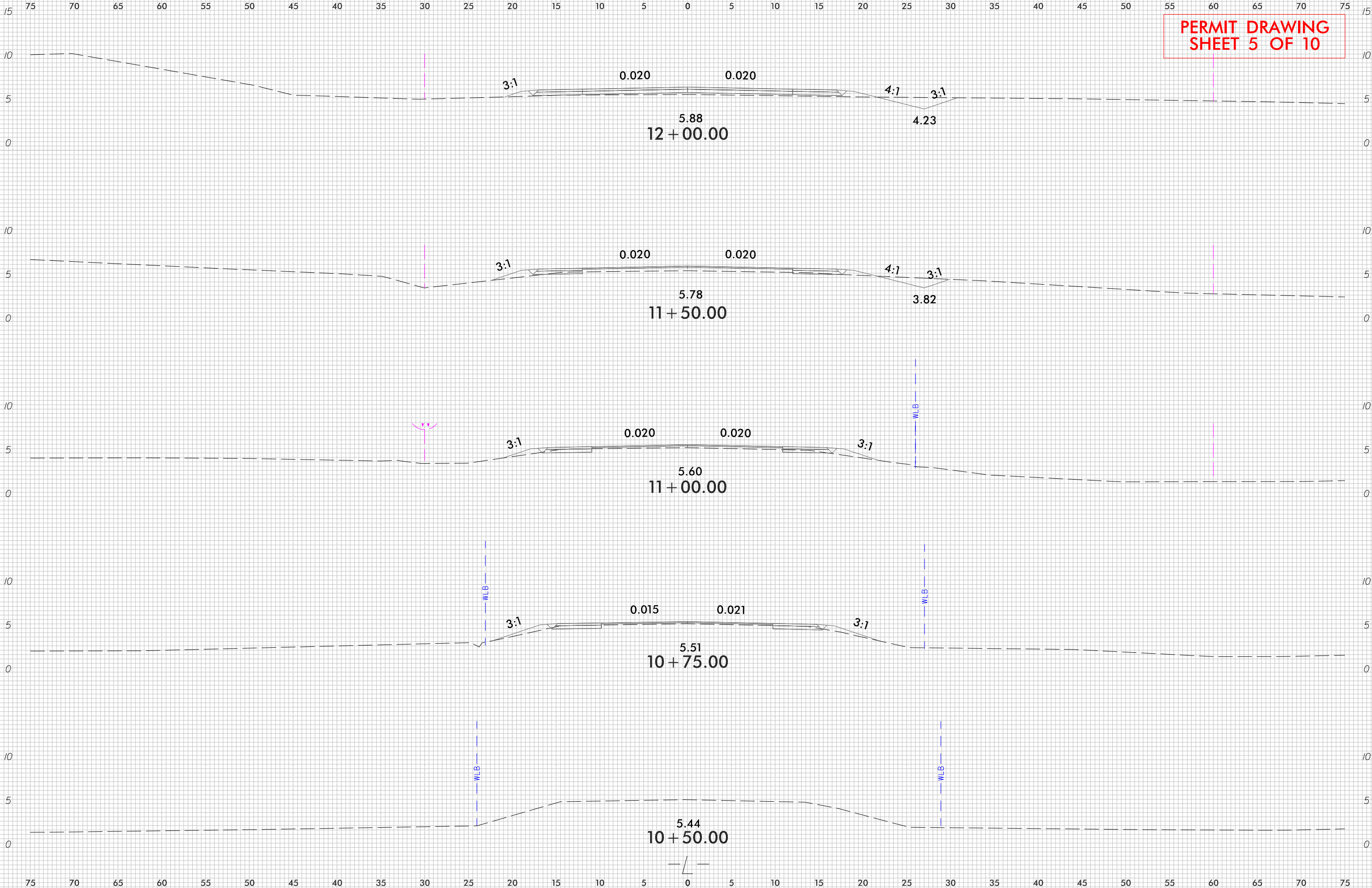
6/23/16



PROJ. REFERENCE NO.
B-5236

SHEET NO.
X-1

**PERMIT DRAWING
SHEET 5 OF 10**

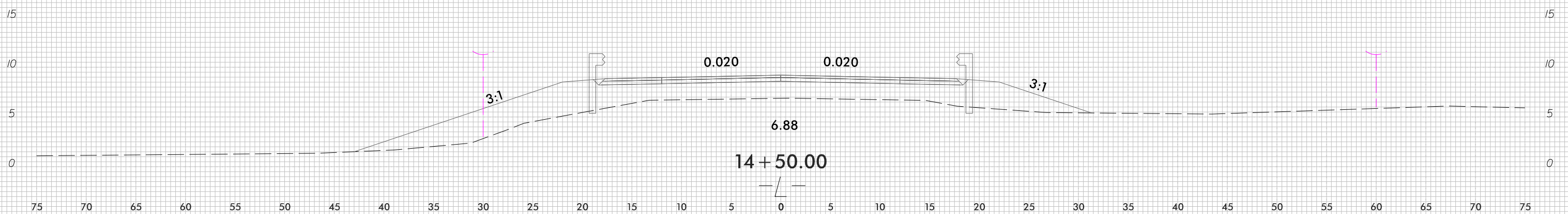
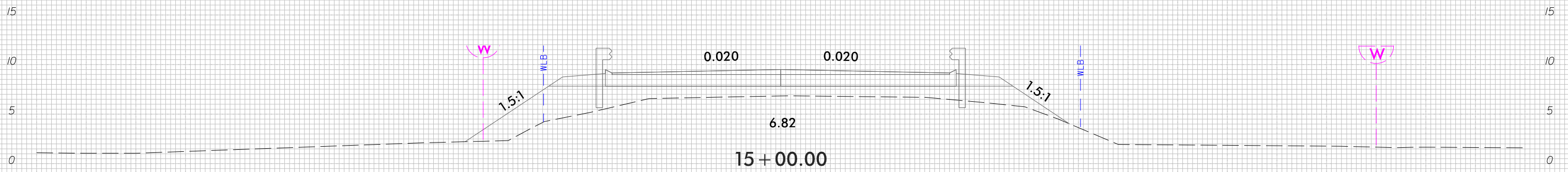
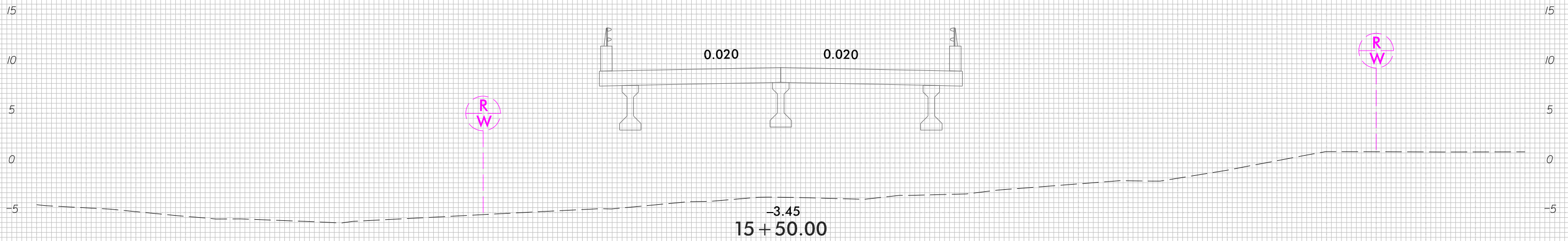


USERNAME
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3/27/2017

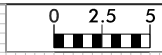


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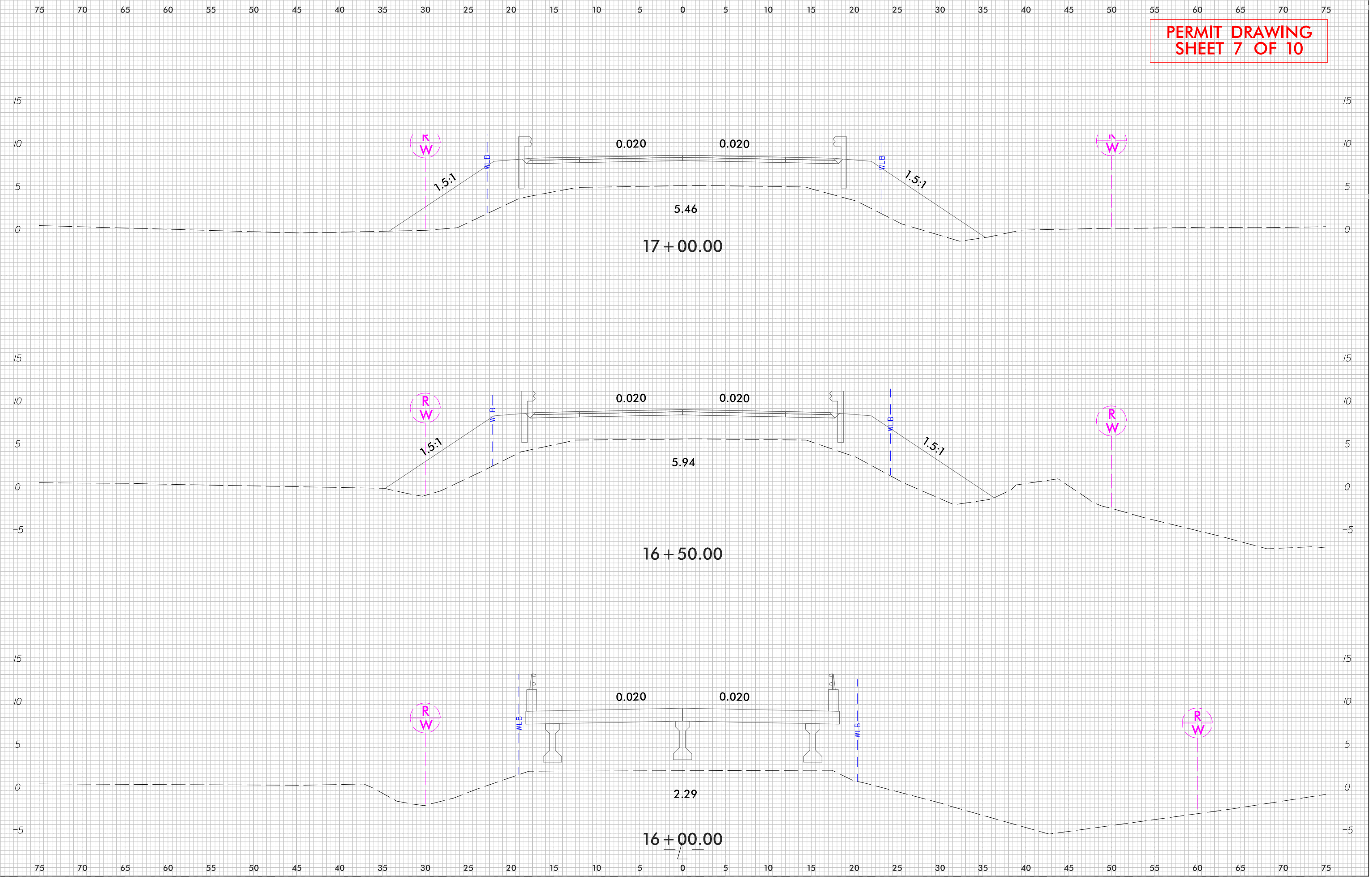
**PERMIT DRAWING
SHEET 6 OF 10**

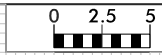


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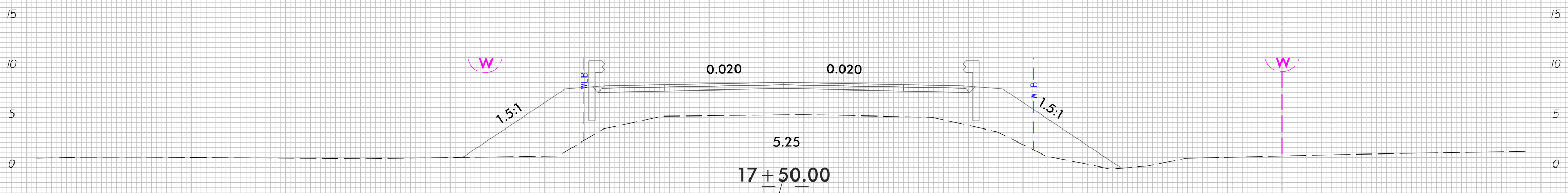
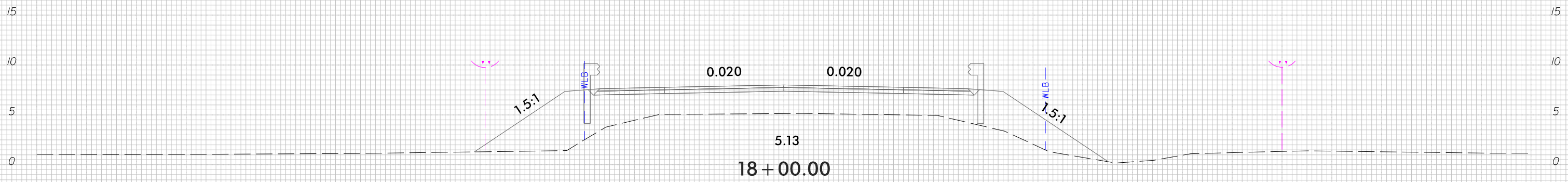
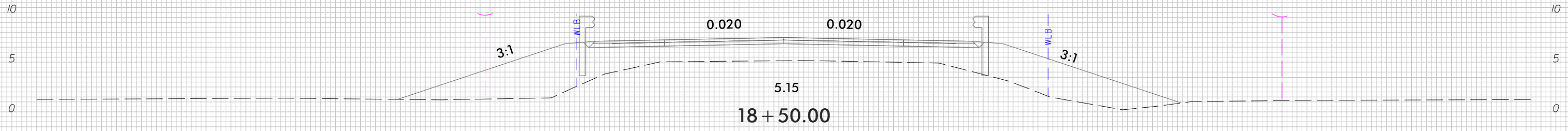
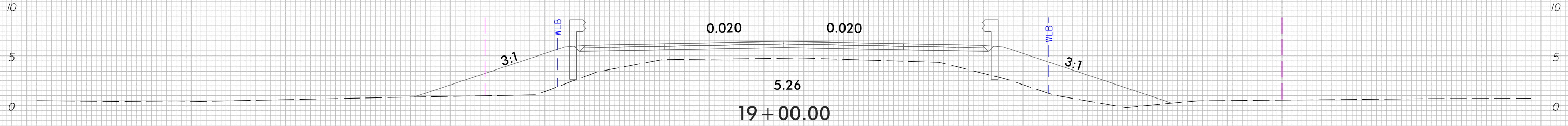
PERMIT DRAWING SHEET 7 OF 10





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PERMIT DRAWING SHEET 8 OF 10

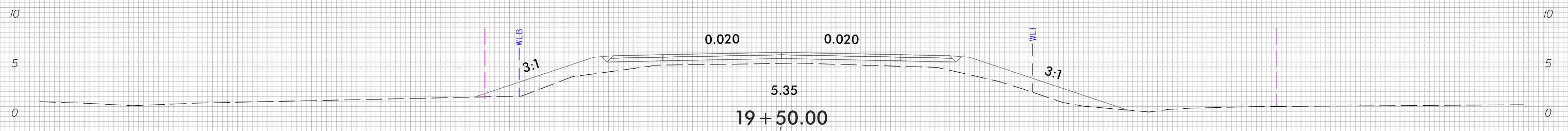
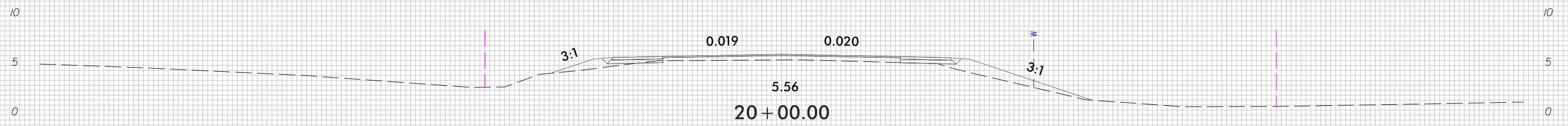
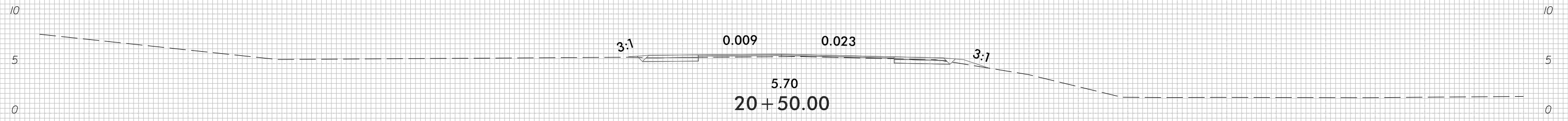


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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

**PERMIT DRAWING
SHEET 9 OF 10**



75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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	10+75 to 11+90 LT	Roadway Embankment					< 0.01					
	10+75 to 11+20 RT	Roadway Embankment					< 0.01					
2	14+20 to 15+20 LT	1@55'; 1@65' 45" PSC Bridge	0.01		< 0.01		0.02					
	14+75 to 15+20 RT	1@55'; 1@65' 45" PSC Bridge	< 0.01		< 0.01		< 0.01					
	16+10 to 20+00 LT	1@55'; 1@65' 45" PSC Bridge	0.09				0.09	0.01		12		
	16+10 to 20+50 RT	1@55'; 1@65' 45" PSC Bridge	0.07				0.09	0.02		30		
TOTALS*:			0.18		< 0.01		0.21	0.03		42	0	0

*Rounded totals are sum of actual impacts

NOTES:
 Permanent Stream Impacts: due to interior bents = 25 sq. ft.
 Temporary Stream Impacts: due to work coffer dams = 1056 sq. ft.
 Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures = 0.04 acres

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 3/24/2017
 New Hanover
 B-5236
 42840.1.1
 SHEET 10 OF 10

B-5236 NEU NARRATIVE

Existing Utilities

There are existing fiber optic phone lines that run along the west side of River Rd. for the project length. The lines are in conflict with our proposed bridge construction. These are owned by AT&T. The contact for the phone facility is Lance Laliberte, Telics P.O. Box 2398, Greenville, N.C. 27836, Phone Number 252-227-4596 Mobile 910-620-3901.

There is one existing 8" ductile iron force main sewer running along the east side of River Rd. for the project length. It is in conflict with our proposed bridge construction. It is owned by AquaAmerica the contact is Michael Poullos, phone number 919-653-6965, email MDPoullos@aquaaamerica.com.

There is one existing 10" water main that runs on the east side of River Rd. and runs the project length. It is in conflict with our proposed bridge construction. It is owned by Aqua America and the contact is already shown.

Proposed Utilities

Proposed telephone fiber optic cables will be installed by open cut from approximately L-Sta. 13+18 where it connects to the existing fiber optic telephone cables. These run to a proposed hand hole at L-Sta. 13+89 where the proposed directional bore begins. From there it runs close to the proposed Right of Way line and runs parallel to River Rd.. From there, it runs to L-Sta. 18+18 where it turns back toward the roadway area. where a proposed hand hole will be installed at L-Sta. 19+17 and the directional bore stops. It then is installed by open cut and connects to the existing phone cables at L-Sta. 19+50. No environmental impacts or buffer impacts are resulting from the proposed phone line installation on B-5236.

One proposed 8" force main sewer will be installed by open cut on the east side of River Rd. from L-Sta. 12+24 to L-Sta. 12+43 where a proposed directional bore starts. From this point, the proposed bore runs parallel along River Rd. off of the

B-5236 area to where it ends. An open cut is used to install the sewer at a 45 degree bend and it connects to the existing force main sewer running near River Rd. . No environmental or buffer impacts will be caused by this sewer installation.

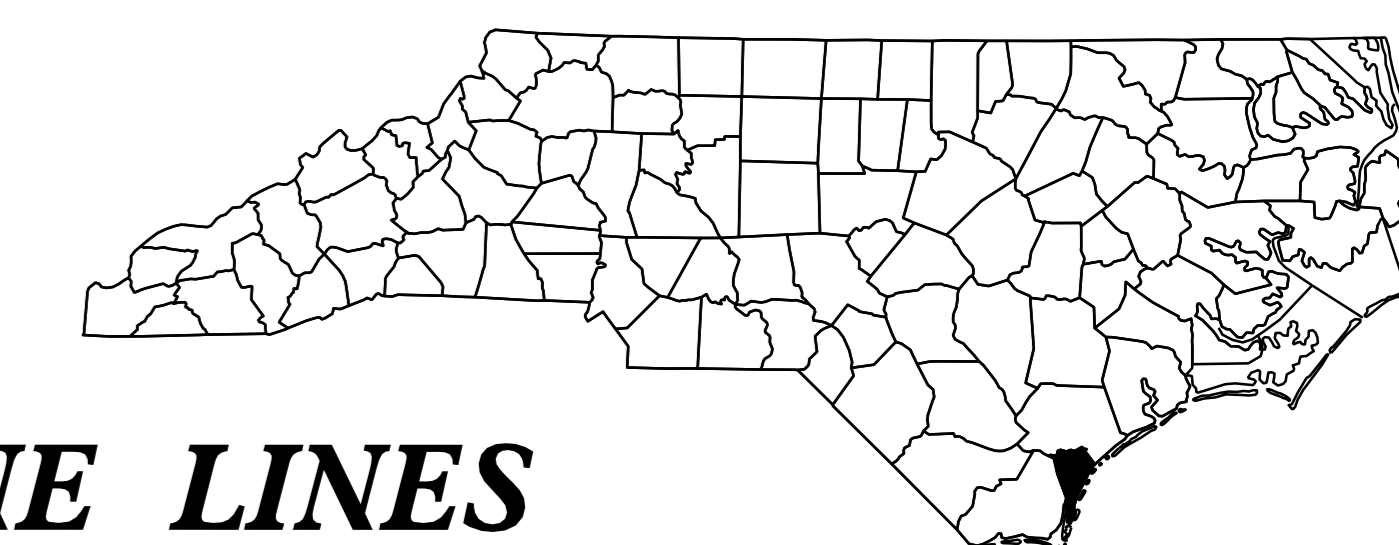
One proposed 10" water main is going to be installed from the existing water line at L-Sta. 12+16 by open cut as it runs at a 45 degree angle from the existing water main to L-Sta. 12+39. A directional bore is used to install the proposed water main from L-Sta. 12+39 in a path parallel with the proposed Right of Way. It runs off of the B-5236 area to a station approximately 893 feet from the bore start. It then is open cut in a 45 degree path to tie to the existing 10" water main. There are no environmental impacts that are caused from the installation of the proposed water main. The stations referred to in this report are approximate and measured along the L-line.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

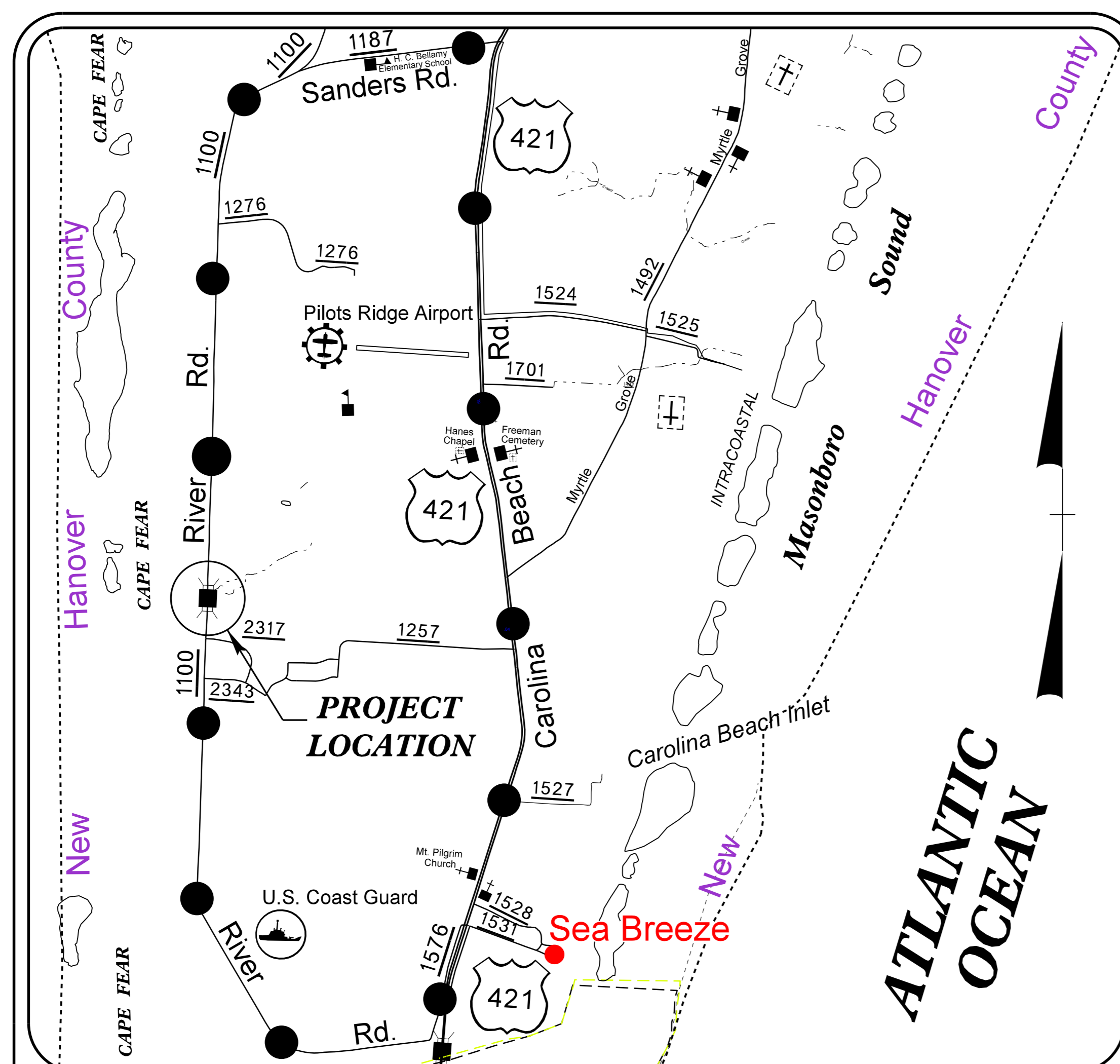
NEU PERMIT PLANS
NEW HANOVER COUNTY

LOCATION: BRIDGE 19 OVER LORDS CREEK ON SR 1100

TYPE OF WORK: RELOCATION OF WATER, SEWER, AND TELEPHONE LINES

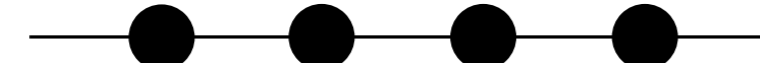


TIP PROJECT: B-5236



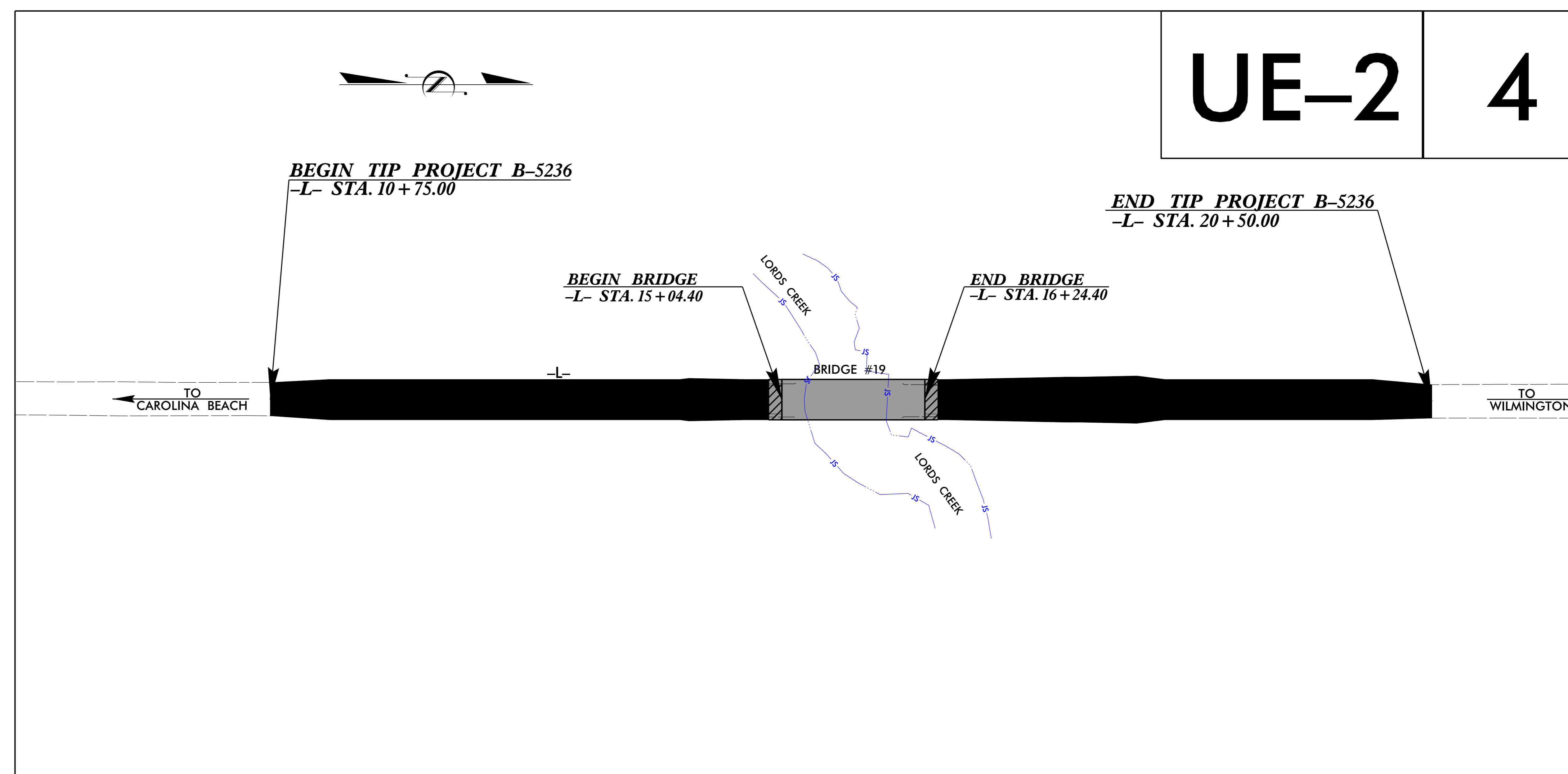
VICINITY MAP
(NOT TO SCALE)

OFF-SITE DETOUR



UE-2

4



BEGIN TIP PROJECT B-5236
-L- STA. 10 + 75.00

END TIP PROJECT B-5236
-L- STA. 20 + 50.00

BEGIN BRIDGE
-L- STA. 15 + 04.40

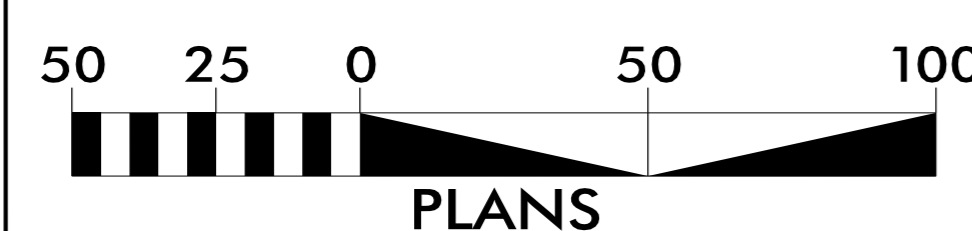
END BRIDGE
-L- STA. 16 + 24.40

TO CAROLINA BEACH

TO WILMINGTON

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



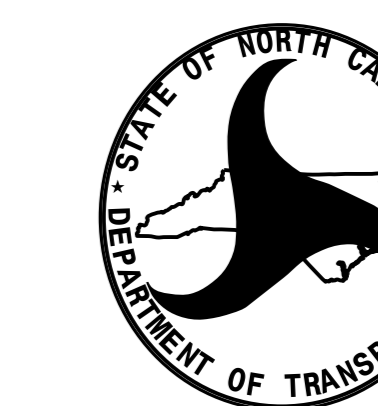
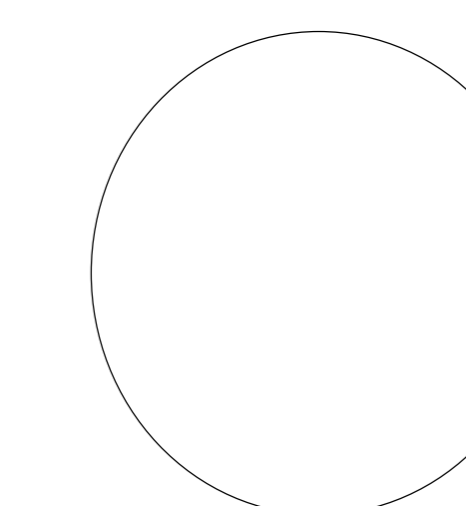
INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UE-1	TITLE SHEET
UE-2	NEU PERMIT PLAN SHEET
UE-3 THRU UE-5	NEU PERMIT PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

- (A) AQUA INC. WATER
- (B) AQUA INC. FORCE SANITARY SEWER
- (C) AT&T TELEPHONE

SEAL



DIVISION OF HIGHWAYS
UTILITIES UNIT
1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Bo Hemphill P.E. UTILITIES REGIONAL ENGINEER
 Kelvin Martin UTILITIES ENGINEER
 Amy Dupree UTILITIES AREA COORDINATOR
 Dayton Martin UTILITIES COORDINATOR

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2007

BEGIN 4" DIRECT BORE AT STA. 13+89
PLACE NEW H/H
OPEN CUT AND EXPOSE EXISTING CABLES
MOVE TO NEW H/H

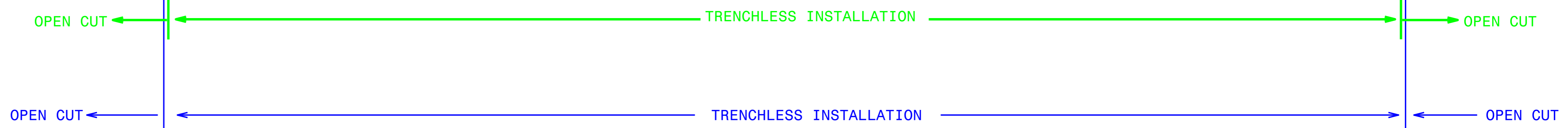
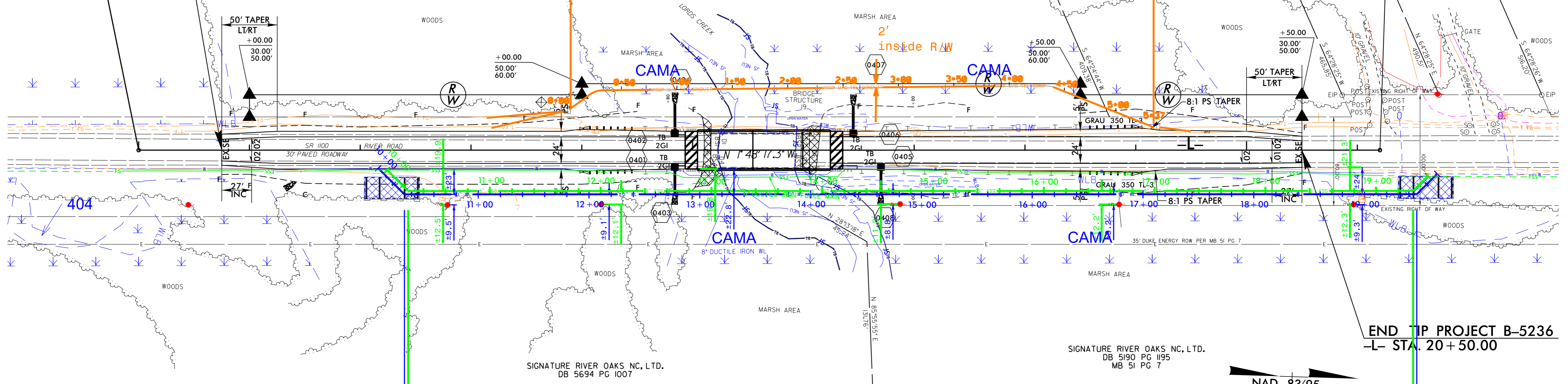
END 4" DIRECT BORE AT STA. 19+17

IN TIP PROJECT B-5236
STA. 10+75.00

END TIP PROJECT B-5236
-L- STA. 20+50.00

POT Sta. 10+00.00

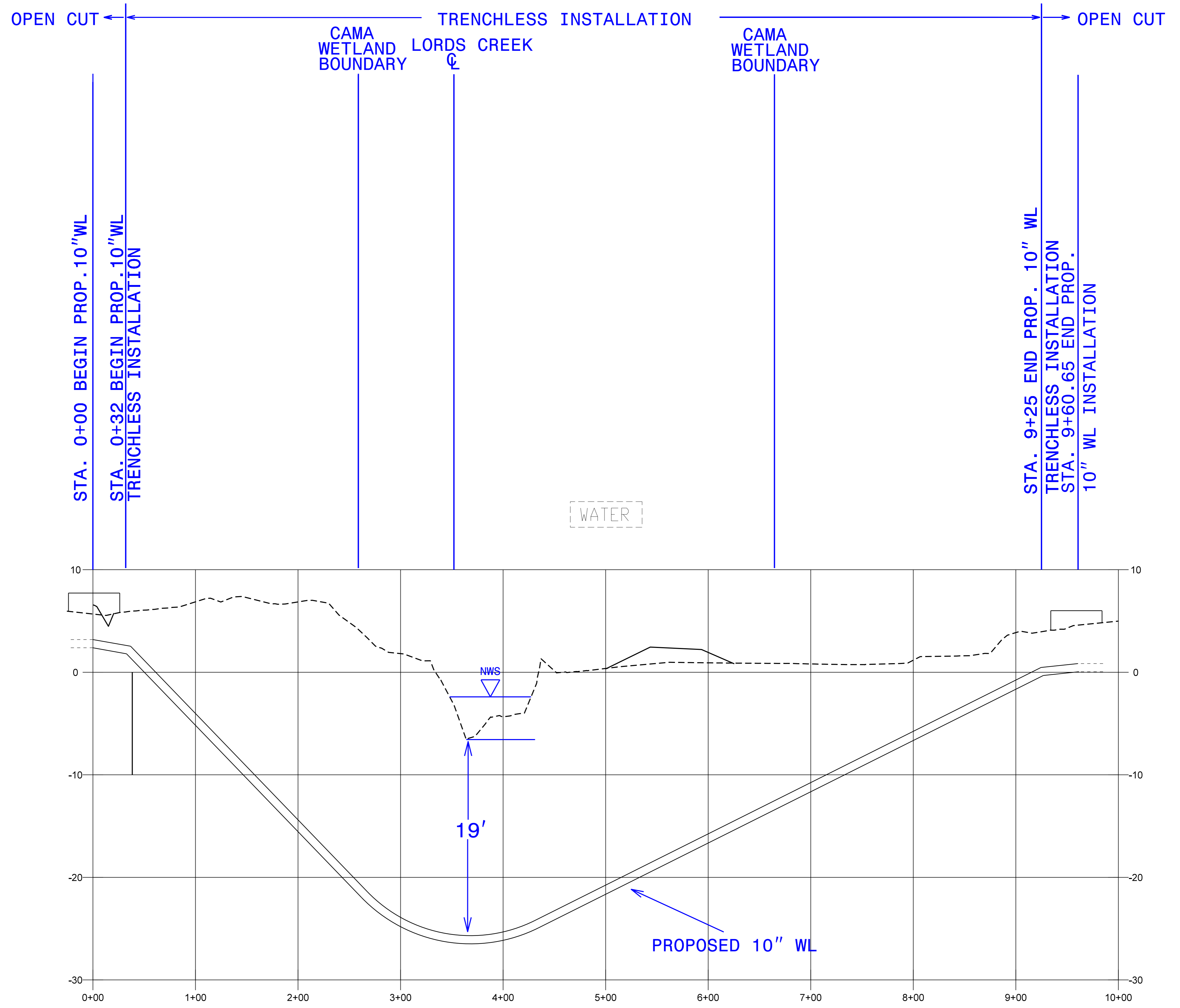
POT Sta. 21+20.4



NAD 83/95

5/14/99
28-MAR-2017 11:17
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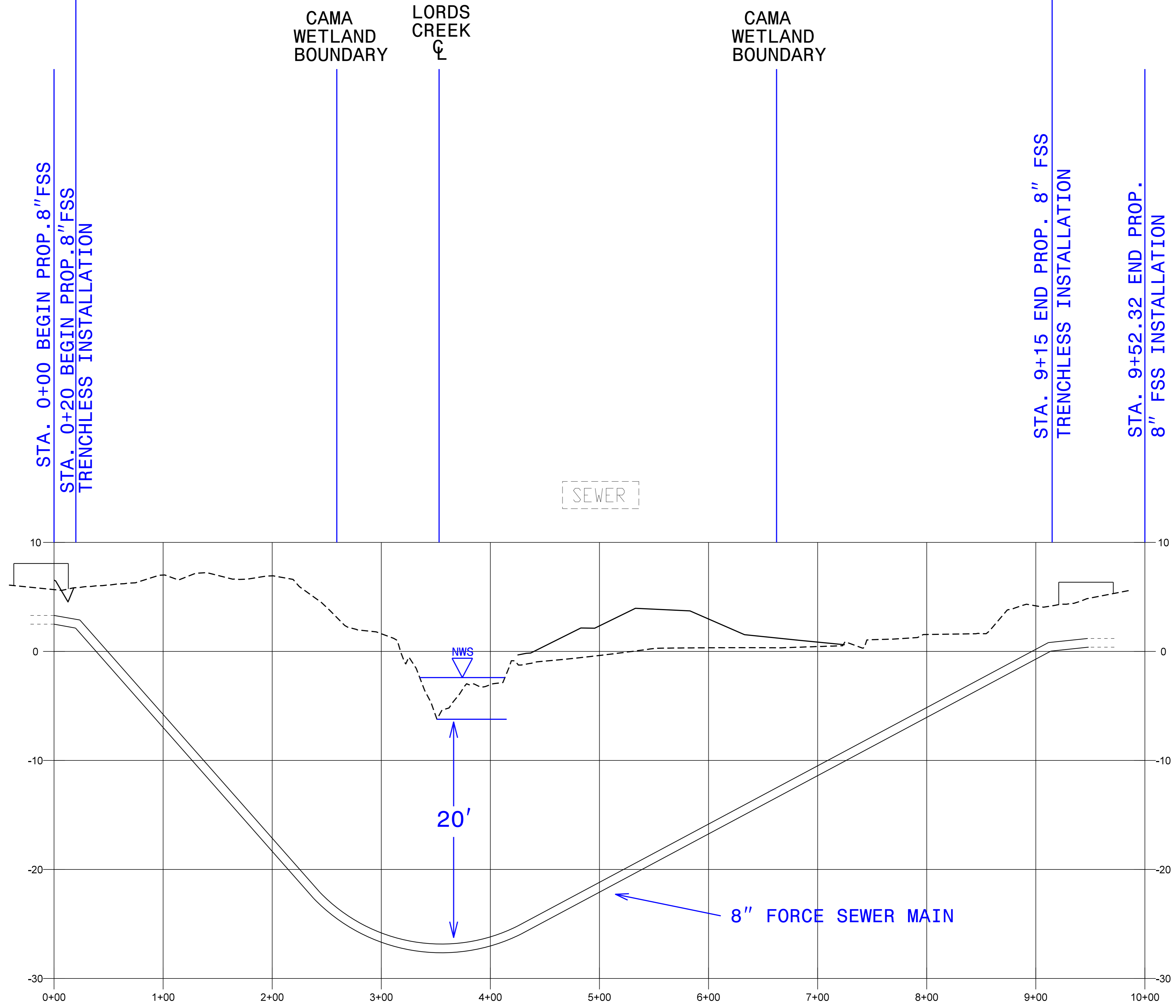
WATER MAIN PROFILE



30-AUG-2016 09:58 and Narrative\B5236-UE3-WTRpfl.psh.dgn
 5/14/99
 30-AUG-2016 09:58 and Narrative\B5236-UE3-WTRpfl.psh.dgn

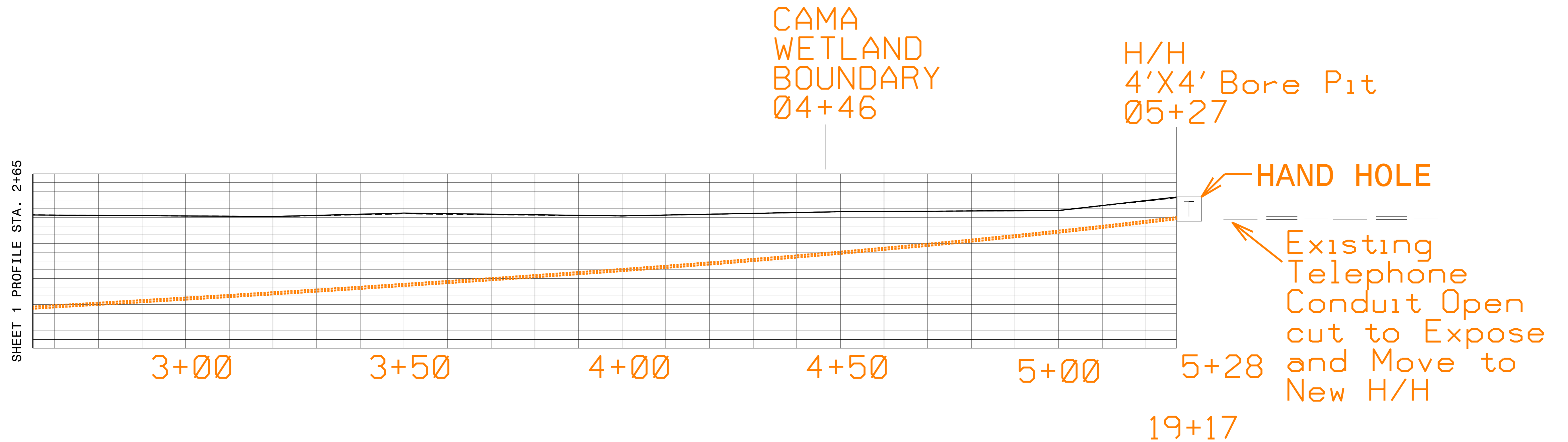
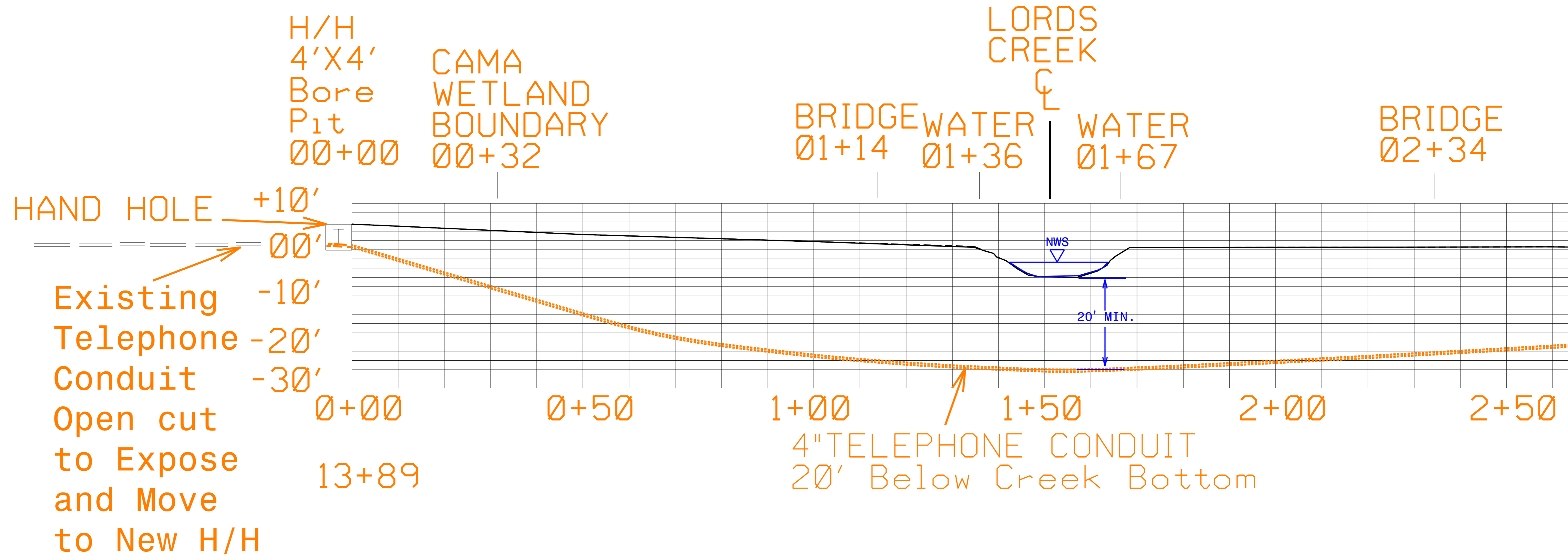
SEWER MAIN PROFILE

OPEN CUT ← TRENCHLESS INSTALLATION → OPEN CUT



5/14/99
20-AUG-2016 09:50
Spring\20-AUG-2016 09:50
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TELEPHONE LINE PROFILE

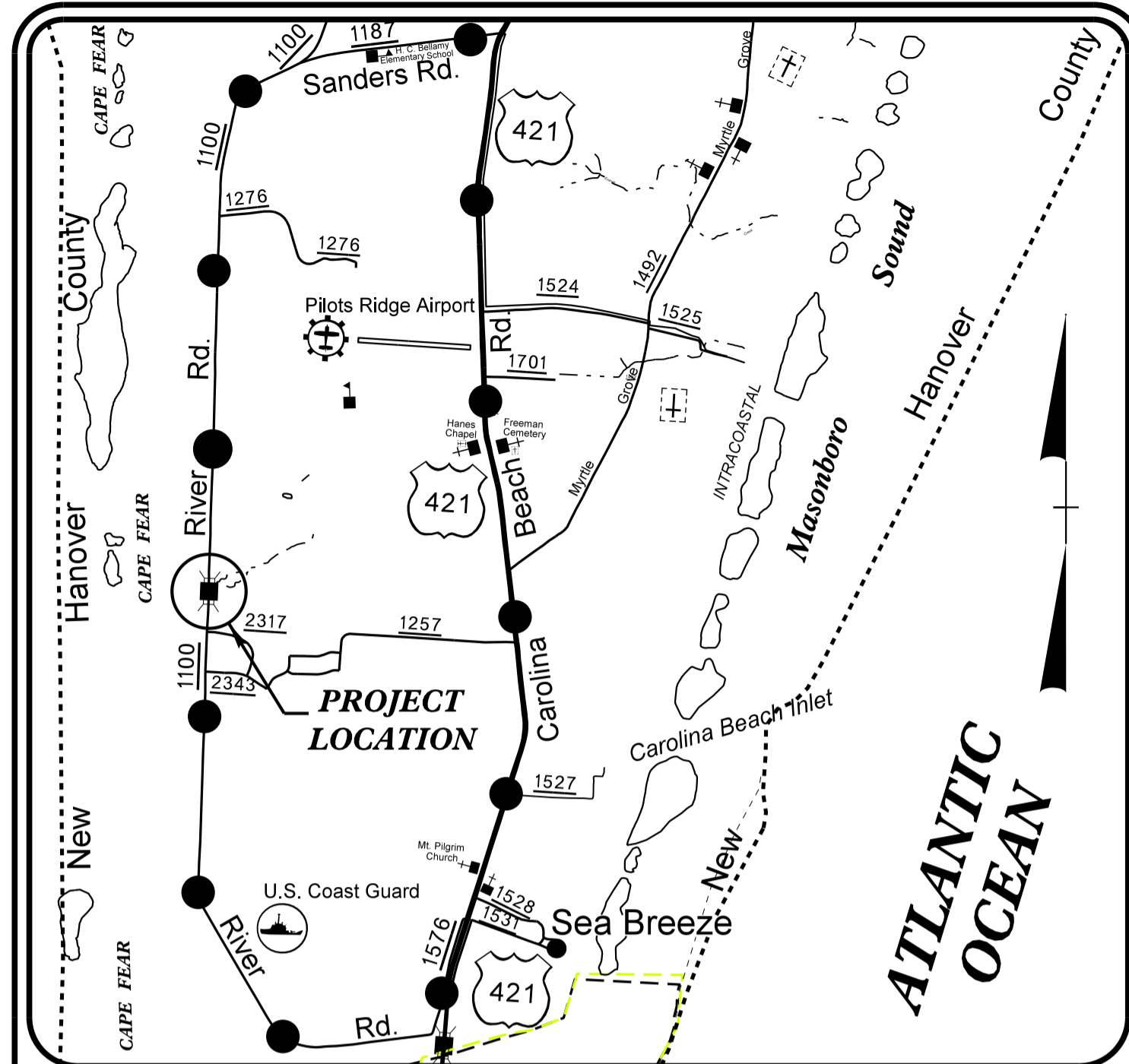


SHEET 2 PROFILE STA. 2+65

SHEET 1 PROFILE STA. 2+65

09/08/99

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



VICINITY MAP
(NOT TO SCALE)

OFF-SITE DETOUR



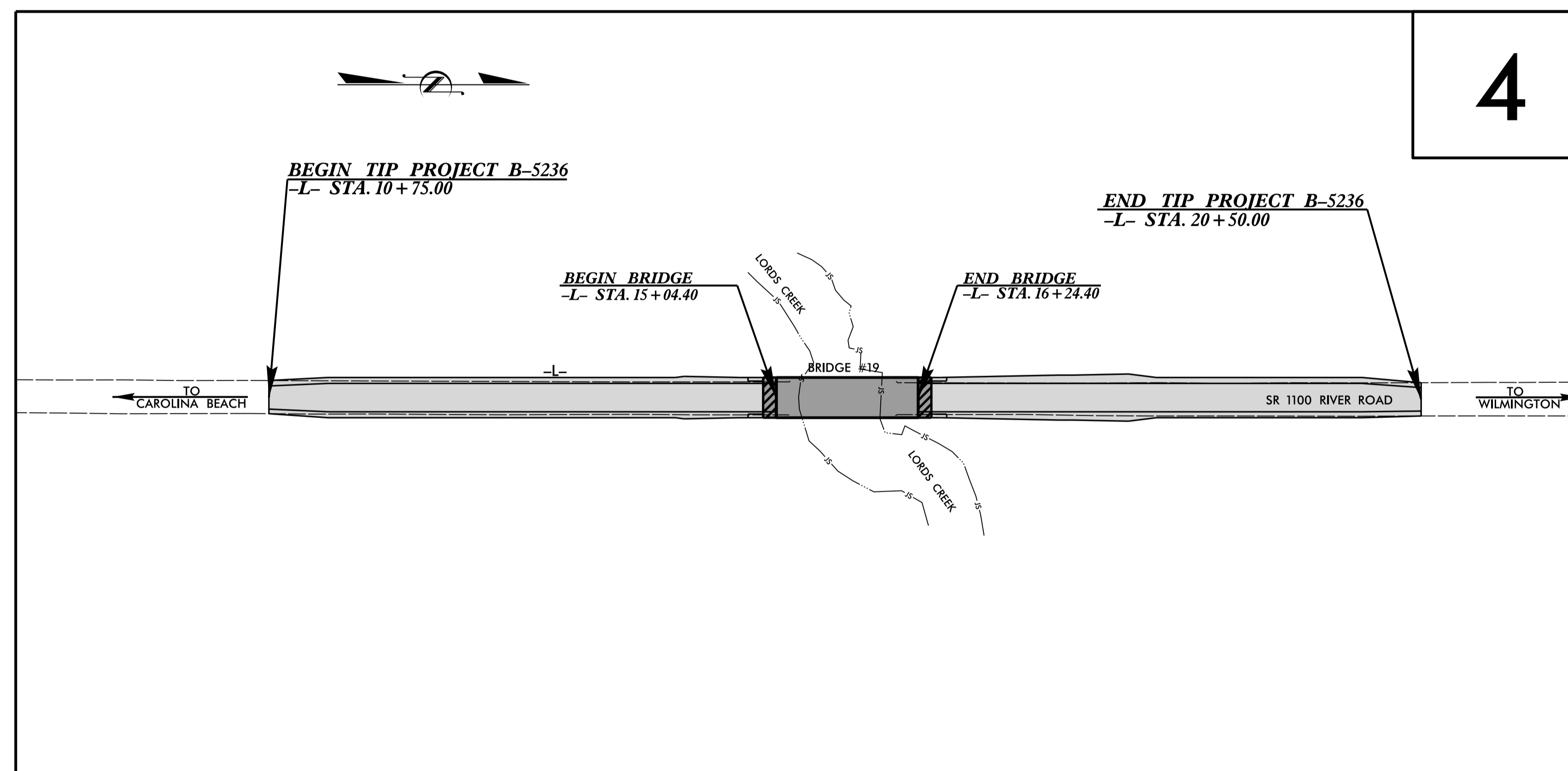
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEW HANOVER COUNTY

**LOCATION: REPLACE BRIDGE NO. 19 OVER LORDS CREEK
ON SR 1100**

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5236	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42840.1.1	BRZ-1100(29)	P.E.	
42840.2.1	BRZ-1100(29)	R/W & UTIL.	

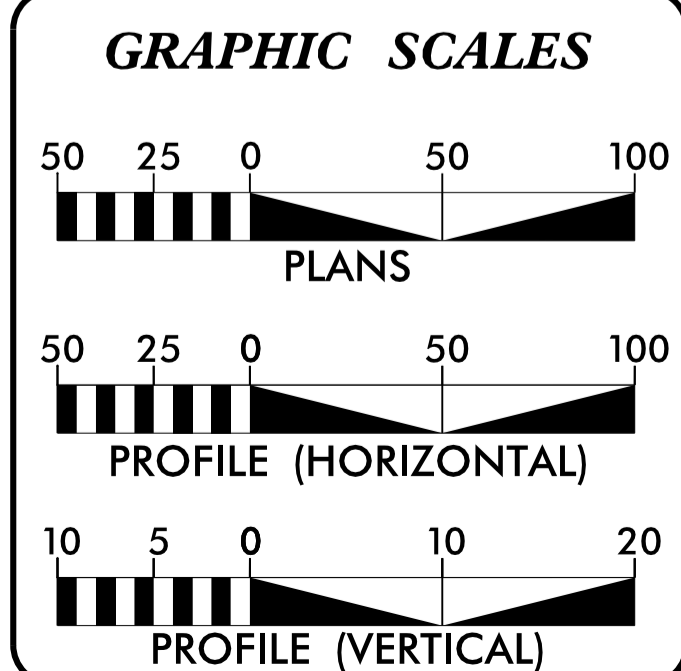


4

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

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

CONTRACT:



DESIGN DATA

ADT 2017	=	5400
ADT 2037	=	9075
K	=	11 %
D	=	80 %
T	=	3 % *
V	=	60 MPH
* (TTST = 1% + DUALS 2%)		
FUNC CLASS	=	MINOR ARTERIAL
SUB-REGIONAL TIER		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5236	=	0.162 MI
LENGTH STRUCTURE TIP PROJECT B-5236	=	0.023 MI
TOTAL LENGTH TIP PROJECT B-5236	=	0.185 MI

Prepared In the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610

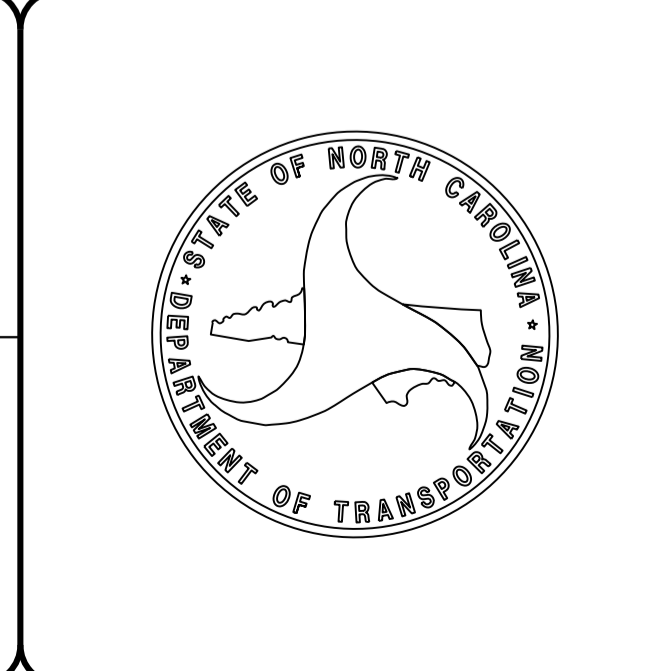
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	GARY LOVERING, PE PROJECT ENGINEER
LETTING DATE:	VACANT PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



18-JUL-2016 14:21
R:\Roadway\Proj\B5236_Rdy.-t.sh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

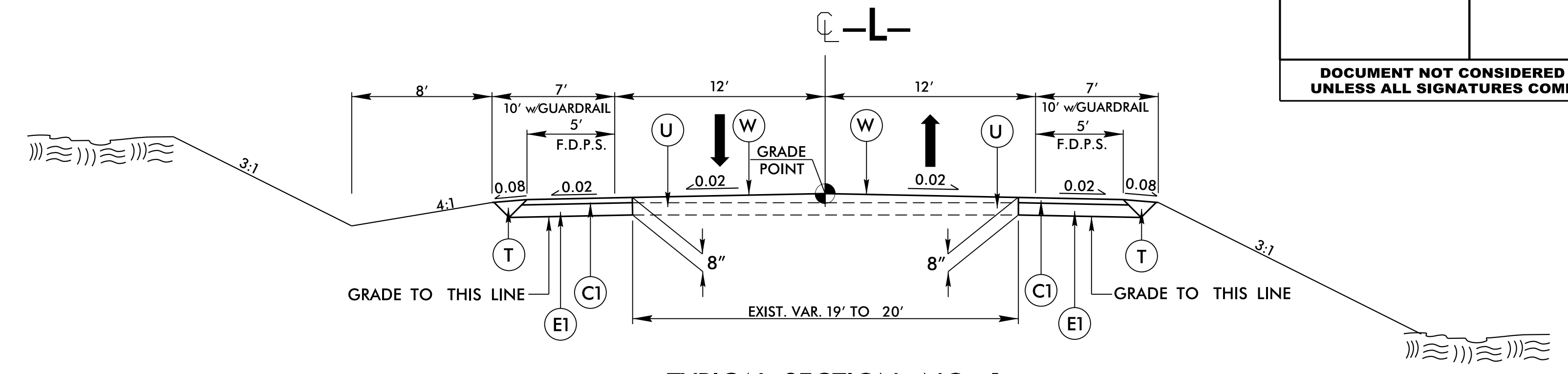
PROJECT REFERENCE NO. B-5236	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

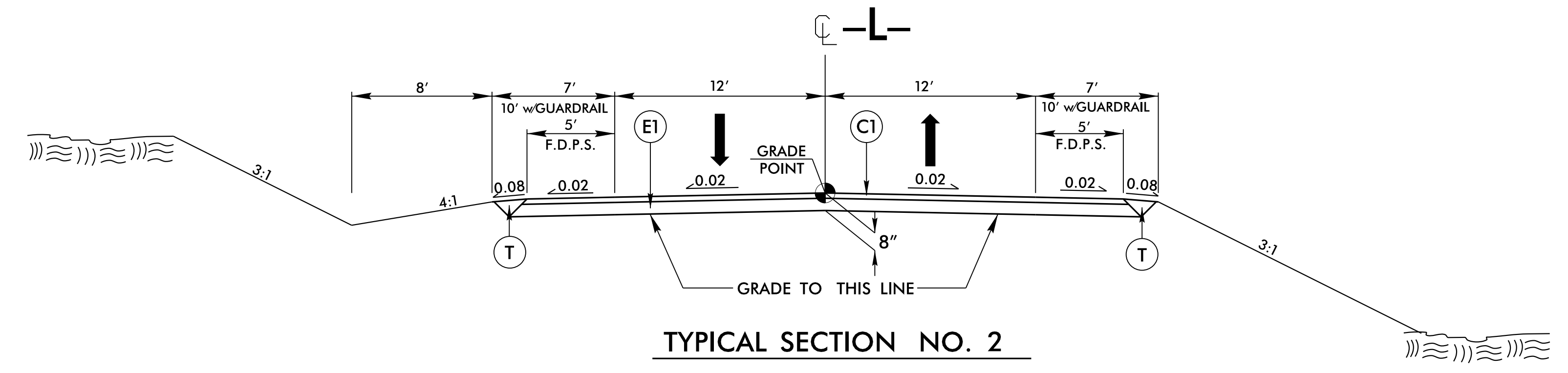
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 2.5" 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 4" IN DEPTH OR GREATER THAN 5.5" DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING).

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



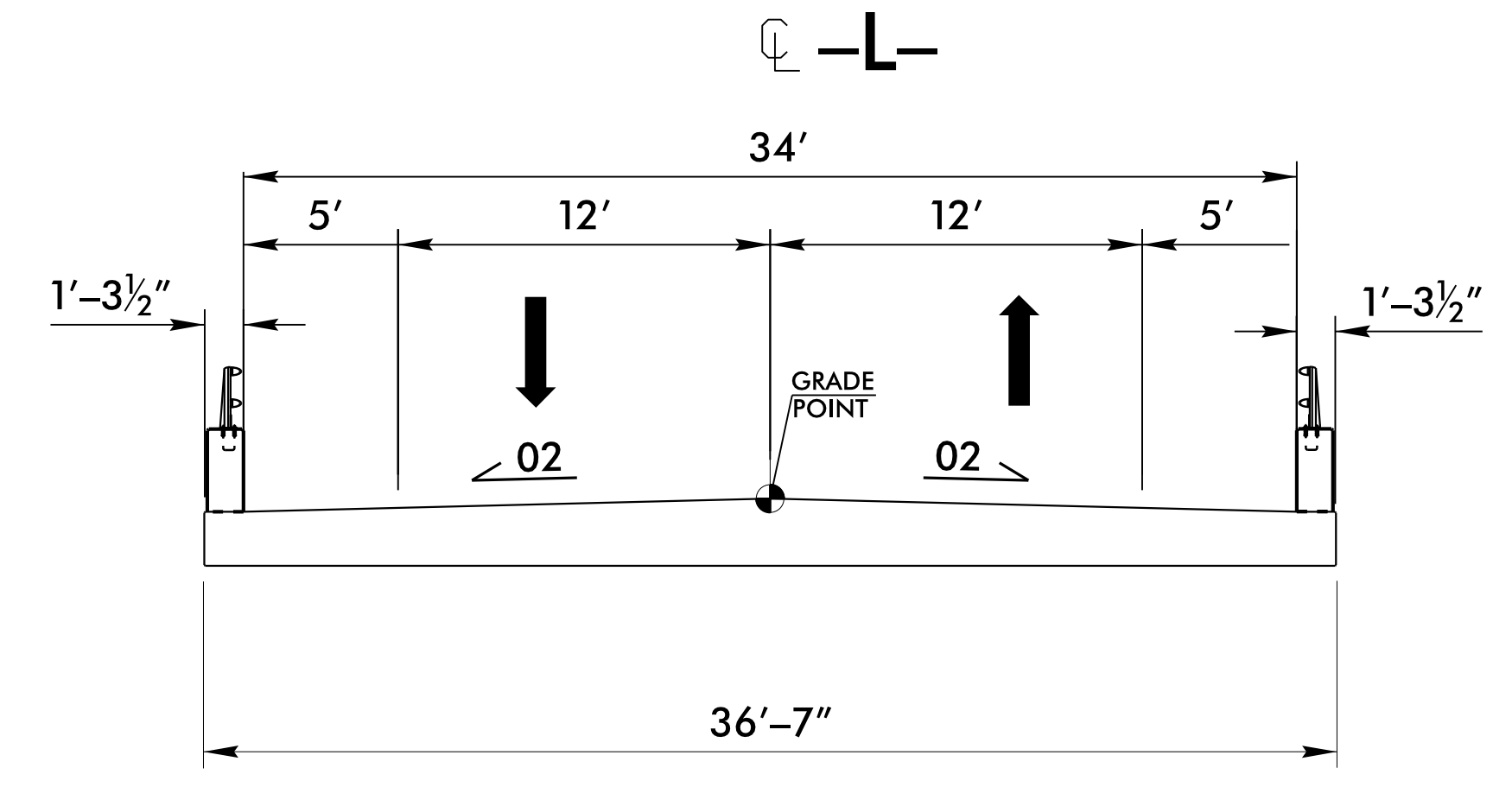
TYPICAL SECTION NO. 1

-L- STA. 10+75.00 TO 11+75.00
-L- STA. 19+80.00 TO 20+50.00



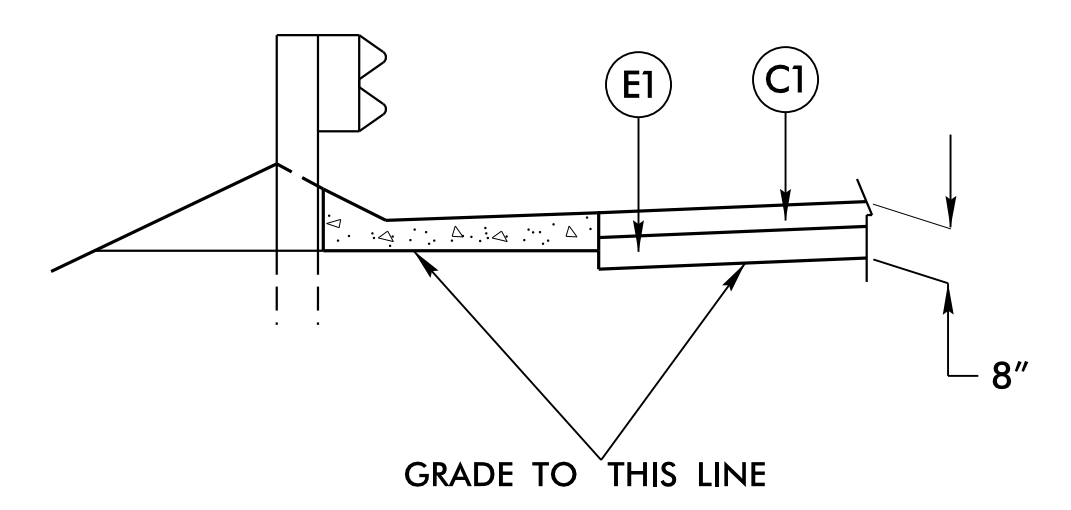
TYPICAL SECTION NO. 2

-L- STA. 11+75.00 TO 15+04.40 (BEGIN BRIDGE)
-L- STA. 16+24.40 (END BRIDGE) TO 19+80.00



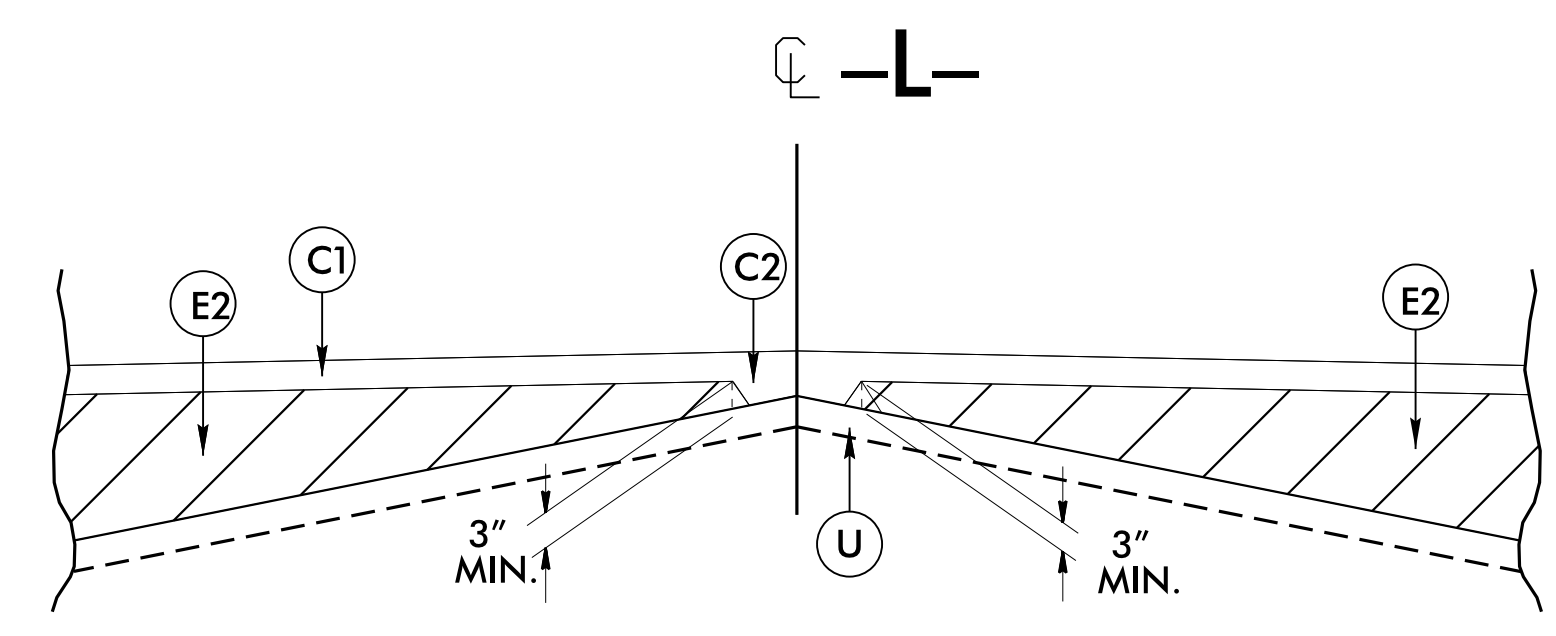
TYPICAL SECTION NO. 3

-L- STA. 15+04.40 TO 16+24.40



**DETAIL SHOWING SHOULDER BERM
GUTTER ON TOP OF SUBGRADE**

-L- STA. 14+80.40 TO 14+93.23 LT.\RT.
-L- STA. 16+35.57 TO 16+48.50 LT.\RT.



Detail Showing Method of Wedging

6/2/19
 18-JUL-2016 14:22
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 \$\$\$LISTFRM\$\$\$

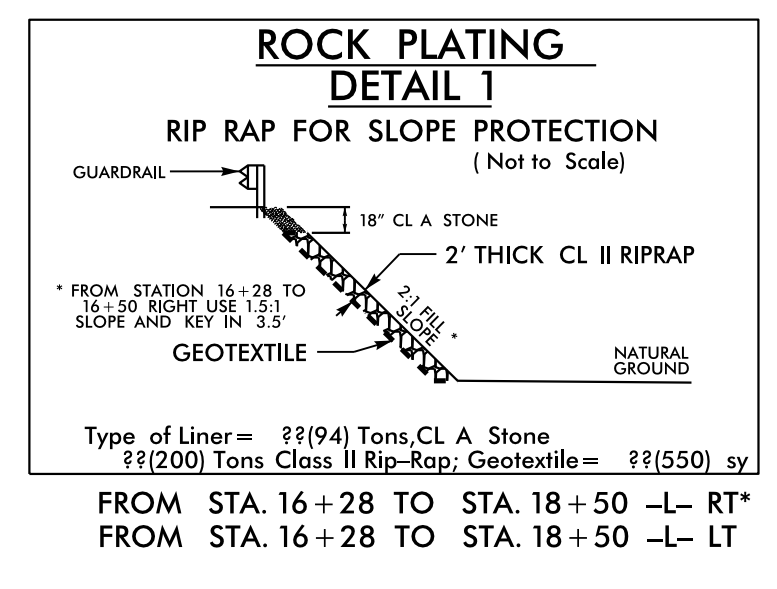
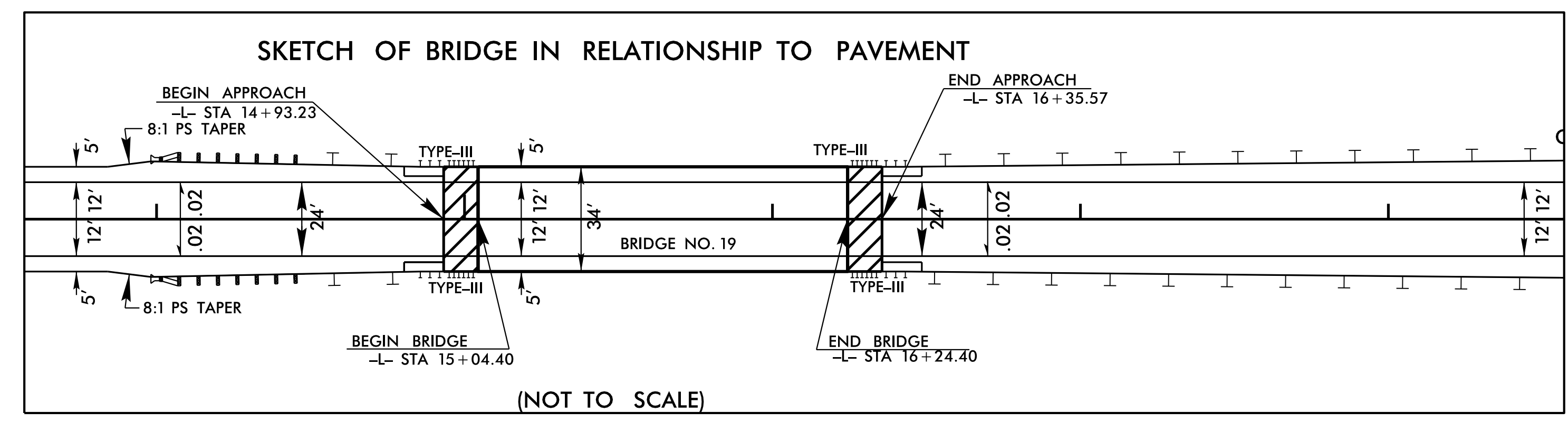
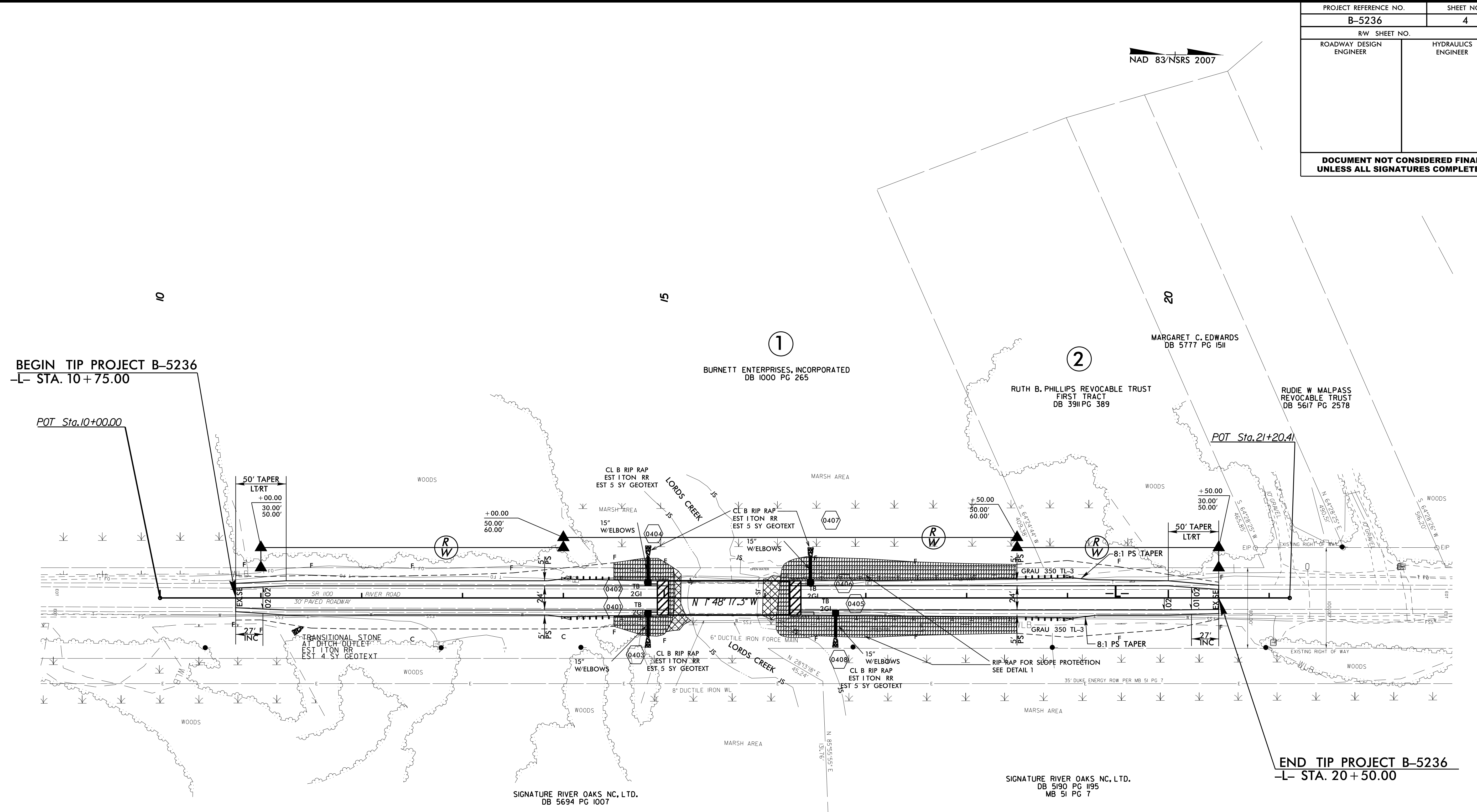
PROJECT REFERENCE NO.	SHEET NO.
B-5236	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

8/17/99

REVISIONS

03202017 DESIGN REVISION: Extended Rock Plating limits to minimize wetland impacts.chl

21-MAR-2017 08:53 B5236_Rdy_psh_04.dgn
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BRIDGE APPROACH SLAB
FOR -L- PROFILE, SEE SHEET 5
FOR STRUCTURE PLANS, SEE SHEET S-1 THROUGH S-2