STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

October 20, 2011

Mr. Bill Biddlecome
U.S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Mr. Stephen Lane
Division of Coastal Management
N. C. Dept. of Env. & Natural Resources
400 Commerce Avenue
Morehead City, NC 28557

Dear Sirs:

Subject: **Application for Section 404 Nationwide Permits 12 and 23, Section 401 Water Quality Certification, and CAMA Major Development Permit** for the replacement of Bridge Nos. 1 and 2 over Knobbs Creek on US17/Hwy 158 in Pasquotank County. State Project No. 8.1110501. Federal Aid Project Number BRSTP-15(41). Debit $400 from WBS 33791.1.1.TIP No. B-4599.

The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the Federal Highway Administration (FHWA), proposes to replace Bridge Nos. 1 and 2 in Pasquotank County. A Categorical Exclusion (CE) was completed for this project on November 19, 2008, and distributed shortly thereafter. An FHWA Right of Way Consultation was completed on December 21, 2009. Additional copies are available upon request. The proposed let date for the project is June 19, 2012; however, the let date may advance as additional funds become available.

Please find enclosed a Pre-Construction Notification (PCN) form, permit drawings, utility drawings/narrative, roadway plans, North Carolina Division of Coastal Management Major Permit Forms 1 and 5, stormwater management plan, and adjacent riparian landowner certified mail receipts. Permanent impacts to jurisdictional resources include 0.06 ac. of fill and 0.05 ac. of excavation in wetlands as well as 85 linear feet of fill in surface waters.

Regulatory Approvals

CAMA: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Development Permit. Adjacent riparian landowner return receipts will be forwarded once they become available. Authorization to debit the $400 Permit Application Fee from WBS Element 33791.1.1 is hereby given.

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

TELEPHONE: 919-707-6100
FAX: 919-212-5785

WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that a Nationwide Permit 23 authorize bridge construction. Additionally, a Nationwide Permit 12 is requested to authorize utility relocations.

Section 401 Permit: We anticipate 401 General Certification number 3701 and 3819 will apply to this project. NCDOT is providing three copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their approval.

A copy of this permit application and its distribution list will be posted on the NCDOT website at: http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html

If you have any questions or need additional information, please call Mr. Chris Manley, at 919-707-6135.

Sincerely,

Gregory J. Thorpe, Ph.D., Branch Manager
Project Development and Environmental Analysis Branch

cc:

NCDOT Permit Application Standard Distribution List

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit ☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 12 23	or General Permit (GP) number:
1c. Has the N WP or GP number been verified by the Corps?	☐ Yes ☒ No
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit ☐ 401 Water Quality Certification – Express ☐ Riparian Buffer Authorization	
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No / For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	☐ Yes ☒ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☒ Yes ☐ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☒ Yes ☐ No

2. Project Information

2a. Name of project:	Replacement of Bridge Nos. 1 & 2 over Knobbs Creek on US 17/Hwy 158
2b. County:	Pasquotank
2c. Nearest municipality / town:	Elizabeth City
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-4599

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Pa rty (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6135
3g. Fax no.:	(919) 212-5785
3h. Email address:	cdmanley@ncdot.gov

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

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	*not applicable*
1b. Site coordinates (in decimal degrees):	Latitude: 36.315000 (DD.DDDDDD) Longitude: - 76.217800 (-DD.DDDDDD)
1c. Property size:	10 acre
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Knobbs Creek
2b. Water Quality Classification of nearest receiving water:	C; Sw
2c. River basin:	Pasquotank
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: Currently there is an existing roadway and bridge on site, and the surrounding area is marsh, forested, residential, and commercial.	
3b. List the total estimated acreage of all existing wetlands on the property: 11.5	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 200	
3d. Explain the purpose of the proposed project: NCDOT Bridge Maintenance Unit records indicate Bridge No. 1 has a sufficiency rating of 5.3 out of a possible 100 for a new structure, with a substructure rating of 2 out of 9; also, Bridge No. 2 has a sufficiency rating of 31.4 out of a possible 100 for a new structure, with a substructure rating of 3 out of 9. Therefore, NCDOT proposes to replace Bridge No. 1 & 2 with a new bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing two bridges, a 721-foot bridge and a 740-foot bridge, with a single 746-foot, 12-span bridge on an alignment partially shifted to the west of the existing location. Staged construction using the existing bridges will be used to maintain traffic during construction. The existing bridge will be removed without dropping any components into the water. Typical construction, earth moving, and road surface equipment will be used. Several utilities need to be relocated due to construction of the new bridge. Please see the attached utility narrative.	
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: SAW-2009-01088	☒ 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): Daniel P. Ingram and Marco J. Hilhorst, PWS	Agency/Consultant Company: W. K. Dickson, Inc. Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. Issued June 8, 2009	

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. State Stormwater Permit	
6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

☒ Wetlands ☒ Streams - tributaries ☐ Buffers

☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 ☒ P ☐ T	Fill	riparian	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.06
Site 2 ☒ P ☐ T	Excavation	riparian	☒ Yes ☐ No	☒ Corps ☐ DWQ	<0.01
Site 3 ☐ P ☒ T	Fill	riparian	☐ Yes ☒ No	☒ Corps ☐ DWQ	<0.01
Site 4 ☒ P ☐ T	Excavation	riparian	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.05
Site 5 ☐ P ☒ T	Fill	riparian	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.05
Site 6 ☐ P ☒ T	Fill	riparian	☐ Yes ☒ No	☒ Corps ☐ DWQ	<0.01
				2g. **Total wetland impacts**	(P) 0.12 (T) 0.07

2h. Comments: There will be 0.10 ac. of hand clearing for construction equipment clearances and temporary fill in the amount of 0.01 ac will occur within this hand clearing area for erosion control devices; there will also be 3.94 ac. of hand clearing for utility easement. There will be <0.01 ac. of permanent fill due to bridge bents, and <0.02 ac. of temporary fill due to the temporary bridge bents. There will be <0.01 ac. of permanent fill due to utility poles.

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 (feet)
Site 1 ☒ P ☐ T	Fill	Knobbs Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	80	85*
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	85 Perm 0 Temp

3i. Comments: *The 85 linear feet of fill will only occur along the southern bank of Knobbs Creek. There will be <0.01 ac. of permanent fill due to bridge bents, and <0.02 ac. of temporary fill due to the temporary bridge bents.

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: N/A

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: N/A

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 25 feet longer than Bridge No. 1 and 6 feet longer than Bridge No. 2. Bridge No. 1 consists of 60 spans and Bridge No. 2 has 37; the proposed bridge will have only 12 spans. Preformed scour holes will be utilized. There will be no deck drains directly over the stream channel.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Staged construction using the existing bridges will be used to maintain traffic during construction. The existing bridge will be removed without dropping any components into the water. There will be an in-water work moratorium from February 15 to June 15 to minimize impacts to anadromous fish.		
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: Of the 0.12 ac. of permanent impacts, 0.05 ac. is excavation for utilities. This narrow trenching width will be back-filled. Therefore, mitigation is not proposed.	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☐ Corps	
2c. If yes, which mitigat ion option will be used for this project?	☐ Mitigation bank ☐ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	☐ Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	0 acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	0 acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ	
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?	☐ Yes ☒ No

6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.

Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. **Total buffer mitigation required:**			

6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).

6h. Comments:

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

F. Supplementary Information		
1. Environmental Documentation (DWQ Requirement)		
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes	☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes	☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	☒ Yes	☐ No
2. Violations (DWQ Requirement)		
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes	☒ No
2b. Is this an after-the-fact permit application?	☐ Yes	☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):		
3. Cumulative Impacts (DWQ Requirement)		
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes	☒ No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description.		
4. Sewage Disposal (DWQ Requirement)		
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable		

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	☒ Yes	☐ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☒ Yes	☐ No
5c. If yes, ind icate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NHP, Field Surveys, and USFWS		
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: Hydraulics coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		

Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	10-20-2011 Date

DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. *Primary Applicant/ Landowner Information*

Business Name North Carolina Department Of Transportation		Project Name (if applicable) B-4599	
Applicant 1: First Name Gregory	MI	Last Name Thorpe	
Applicant 2: First Name	MI	Last Name	
If additional applicants, please attach an additional page(s) with names listed.			
Mailing Address 1598 Mail Service Center	PO Box	City Raleigh	State NC
ZIP 27699 1598	Country USA	Phone No. 919 - 707 - 6135 ext.	FAX No. 919 - 212 - 5785
Street Address *(if different from above)* 1020 Birch Ridge Drive	City Raleigh	State NC	ZIP 27610- 4328
Email cdmanley@ncdot.gov			

2. *Agent/Contractor Information*

Business Name			
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)	Street Address	State Rd. #
Pasqotank	Bridges No. 1 & 2 over Knobbs Creek on US 17/Hwy 158	US 17/Hwy 158

Subdivision Name	City	State	Zip
	Elizabeth City	NC	27909 -

Phone No.	Lot No.(s) *(if many, attach additional page with list)*
- - ext.	, , , ,

a. In which NC river basin is the project located? Pasquotank	b. Name of body of water nearest to proposed project Knobbs Creek
c. Is the water body identified in (b) above, natural or manmade? ☒Natural ☐Manmade ☐Unknown	d. Name the closest major water body to the proposed project site. Pasquotank River
e. Is proposed work within city limits or planning jurisdiction? ☒Yes ☐No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. Elizabeth City

4. *Site Description*

a. Total length of shoreline on the tract (ft.) 500 (both sides combined)	b. Size of entire tract (sq.ft.) 486,024
c. Size of individual lot(s) , , , *(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)* 3' ☐NHW or ☒NWL

e. Vegetation on tract
Red Maple, Black Gum, Bald Cypress, Pond Pine, Cattail, Three-Square, and Phragmites

f. Man-made features and uses now on tract
Bridge and Roadway Approaches

g. Identify and describe the existing land uses adjacent to the proposed project site.
Urban - Comercial

h. How does local government zone the tract? Right ot Way	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) ☐Yes ☐No ☒NA

j. Is the proposed activity part of an urban waterfront redevelopment proposal?	☐Yes ☒No
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy.	☒Yes ☐No ☐NA
If yes, by whom?	See CE (SHPO)
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property?	☒Yes ☐No ☐NA

<Form continues on next page>

m. (i) Are there wetlands on the site?	☒Yes ☐No
(ii) Are there coastal wetlands on the site?	☒Yes ☐No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? *(Attach documentation, if available)*	☒Yes ☐No
n. Describe existing wastewater treatment facilities.	
o. Describe existing drinking water supply source.	
p. Describe existing storm water management or treatment systems. None	

5. Activities and Impacts

a. Will the project be for commercial, public, or private use?	☐Commercial ☒Public/Government ☐Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. To maintain and improve public transportation	
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. This project involves the replacement of Bridges No. 1 & 2 in Pasquotank County. The bridge will be replaced on an alignment partially shifted to the west of the existing location. Staged construction using the existing bridges will be used to maintain traffic during construction. The existing bridge will be removed without dropping any components into the water. Typical construction, earth moving, and road surface equipment will be used.	
d. List all development activities you propose. Roadway and bridge construction	
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?	5.5 ☐Sq.Ft or ☒Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	☒Yes ☐No ☐NA
h. Describe location and type of existing and proposed discharges to waters of the state. The existing bridge discharges bridge drainage directly into Knobbs Creek. There are no bridge deck drains over the stream channel on the proposed bridge. Drainage is discharged into overbank areas only.	
i. Will wastewater or stormwater be discharged into a wetland?	☒Yes ☐No ☐NA
If yes, will this discharged water be of the same salinity as the receiving water?	☐Yes ☒No ☐NA
j. Is there any mitigation proposed? If yes, attach a mitigation proposal.	☒Yes ☐No ☐NA

<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 attached List 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 10-20-2011 Print Name Philip S. Harris III

Signature

Please indicate application attachments pertaining to your proposed project.

☐DCM MP-2 Excavation and Fill Information
☐DCM MP-3 Upland Development
☐DCM MP-4 Structures Information
☒DCM MP-5 Bridges and Culverts

Form DCM MP-5

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:
Knobbs Creek

c. Type of bridge (construction material):
36" Prestressed Concrete Girder

d. Water depth at the proposed crossing at NLW or NWL:
10'

e. (i) Will proposed bridge replace an existing bridge? ☒Yes ☐No
If yes,
(ii) Length of existing bridge: 732'
(iii) Width of existing bridge: 52'
(iv) Navigation clearance underneath existing bridge: 3'
(v) Will all, or a part of, the existing bridge be removed?
(Explain) Yes, All of the existing bridge will be removed

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: 746 (ft)

h. Width of proposed bridge: 60'

i. Will the proposed bridge affect existing water flow? ☐Yes ☒No
If yes, explain:

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ☒Yes ☐No
If yes, explain: Increase opening (wider)

k. Navigation clearance underneath proposed bridge: 4'

l. Have you contacted the U.S. Coast Guard concerning their approval? ☐Yes ☒No
If yes, explain:

m. Will the proposed bridge cross wetlands containing no navigable waters? ☒Yes ☐No
If yes, explain: Stream too small for navigation

n. Height of proposed bridge above wetlands: 4'

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 _____ ☐SAV _____ ☐SB _____

☐WL _____ ☒None

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

_____

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: 15'

(iii) Avg. width of area to be excavated: 15'

(iv) Avg. depth of area to be excavated: 2

(v) Amount of material to be excavated in cubic yards: 15

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: Approved NCDOT Site

(ii) Dimensions of the spoil disposal area: To be determined by contractor

(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: _____

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

(iv) Purpose of fill:

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 _____ ☐SAV _____ ☐SB _____

☒WL 2783 ☐None

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

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: _____

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

(iv) Purpose of fill:

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? ☒Yes ☐No

If yes, explain: See utility narrative in permit package

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

b. Will the proposed project require the construction of any temporary detour structures? ☐Yes ☒No

If yes, explain:

< Form continues on back>

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?

Use of Standard NCDOT BMP's

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Typical construction, earth moving, and road surface equipment will be used.

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.

10-20-2011

Date

B-4599

Project Name

NCDOT

Applicant Name

Applicant Signature

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

x ref 200610064

Manley

Action Id. **SAW-2009-01088** County: **Pasquotank** U.S.G.S. Quad: **Elizabeth City, NC**

RECEIVED
JUN 16 2009
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: **North Carolina Department of Transportation**
Address: **Gregory J. Thorpe Ph.D.**
1548 Mail Service Center
Raleigh, North Carolina 27699-1548
Telephone No.: **(919) 733-3141**

Property description:
Size (acres) **Approximately 11.5 acres** Nearest Town **Elizabeth City, NC**
Nearest Waterway **Knobbs Creek** River Basin **Pasquotank**
USGS HUC **03010205** Coordinates N **36.3146608** W **76.218208**
Location description **The project is located at bridges 1 and 2 on US Highway 17 adjacent to and crossing Knobbs Creek on the northeast side of Elizabeth City, NC. TIP # B-4599.**

Indicate Which of the Following Apply:

A. Preliminary Determination

_ Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. Approved Determination

_ There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

_ There are wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

_ We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

X The waters of the U.S. including wetland on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

_ The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

_ There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

X The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Elizabeth City, NC, at (252) 264-3901 to determine their requirements.

Action Id. **SAW-2009-01088**

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Bill Biddlecome** at **(910) 251-4558**.

C. Basis For Determination

This site exhibits wetland criteria as described in the 1987 Corps Wetland Delineation Manual and is part of a broad continuum of wetlands connected to Knobbs Creek, a tributary to the Pasquotank River.

D. Remarks

Categorical Exclusion Document for Federal Aid Project - TIP # B-4599 - Action ID # 200610064

E. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Division
Attn:Bill Biddlecome, Project Manager,
Washington Regulatory Field Office
P.O. Box 1000
Washington, North Carolina 27889

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **8/8/2009**.

It is not necessary to submit an RFA form to the District Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: William J. Biddlecome

Date **06/08/2009** Expiration Date **06/08/2014**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at http://regulatory.usacesurvey.com/ to complete the survey online.

Copy furnished:
W.K. Dickson & Co., Inc.
Attention: Daniel P. Ingram, Project Manager
720 Corporate Center Drive
Raleigh, North Carolina 27607
(919) 782-0495

5/26/11

B-4599 NEU Narrative

Utility Owners:

- **Power:** Dominion Transmission – (contact: Stephanie D. Bagby 804-771-6282)
- **Power:** Dominion NC Power – (contact: C. Lee Wall 252-308-1021)
- **Telephone:** Century Link (contact: Hester A. Jones 252-335-2678)
- **Water:** City of Elizabeth City (contact: Paul Fredette 252-339-4491 or Paul Williams 252-339-2735)
- **Sewer:** City of Elizabeth City (contact: Paul Fredette 252-339-4491 or Paul Williams 252-339-2735)
- **Fiber Optics Telephone :** Century Link (contact: Hester A. Jones 252-335-2678)
- **Gas:** Piedmont Natural Gas Company (contact: Paul Morrison 252-264-2714 or Jeffrey klein 252-264-2294)
- **Cable TV:** Time Warner Cable (contact: Bob Bennett 919-632-6500)

General Utility Relocation:

All utility lines inside project limits currently within construction limits will be adjusted as necessary or relocated away from construction before project let.

Existing Utilities:

- **Power** (Transmission)**:** existing transmission power lines run overhead on poles along west side of US 17/158 North Road Street.
- **Power:** existing power lines run overhead on poles along both sides of US 17/158 North Road Street.
- **Telephone:** existing Telephone lines run overhead on poles along the East side of the project and underground telephone lines run along the west side of the project from Sta. 30+85 to the end of the project.
- **Water:** existing 6" & 8" water lines runs along east side of US 17/158 North Road Street and attached to bridge , 20" water line runs along west side of US 17/158 North Road Street to the end of the project.
- **Sewer:** existing force main crosses US 17 parallel to the R/R at the beginning of the project and runs along the east side of the project. 8" force main crosses the project at Knobbs Creek Rd. to the north at the west side of the project. Gravity sewer lines on both sides of the road from Rosedale Dr. to the end of the project.
- **Fiber Optics Telephone:** existing underground fiber optics run along the east side of the project starting at Sta. 32+00.
- **Gas:** existing gas line runs along the east side of the project.
- **Cable TV:** existing cable follows the existing power poles.

Proposed Utility Relocation:

- **Power** (Transmission)**:** proposed power lines will be relocated further out to the west side of the project and crossing US 17 to the east at Sta. 30+00 utilizing the new designated PUE as a Proposed easement.
- **Power:** Dominion proposed power lines will be relocated underground to the west side of the project.
- **Power:** City of Elizabeth City proposed power lines will be relocated underground to the east side of the project.
- **Telephone:** proposed telephone line will be relocated the east side of the project and follow the alignment of the power lines.
- **Water:** proposed water line will be relocated along the west side of the project inside the proposed right of way.
- **Sewer:** the existing sewer will remain in place. There may be areas where the pipe will need to be replaced with ductile iron pipe, due to drainage crossings or will be adjusted as necessary.
- **Fiber Optics:** proposed fiber optic line will be relocated inside the right of way or PUE line on the east side of the project.
- **Gas:** existing gas line will be adjusted as necessary.
- **Cable TV:** proposed telephone line will be relocated and follow the alignment of the power lines(City of Elizabeth City) on the east side of the project.

RECEIVED
JUN 23 2011
CR
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

STORMWATER MANAGEMENT PLAN

Project: 33791.1.1
TIP #: B-4599
Pasquotank County

02/02/2010

Hydraulics Project Manager: Roger Weadon, P.E. (MA Engineering),
Marshal Clawson, P.E. (NCDOT Hydraulics Unit)

ROADWAY DESCRIPTION

The project B-4599 consists of constructing a single bridge 746 feet long bridge to replace existing bridges # 1 & 2 over Knobbs Creek in Pasquotank County. The total project length is 0.523 miles. The project creates impacts to Knobbs Creek, which is located in the Pasquotank River Basin. The project drainage systems consists of ditches, grated inlets with associated pipe systems, preformed scour holes, bridge deck drainage and rip rap pipe outlet protection .

Jurisdiction Stream: Knobbs Creek

ENVIRONMENTAL DESCRIPTION

The project is located within the Pasquotank River Basin in Pasquotank County, which is also a CAMA county. There is a wetland site surrounding the bridge that will be impacted by the proposed project. Impacts have been minimized by ensuring using rip pads rap at the storm systems outlets into the wetlands, setting bridge deck drains to discharge into the overbank area only, using preformed scour holes at pipe outlets that discharge onto flat ground.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The primary goal of Best Management Practices (BMPs) is to prevent degradation of the states surface waters by the location, construction and operation of the highway system. The BMPs are activities, practices and procedures taken to prevent or reduce stormwater pollution. The BMP measures used on this project to reduce stormwater impacts are:

- Class 'B' rip rap pipe outlet protection
- No deck drainage over the stream channel
- Preformed scour holes

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

General Project Information

Project No.:	33791.1.1	Date:	5/5/2011
City/Town:	Elizabeth City	Designer:	Weadon
County(ies):	Pasquotank County	Project Manager:	Clawson
River Basin(s):	Pasquotank	CAMA County?	yes — TVA County? no
Primary Receiving Water:	Pasquotank River	NCDWQ Stream Index:	
NCDWQ Surface Water Classification for Primary Receiving Water		Primary:	Class C
		Supplemental:	
Other Stream Classification:			
303(d) Stream?:		Type(s) of Impairment:	
State Stormwater Permit Required?	yes	If yes, why?:	Project requires an Erosion and Sediment Control Plan and is in a coastal county
Could the Project Impact Threatened or Endangered Species?			no
Description:			
Anadromous Fish Present?			
Description:			
Buffer Rules in Effect?	no	Buffer Rules:	

Existing Site

Description of Existing Project Area:	Project is in the Lower Costal Plain of NC with a poorly defined valley and relatively large drainage area. The stream is tidally influenced
Average Daily Traffic:	40,700
Existing Cross Section:	4 -12' lanes, with 4'to 6' shoulder widths on each side and variable super-elevations. 2 bridges Existing Bridge with a combine width = 52'.
Surrounding Land Use:	Urban Area w/Comerical Development
General Comments:	

Project Project

Description of Proposed Project:	Replecement of Bridges #1&2 over Knobbs Creek on US 17		
Average Daily Traffic:	58,500		
Proposed Cross-Section:	4 - 12' Lanes' with 6 foot shoulders and a 3.5% super-elevation (all to the right) . Proposed Bridge width = 60'		
Interchange Modification:	no	Median Type:	NA
North Terminus:	US 17 BYP		
South Terminus:	Hertford		
Project Length (lin. miles/feet):	0.526	Added Impervious Area (ac.):	0.56
General Comments:			

Jurisdictional Wetlands

Station	Type of Impact	Minimization of Impact
-L- 18+53 to 23+41	Fill in Wetlands	
General Comments:		

Additional Comments

ENVIRONMENTAL DESCRIPTION

The project is located within the Pasquotank River Basin in Pasquotank County, which is also a CAMA county. There is a wetland site surrounding the bridge that will be impacted by the proposed project Impacts have been minimized by ensuring using rip pads rap at the storm systems outlets into the wetlands, setting bridge deck drains to discharge into the overbank area only, using preformed scour holes at pipe outlets that discharge onto flat ground.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

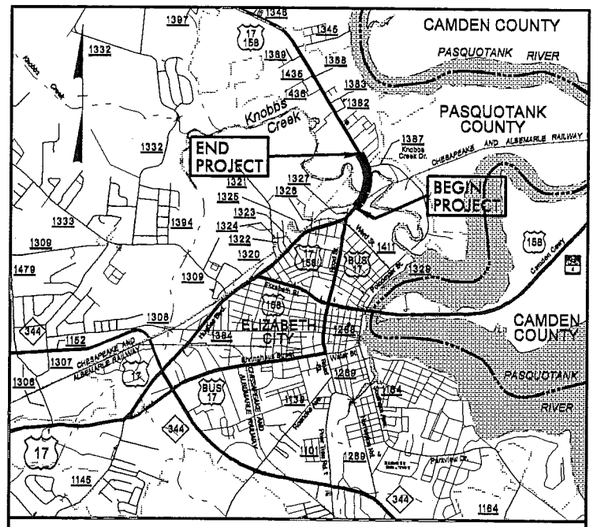
The primary goal of Best Management Practices (BMPs) is to prevent degradation of the states surface waters by the location, construction and operation of the highway system. The BMPs are activities practices and procedures taken to prevent or reduce stormwater pollution. The BMP measures used on this project to reduce stormwater impacts are:

- Class 'B' rip rap pipe outlet protection
- No deck drainage over the stream channel
- Preformed scour holes

References

TIP PROJECT: B-4599

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology



VICINITY MAP (N.T.S.)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

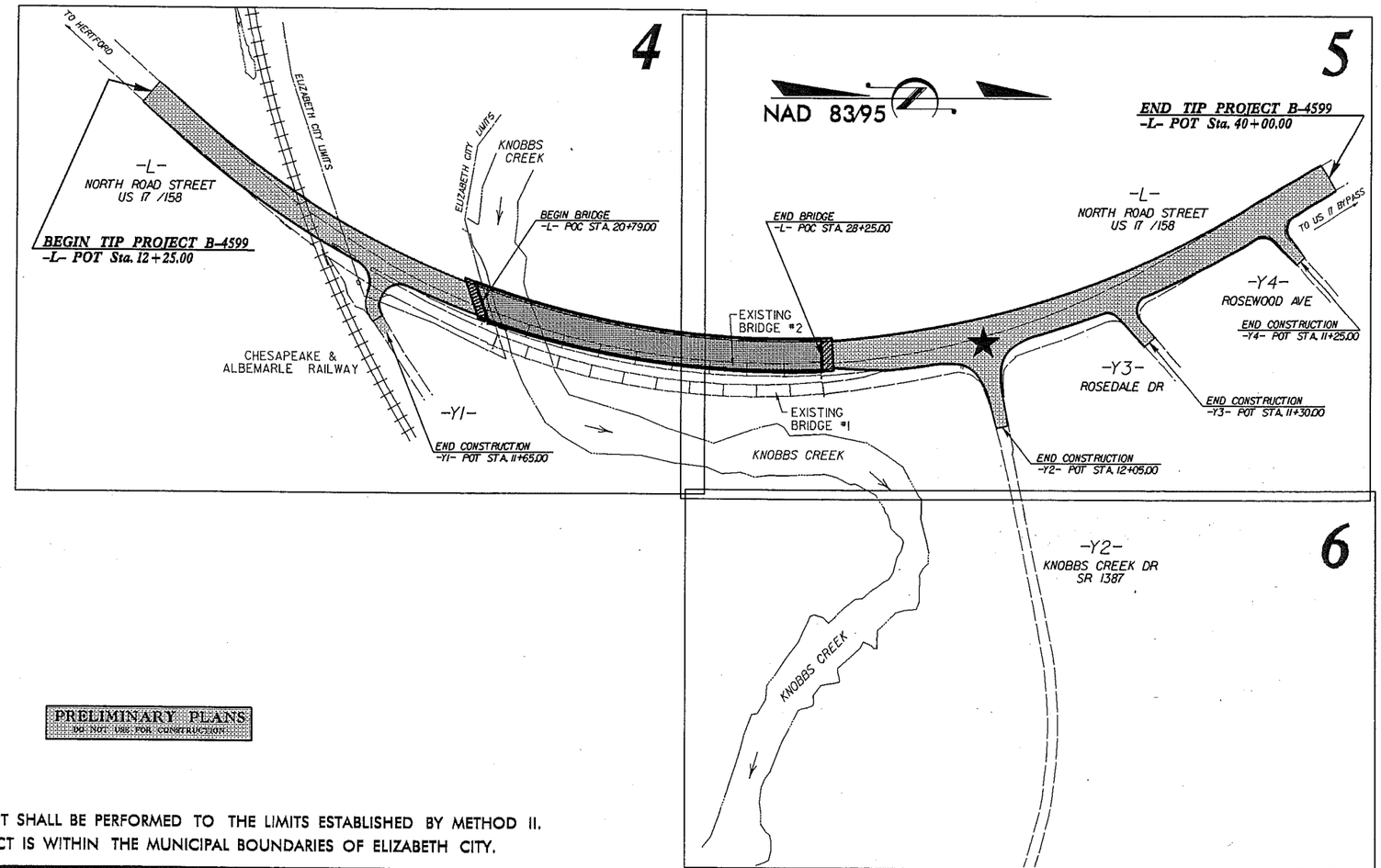
PASQUOTANK COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4599	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33791.1.1	BRSTP-17(41)	PE
33791.2.1	BRSTP-17(41)	R/W, UTILITIES

LOCATION: BRIDGES NOS. 1 & 2 OVER KNOBBS CREEK ON US 17 / US 158.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CURB & GUTTER, SIGNAL & STRUCTURE.



Utility Permit Drawing
Sheet 1 of 7

UPGRADE SIGNAL

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NCDOT CONTACT:
K. ZAK HAMIDI, PE
PROJECT ENGINEER
ENGINEERING COORDINATION SECTION
ROADWAY DESIGN UNIT

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ELIZABETH CITY.

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2011 = 40,700
ADT 2031 = 58,500
DHV = 10 %
D = 60 %
T = 7 % *
V = 50 MPH
* (TTST 4% + DUAL 3%)
FUNC. CLASS = URBAN PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4599	=	0.385 mile
LENGTH STRUCTURE TIP PROJECT B-4599	=	0.141 mile
TOTAL LENGTH TIP PROJECT B-4599	=	0.526 mile

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610
By:
M A Engineering Consultants, Inc.
598 East Chatham Street - Suite 137
Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 15, 2010

LETTING DATE:
JUNE 19, 2012

ROBERT W. PORTER, JR. PE
PROJECT ENGINEER

KEVIN S. HUTCHENS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
STATE HIGHWAY DESIGN ENGINEER P.E.

07-JUN-2011 16:00
R:\Roadway\Proj\B4599_rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4599	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

SEE SHEETS 7 & 8 FOR -L- PROFILE
SEE SHEET 8 FOR -Y1- PROFILE

PLAN SCALE:
1"=50' (FULL-SIZE)
1"=100' (HALF-SIZE)

NAD 83/95

-L-	-Y1-
PI Sta 27+60.68	PI Sta 10+99.76
Δ = 72° 33' 14.9" (LT)	Δ = 57° 21' 41.3" (LT)
D = 2° 57' 12.2"	D = 114° 35' 29.6"
L = 2,456.64'	L = 50.08'
T = 1,423.88'	T = 27.35'
R = 1,940.00'	R = 50.00'
RO = 140' (PC)	
SE = 0.035 ft/ft	
V = 50 mph	

NEU PERMIT PLANS (MAY 26, 2011)

THIS PUE TO BE TRANSFERRED TO DOMINION POWER AS REPLACEMENT TRANSMISSION LINE EASEMENT.

Utility Permit Drawing
Sheet 2 of 7

(SITE 1)
- HAND CLEARING (ACRES)= 1.942
- TEMPORARY FILL IN WETLANDS (ACRES)= 0.0006

DENOTES HAND CLEARING

BEGIN TIP PROJECT B-4599
-L- POT Sta. 12+25.00

-L- POT Sta. 10+00.00

-L- PC Sta. 13+36.80

-L- POC Sta. 18+61.51
-Y1- POT Sta. 10+00.00

PROP. 966' OF 20" DI WATER LINE

PROP. 100' OF 2" DI WATER LINE

-BL- PINC 17+19.61 (GPS B4599-2)
-L- POC 17+55.30 (67.70' RT)

- PROP. 200' OF 8" DI WATER LINE
- PROP. 50' OF 6" DI WATER LINE
- PROP. 8" GATE VALVE
- PROP. 8"X6" REDUCER

-Y1- PC Sta. 10+72.40
-Y1- PT Sta. 11+22.46
END CONSTRUCTION
-Y1- POT Sta. 11+65.00
-Y1- POT Sta. 12+16.29

-BL- PINC 20+98.20* (BL-3)
-L- POC 21+18.91 (90.72')

MATCHLINE -L- STA. 25+50.00 SEE SHEET 5

OPEN CUT SEE DETAIL A

TRENCHLESS INSTALLATION

ABANDON

REMOVE EXISTING BRIDGES

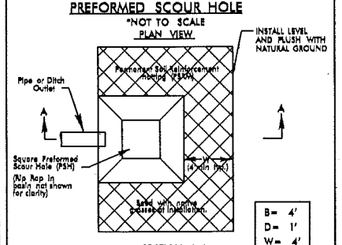
BRIDGE STAGING LINE 15' RT OF -L- CENTERLINE

5.5' SIDEWALK w/CURB

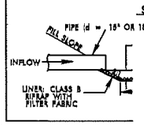
(SITE 2)
- HAND CLEARING (ACRES)= 0.337
- EXCAVATION IN WETLANDS (ACRES)= 0.0466
- TEMPORARY FILL IN WETLANDS (ACRES)= 0.0466

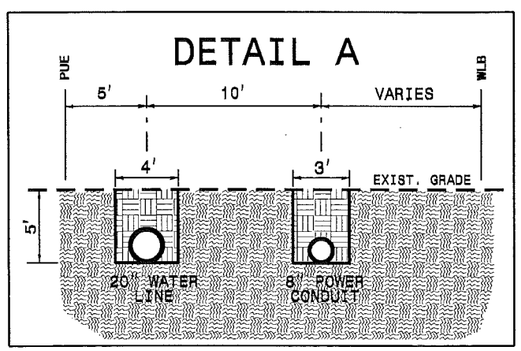
DETAIL A
PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW



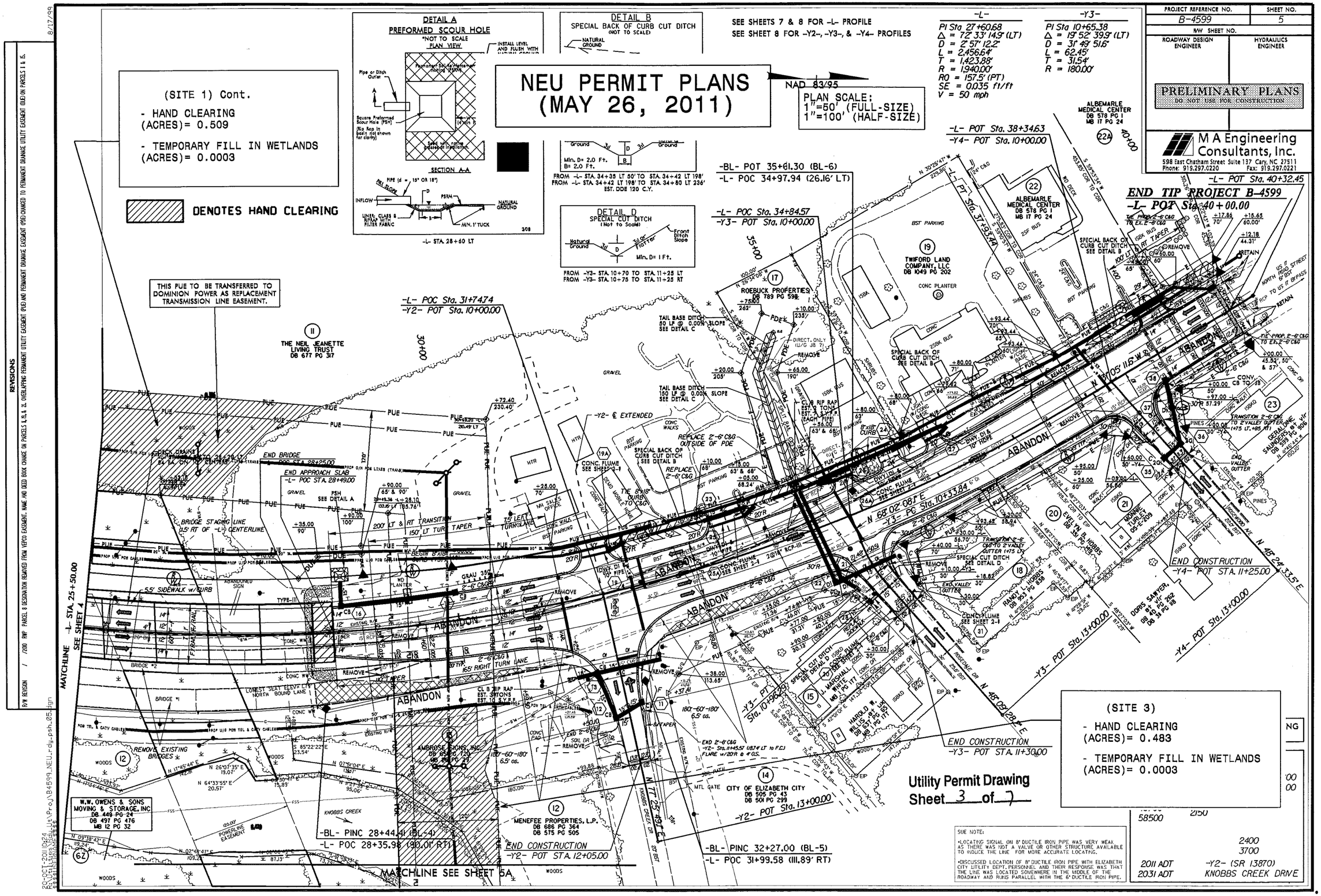
SECTION A-A





REVISIONS
R/W REVISION 03/23/2011 RWP "D" EXTENDED AND TURNOUT ADDED FOR FUTURE CHURCH ACCESS. RIGHT OF WAY REVISED ON PARCELS 6, 8, 9. WOVEN WIRE FENCE ADDED ALONG EXISTING R/W ON PARCEL 9.
R/W REVISION 06/25/2008 RWP PARCEL 8 REVISED. -L- STA. 21+50 TO 22+50 LT. R/W REVISED. -L- STA. 21+50 TO 22+50 LT. R/W REVISED. R/W REVISION 01/08/2008 RWP PARCEL 5 REVISED BOUNDED PARCEL 5 REVISED BASED ON R/W AND DEED BOOK CHANGE ON PARCEL 5 & L OVERLAPPING PERMANENT UTILITY EASEMENT (PEA) AND PERMANENT DRAINAGE EASEMENT (PED) CHANGED TO PERMANENT DRAINAGE UTILITY EASEMENT (DUE) ON PARCELS 2, 3, 4 & 7.
R/W REVISION 02/01/2008 RWP REMOVED 30' DRIVEWAY ON PARCEL 5 WITH CONCURRENCE FROM R/W UNIT AND PROPERTY OWNER.

20-OCT-2011 10:23
R:\Utilities\Roll_Up\Proj\B4599_NEU_rdy_psh_04.dgn



NEU PERMIT PLANS
(MAY 26, 2011)
NAD 83/95
PLAN SCALE:
1"=50' (FULL-SIZE)
1"=100' (HALF-SIZE)
SEE SHEETS 7 & 8 FOR -L- PROFILE
SEE SHEET 8 FOR -Y2-, -Y3-, & -Y4- PROFILES
-L-
PI Sta 27+60.68
Δ = 72° 33' 14.9" (LT)
D = 2° 57' 12.2"
L = 2,456.64'
T = 1,423.88'
R = 1,940.00'
RO = 157.5' (PT)
SE = 0.035 ft/ft
V = 50 mph
-Y3-
PI Sta 10+65.38
Δ = 19° 52' 39.9" (LT)
D = 31° 49' 51.6"
L = 62.45'
T = 31.54'
R = 180.00'
PROJECT REFERENCE NO.
B-4599
SHEET NO.
5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221
(SITE 1) Cont.
- HAND CLEARING (ACRES)= 0.509
- TEMPORARY FILL IN WETLANDS (ACRES)= 0.0003
DENOTES HAND CLEARING
DETAIL A
PREFORMED SCOUR HOLE
*NOT TO SCALE
PLAN VIEW
SECTION A-A
-L- STA. 28+60 LT
DETAIL B
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)
DETAIL D
SPECIAL CUT DITCH
(Not to Scale)
FROM -L- STA. 34+35 LT 50' TO STA. 34+42 LT 198'
FROM -L- STA. 34+42 LT 198' TO STA. 34+80 LT 236'
EST. DDE 120 C.Y.
FROM -Y3- STA. 10+70 TO STA. 11+25 LT
FROM -Y3- STA. 10+75 TO STA. 11+25 RT
THIS PUE TO BE TRANSFERRED TO DOMINION POWER AS REPLACEMENT TRANSMISSION LINE EASEMENT.
-L- POT Sta. 38+34.63
-Y4- POT Sta. 10+00.00
-BL- POT 35+61.30 (BL-6)
-L- POC 34+97.94 (26.16' LT)
-L- POC Sta. 34+84.57
-Y3- POT Sta. 10+00.00
-L- POC Sta. 31+74.74
-Y2- POT Sta. 10+00.00
END TIP PROJECT B-4599
-L- POT Sta. 40+00.00
-L- POT Sta. 40+32.45
THE NEIL JEANETTE LIVING TRUST DB 677 PG 317
ROEBUCK PROPERTIES DB 789 PG 598
TWIFORD LAND COMPANY, LLC DB 1049 PG 202
ALBEMARLE MEDICAL CENTER DB 578 PG 1 MB 17 PG 24
END BRIDGE
END APPROACH SLAB
-L- POC STA. 28+49.00
BRIDGE STAGING LINE
MATCHLINE -L- STA. 25+50.00 SEE SHEET 4
END CONSTRUCTION
-Y4- POT STA. 11+25.00
-Y3- POT Sta. 13+00.00
-Y4- POT Sta. 13+00.00
END CONSTRUCTION
-Y3- POT STA. 11+30.00
-Y2- POT Sta. 13+00.00
-BL- PINC 28+44.41 (BL-4)
-L- POC 28+35.98 (90.01' RT)
END CONSTRUCTION
-Y2- POT STA. 12+05.00
-BL- PINC 32+27.00 (BL-5)
-L- POC 31+99.58 (111.89' RT)
MATCHLINE SEE SHEET 5A
W.W. OWENS & SONS MOVING & STORAGE, INC DB 449 PG 24 DB 497 PG 476 MB 12 PG 32
MENEFEE PROPERTIES, L.P. DB 686 PG 364 DB 575 PG 505
CITY OF ELIZABETH CITY DB 505 PG 43 DB 501 PG 299
ABANDON
REMOVE EXISTING BRIDGES
KNOBBS CREEK
Utility Permit Drawing
Sheet 3 of 7
(SITE 3)
- HAND CLEARING (ACRES)= 0.483
- TEMPORARY FILL IN WETLANDS (ACRES)= 0.0003
SUE NOTE:
•LOCATING SIGNAL ON 8" DUCTILE IRON PIPE WAS VERY WEAK AS THERE WAS NOT A VALVE OR OTHER STRUCTURE AVAILABLE TO INDUCE THE LINE FOR MORE ACCURATE LOCATING.
•DISCUSSED LOCATION OF 8" DUCTILE IRON PIPE WITH ELIZABETH CITY UTILITY DEPT. PERSONNEL AND THEIR RESPONSE WAS THAT THE LINE WAS LOCATED SOMEWHERE IN THE MIDDLE OF THE ROADWAY AND RUNS PARALLEL WITH THE 6" DUCTILE IRON PIPE.
2011 ADT
2031 ADT
-Y2- (SR 13870)
KNOBBS CREEK DRIVE

NEU PERMIT PLANS
(MAY 26, 2011)

PROJECT REFERENCE NO.	SHEET NO.
B-4599	5A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

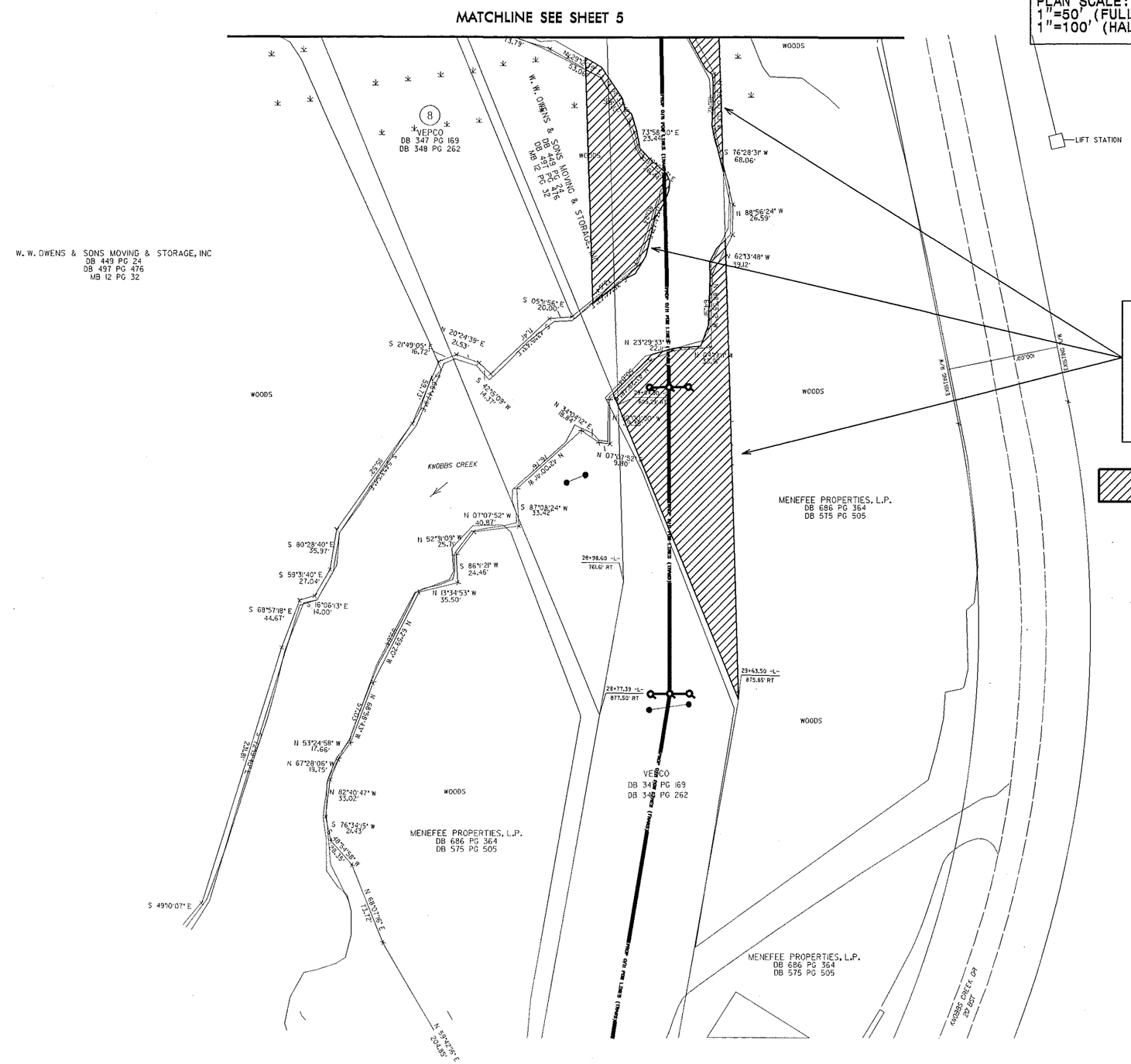
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

PLAN SCALE:
1"=50' (FULL-SIZE)
1"=100' (HALF-SIZE)

SEE SHEETS 6 & 7 FOR -L- PROFILE
SEE SHEET 7 FOR -Y1- PROFILE

Utility Permit Drawing
Sheet 4 of 7



(SITE 3) Cont.

- HAND CLEARING (ACRES)= 0.675
- TEMPORARY FILL IN WETLANDS (ACRES)= 0.0006

DENOTES HAND CLEARING

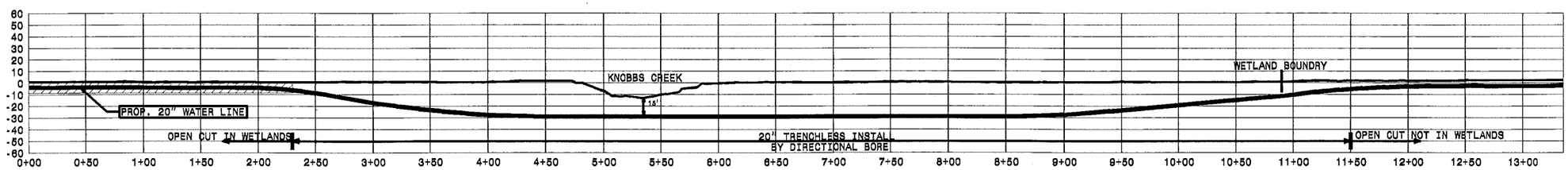
REVISIONS

20-OCT-2011 10:25
R:\Utilities\Rdy_Ut\Proj\B4599_Ut_UCpu.dgn
$$$$USERNAME$$$$

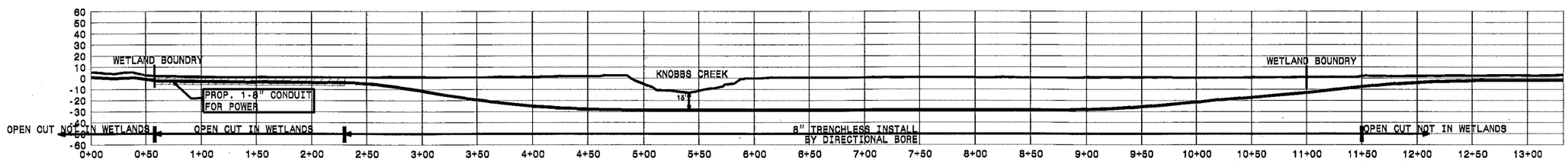
PROJECT REFERENCE NO.	SHEET NO.
B-4599	5B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

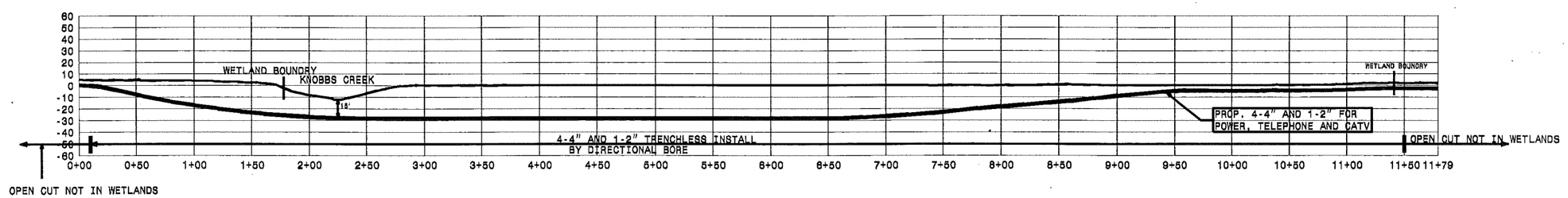
Utility Permit Drawing
Sheet 5 of 7



20" WATER LINE



8" HDPE CONDUIT FOR POWER



4-4" AND 1-2" CONDUIT FOR POWER, TELEPHONE AND CATV

REVISIONS

20-OCT-2011 10:27
R:\Utilities\Proj\B4599_profiles_UCput.dgn
$$$$USERNAME$$$$

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES	SITE NO.
8	VEPCO	DB 355 PG 491 DB 355 PG 556	1
7	ELIZABETH CITY BRICK CO.	DB 202 PG 102	
11	JIM WALTER HOMES	DB 666 PG 691	
8	VEPCO	DB 355 PG 491 DB 355 PG 556	2
7	ELIZABETH CITY BRICK CO.		
13	AMBROSE SIGNS, INC.	DB 651 PG 720 MB 25 PG 29	3
12	MENEFEE PROPERTIES, L.P.	DB 686 PG 364 DB 575 PG 505	
8	VEPCO	DB 347 PG 169 DB 348 PG 262	

Utility Permit Drawing
Sheet 6 of 7

NORTH CAROLINA
DIVISION OF HIGHWAYS
PASQUOTANK COUNTY
TIP PROJECT: (B-4599)
BRIDGES NOS. 1 & 2 OVER
KNOBBS CREEK ON
US 17 / US 158.

5/26/11

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L-16+13 TO 25+00	Aerial Power line (Transmission)		< 0.01			2.45					
2	-L-15+50 TO 18+61	Water line and U/G power lines by open cut		0.05	0.05		0.34					
3	-L-29+40 TO 30+40 (sheet 5)	Aerial Power line (Transmission)		< 0.01			0.48					
	(sheet 5A)	Aerial Power line (Transmission)		< 0.01			0.67					
TOTALS:			0.00	0.05	0.05	0.00	3.94	0.00	0.00	0.00	0.00	0.00

Note : 6.25 sq. ft. (Each) = 0.0001 ac (Each) permanent impact in the wetlands from pole installation.
Total = 93.75 sq. ft.
= 0.002 ac
= < 0.01 ac

(Abandon Utility Corridor area = 2.855 Acre)

Utility Permit Drawing
Sheet 7 of 7

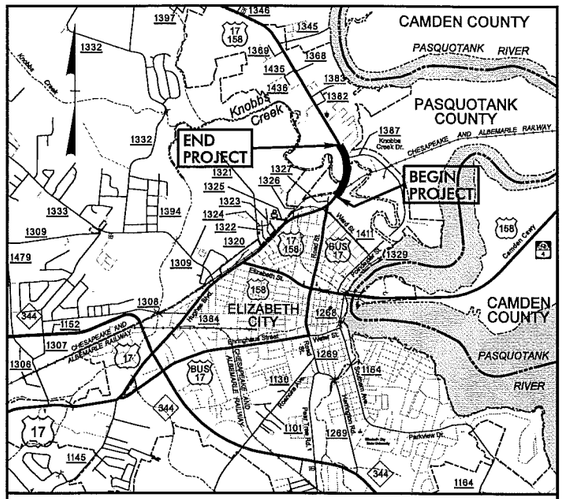
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PASQUOTANK COUNTY
TIP PROJECT (B-4599)

5/26/2011

ATN Revised 3/31/05

TIP PROJECT: B-4599

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology



VICINITY MAP (N.T.S.)

Permit Drawing
Sheet 1 of 7

WETLAND PERMIT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PASQUOTANK COUNTY

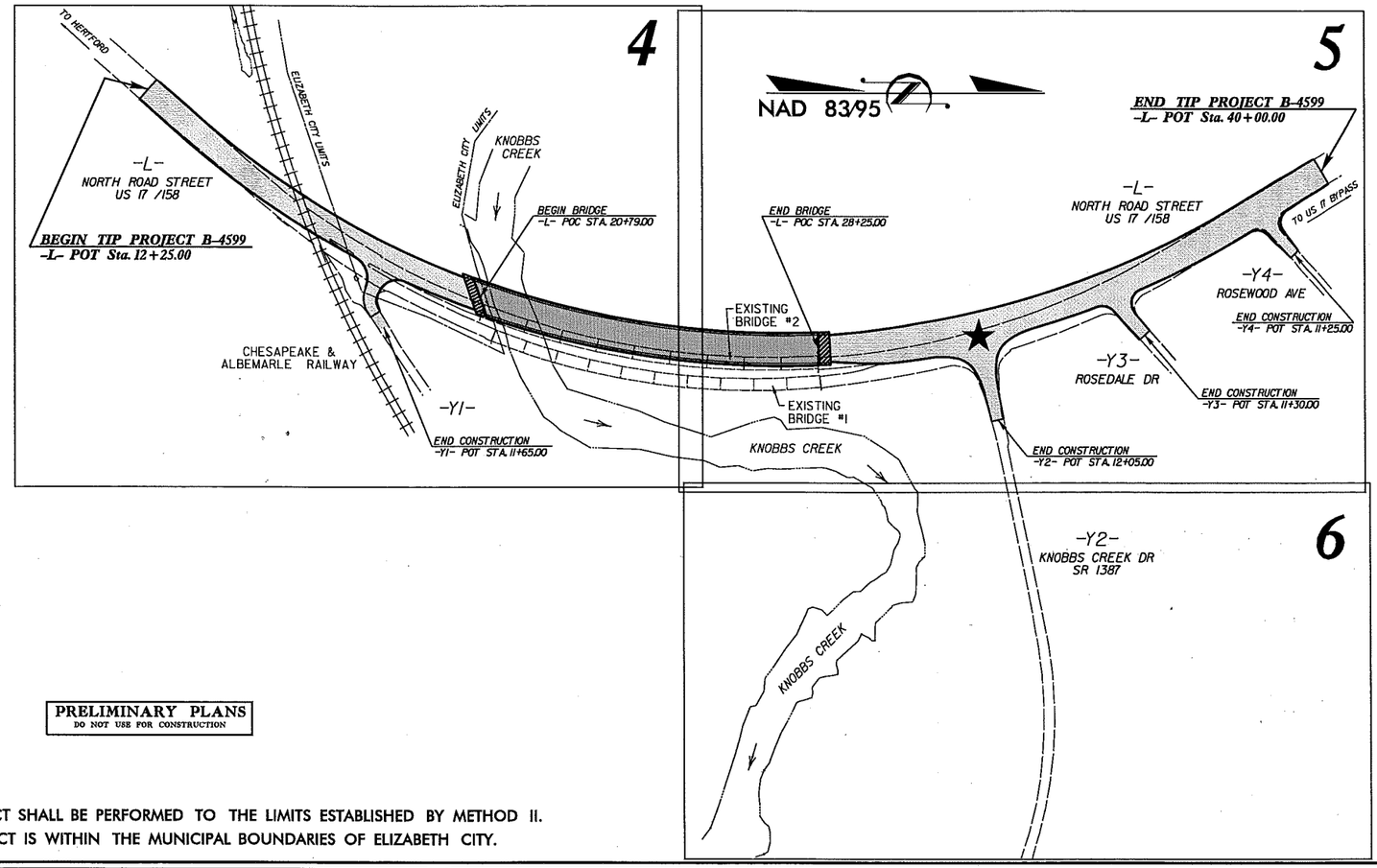
RECEIVED
JUN 22 2011
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4599	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33791.1.1	BRSTP-17(41)	PE
33791.2.1	BRSTP-17(41)	R/W, UTILITIES

LOCATION: BRIDGES NOS. 1 & 2 OVER KNOBBS CREEK ON US 17 / US 158.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CURB & GUTTER, SIGNAL & STRUCTURE.



★ UPGRADE SIGNAL

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

NCDOT CONTACT:
K. ZAK HAMIDI, PE
PROJECT ENGINEER
ENGINEERING COORDINATION SECTION
ROADWAY DESIGN UNIT

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ELIZABETH CITY.

GRAPHIC SCALES

PLANS: 50 25 0 50 100
PROFILE (HORIZONTAL): 50 25 0 50 100
PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2011 = 40,700
ADT 2031 = 58,500
DHV = 10 %
D = 60 %
T = 7 % *
V = 50 MPH
* (TTST 4% + DUAL 3%)
FUNC. CLASS = URBAN PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4599	=	*0.385 mile*
LENGTH STRUCTURE TIP PROJECT B-4599	=	*0.141 mile*
TOTAL LENGTH TIP PROJECT B-4599	=	*0.526 mile*

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610
By:
M A Engineering Consultants, Inc. 598 East Chatham Street - Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221

2006 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: JANUARY 15, 2010
LETTING DATE: JUNE 19, 2012

ROBERT W. PORTER, JR. PE
PROJECT ENGINEER
KEVIN S. HUTCHENS
PROJECT DESIGN ENGINEER

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

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA
P.E.
STATE HIGHWAY DESIGN ENGINEER

09/08/99
6/7/2011
R:\Roadway\Proj\B4599_rdy_tsh.dgn
10:32:28 PM

PROJECT REFERENCE NO.	SHEET NO.
B-4599	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

NAD 83/95

Permit Drawing
Sheet 2 of 7

THIS PUE TO BE TRANSFERRED TO DOMINION POWER AS REPLACEMENT TRANSMISSION LINE EASEMENT.

NOTE: THIS IS AN APPROXIMATE LOCATION OF THE SANITARY SEWER FORCED MAIN LINE.

35" STEEL CASING WITH 18" STEEL PIPE

CHESAPEAKE & ALBEMARLE RAILWAY

TO WINTERFORD

NORTH ROAD STREET SR 1317

MATCHLINE -L- STA. 25+50.00 SEE SHEET 5

1 PC ENTERPRISE LLC

4 M.C.BREWER & MARK E. SWIMME

2 ROBERT SAWYER

5 LI-SCI TECK INC

VEPCO

7 ELIZABETH CITY BRICK CO

11 THE NEIL JEANETTE LIVING TRUST

3 CITY OF ELIZABETH CITY

6Z W.W. OWENS & SONS MOVING & STORAGE

9 GLENN & TONYA SPEIGHT

DOUBLE Q THREE ENTERPRISE

12 MENEFEE PROPERTIES, L.P.

W.W. OWENS & SONS MOVING & STORAGE, INC

KNOBBS CREEK

REPLACE EX. CB

RETAIN

36" RCP

DECK DRAINS
-L- STA. 20+60 TO 20+85 LT
6 EA. ON 5' CENTERS

DECK DRAINS
-L- STA. 21+80 TO 22+10 LT
7 EA. ON 5' CENTERS

DECK DRAINS
-L- STA. 22+90 TO 28+20 LT
54 EA. ON 10' CENTERS

PROPOSED WORKBRIDGE FOR STAGE 1

HIGH WATER MARK 3.07' HURRICANE FLOYD 1999

BRIDGE #1

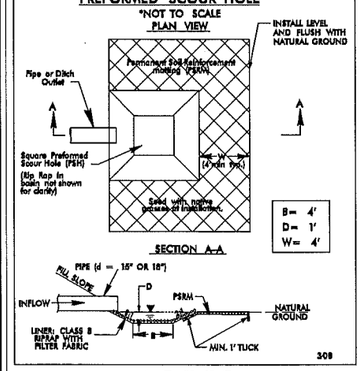
BRIDGE #2

-Dsr- -L- STA. 25+50

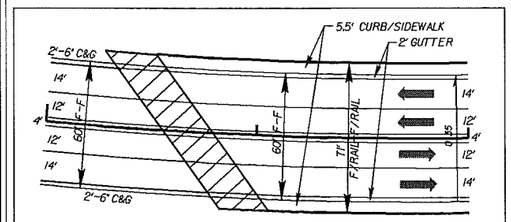
DETAIL A
PREFORMED SCOUR HOLE

*NOT TO SCALE

PLAN VIEW



-L- STA. 20+18 LT



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP (N.T.S)

REVISIONS

R/W REVISION 03/23/2010 RMP -Y- EXTENDED AND TURNOUT ADDED FOR FUTURE CANOE ACCESS, RIGHT OF WAY REVISED ON PARCELS 6 & 9, WOVEN WIRE FENCE ADDED ALONG EXISTING R/W ON PARCEL 9.

R/W REVISION 06/25/2010 RMP PIPE & PUE REVISED AT -L- STA.17+75 TO 19+10 LT, R/W AND PIPE REVISED AT -L- STA 19+55 TO 20+40 LT, BOTH CHANGES DUE TO DRAINAGE REVISIONS.

R/W REVISION 07/19/2010 RMP PARCEL 8 DESIGNATION REMOVED FROM VEPCO EASEMENT, NAME AND DEED BOOK CHANGE ON PARCELS 9 & 8, OVERLAPPING PERMANENT UTILITY EASEMENT (PUE) AND PERMANENT DRAINAGE EASEMENT (PDE) CHANGED TO PERMANENT DRAINAGE UTILITY EASEMENT (DUE) ON PARCELS 2,3,8 & 7.

R/W REVISION 08/10/2010 RMP REMOVED 30' DRIVEWAY ON PARCEL 5 WITH CONCURRENCE FROM R/W UNIT AND PROPERTY OWNER.

R/W REVISION 09/30/2010 RMP -NCE- ADDED PERMANENT UTILITY EASEMENT SHOWN ON PARCELS 7 & 8, THIS PUE IS FOR REPLACEMENT OF THE DOMINION POWER TRANSMISSION LINE EASEMENT. PUE FOR WATERLINE REPLACEMENT REVISED ON PARCEL 7 NEAR RAILROAD PER REQUEST FROM UTILITIES UNIT.

R/W REVISION 07/07/2011 RMP WWCC NAME CHANGED ON PARCEL 2, PARCEL NUMBER 5 CHANGED TO 52.

8/17/99

7/20/11
4:16 PM

PROJECT REFERENCE NO.	SHEET NO.
B-4599	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

Permit Drawing
Sheet 3 of 7

F/F DENOTES FILL IN WETLAND

HC/HC DENOTES HAND CLEARING

NAD 83/95

NOTE: THIS IS AN APPROXIMATE LOCATION OF THE SANITARY SEWER FORCED MAIN LINE.

THIS PUE TO BE TRANSFERRED TO DOMINION POWER AS REPLACEMENT TRANSMISSION LINE EASEMENT.

DECK DRAINS
-L- STA. 20+60 TO 20+85 LT
6 EA. ON 5' CENTERS

DECK DRAINS
-L- STA. 21+80 TO 22+10 LT
7 EA. ON 5' CENTERS

DECK DRAINS
-L- STA. 22+90 TO 28+20 LT
54 EA. ON 10' CENTERS

PROPOSED WORKBRIDGE FOR STAGE I

HIGH WATER MARK 5.07' HURRICANE FLOYD 1999

BRIDGE #1

BRIDGE #2

MATCHLINE -L- STA. 25+50.00
SEE SHEET 5

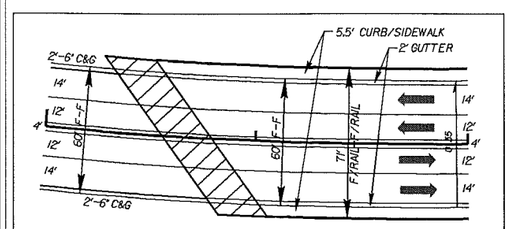
DETAIL A
PREFORMED SCOUR HOLE

*NOT TO SCALE

PLAN VIEW

SECTION A-A

-L- STA. 20+18 LT



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP (N.T.S)

REVISIONS

R/W REVISION	02/22/2000	RMP	-1- EXTENDED AND TURNOUT ADDED FOR FUTURE CANOE ACCESS. RIGHT OF WAY REVISED ON PARCELS 6 & 5. WOVEN WIRE FENCE ADDED ALONG EXISTING R/W ON PARCEL 5.
R/W REVISION	06/05/2000	RMP	PIPE & PUE REVISED AT -L- STA.17+75 TO 19+10 LT. R/W AND PUE REVISED AT -L- STA. 19+55 TO 20+40 LT. WITH CHANGES DUE TO DRAINAGE REVISIONS.
R/W REVISION	07/05/2000	RMP	PARCEL 9 DESCRIPTION REMOVED FROM VEPCO EASEMENT, NAME AND DEED BOOK CHANGE ON PARCELS 9 & 10.
R/W REVISION	08/01/2000	RMP	REMOVED 30' DRIVEWAY ON PARCEL 5 WITH CONCURRENCE FROM R/W UNIT AND PROPERTY OWNER.
R/W REVISION	08/25/2000	RMP	-L- STA. 27+00 TO 28+20 LT. PUE REVISED TO EXCLUDE 5' SPACE ON PARCELS 9 & 10. PUE IS FOR REPLACEMENT OF THE DOMINION POWER.
R/W REVISION	11/07/2000	RMP	-L- STA. 27+00 TO 28+20 LT. OWNER NAME CHANGED ON PARCEL 2. PARCEL NUMBER 6 CHANGED TO 6Z.
R/W REVISION	01/10/2001	RMP	PUE FOR WATERLINE REPLACEMENT REVISED ON PARCEL 7 NEAR RAILROAD PER REQUEST FROM UTILITIES UNIT.

8/17/99

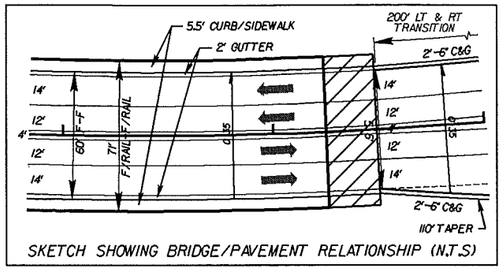
6/2011
3:42:43 PM
Projects\PERMITS_Environmental\Drawings\

PROJECT REFERENCE NO.	SHEET NO.
B-4599	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

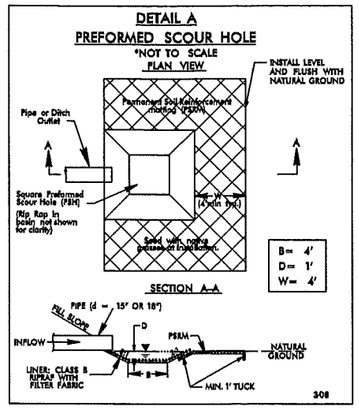
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

Permit Drawing
Sheet 4 of 7



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP (N.T.S)



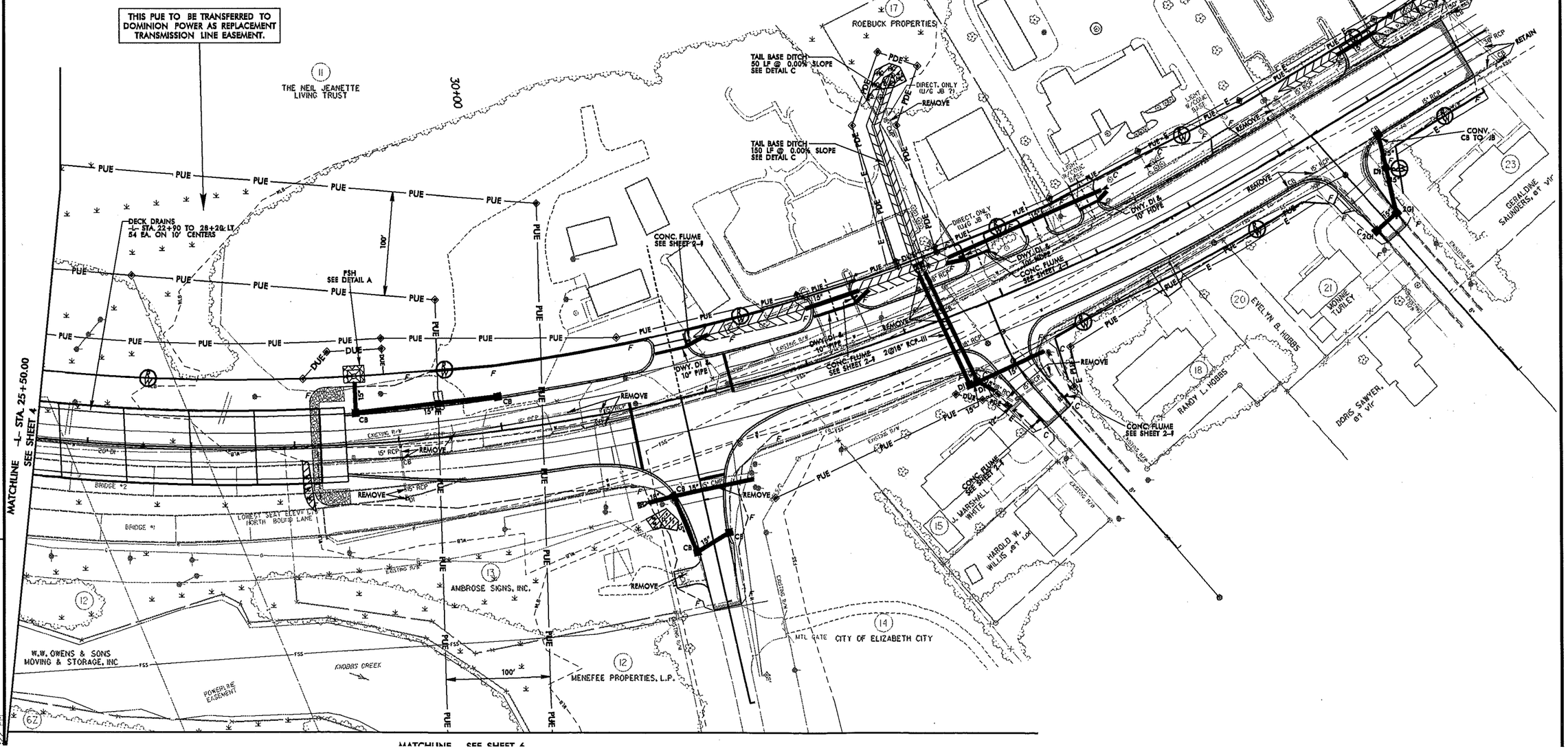
-L- STA. 28+60 LT

F/F DENOTES FILL IN WETLAND

E/E DENOTES EXCAVATION IN WETLAND

HC/HC DENOTES HAND CLEARING

NAD 83/95



REVISIONS

R/W REVISION 07/19/2010 RMP PARCEL 5 DESIGNATION REMOVED FROM VEPCO EASEMENT, NAME AND DEED BOOK CHANGE ON PARCELS 9, 13, & 21, OVERLAPPING PERMANENT DRAINAGE EASEMENT (PDE) CHANGED TO PERMANENT DRAINAGE UTILITY EASEMENT (DUE) ON PARCELS 9 & 15.

R/W REVISION 05/26/2011 RMP NEW PERMANENT UTILITY EASEMENT SHOWN ON PARCELS 5, 12, & 15. THIS PUE IS FOR REPLACEMENT OF THE DOMINION POWER TRANSMISSION LINE EASEMENT. PUE, PDE, DUE, AND TCE FROM -L- 33+40 TO 39+60 LT REVISED PER REQUEST FROM UTILITIES UNIT.

R/W REVISION 07/01/2011 RMP PROPERTY LINE ADDED EXISTING PARCEL 22A, W/V AND TCE REVISED TO TIE TO REVISED PROPERTY LINES ON PARCEL 22A.

B4599_Hyd_prm_wet_psh0dsgn DATE CHANGED TO BL

8/17/99

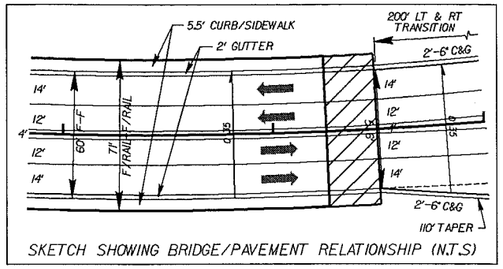
(2011 hydraulics\PERMITS_Environmental\Drawings\ 22 PM

PROJECT REFERENCE NO.	SHEET NO.
B-4599	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

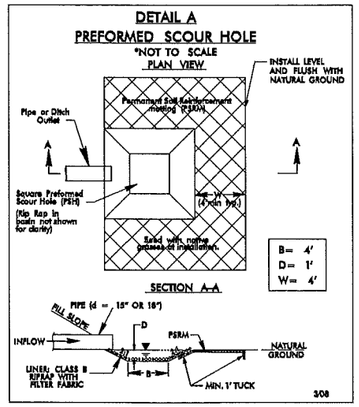
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

Permit Drawing
Sheet 5 of 7



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP (N.T.S)



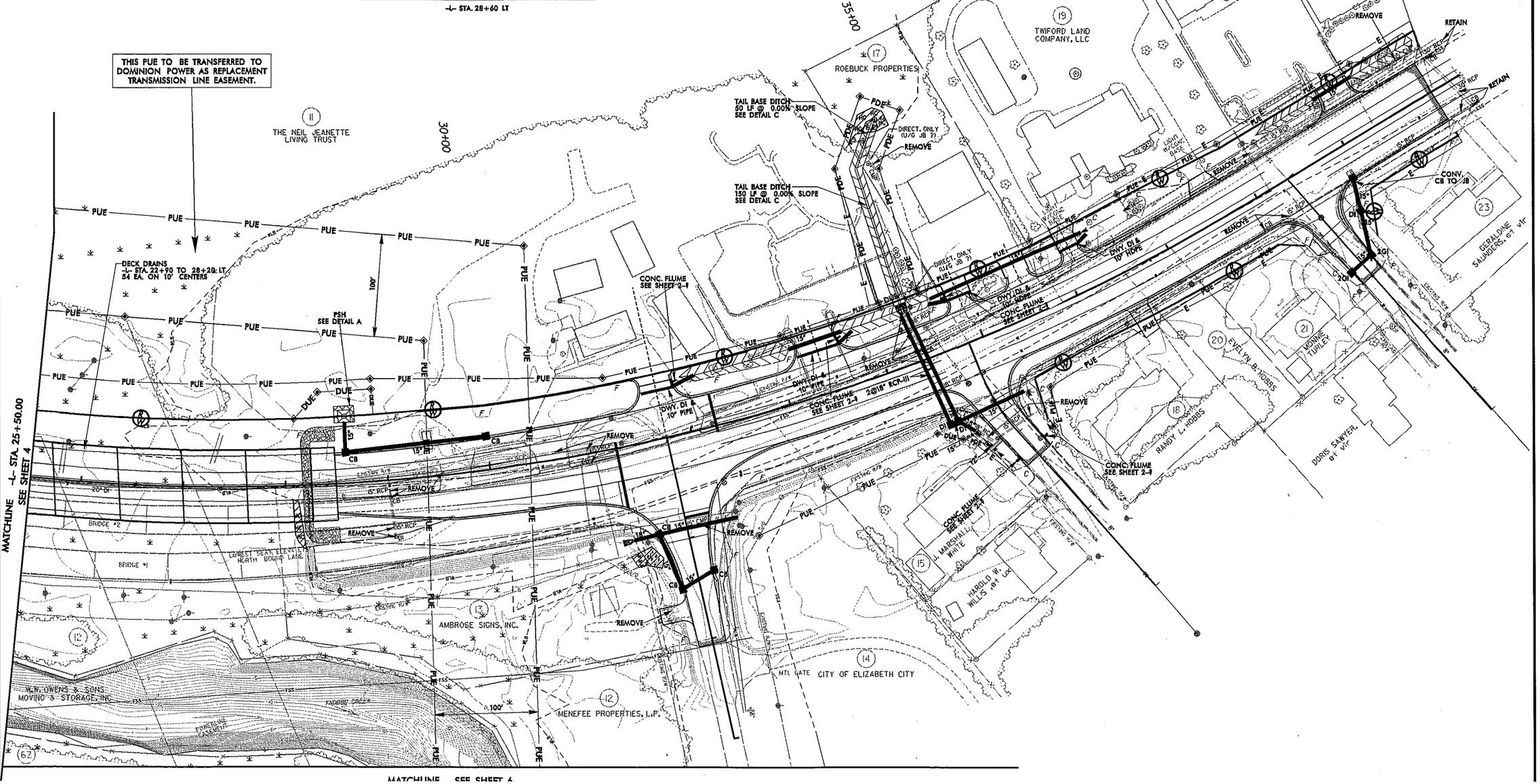
-L- STA. 28+60 LT

F/F DENOTES FILL IN WETLAND

F/E DENOTES EXCAVATION IN WETLAND

HC/HC DENOTES HAND CLEARING

NAD 83/95



MATCHLINE -L- STA. 25+50.00 SEE SHEET 4

REVISIONS			
R/W REVISION	07/15/2010	RMP	PARCEL 8 DESIGNATION REMOVED FROM VEPCO EASEMENT, NAME AND DEED BOOK CHANGE ON PARCELS 11,15, & 21, OVERLAPPING PERMANENT UTILITY EASEMENT (PUE) AND PERMANENT DRAINAGE EASEMENT (PDE) CHANGED TO PERMANENT DRAINAGE UTILITY EASEMENT (DUE) ON PARCELS 1 & 15.
R/W REVISION	05/31/2011	RMP	NEW PERMANENT UTILITY EASEMENT SHOWN ON PARCELS 6, 12 & 13. THIS PUE IS FOR REPLACEMENT OF THE DOMINION POWER TRANSMISSION LINE EASEMENT. PUE, PDE, DUE, AND TIE FROM -L- 33+40 TO 39+60 LT REVISED PER REQUEST FROM UTILITIES UNIT.
R/W REVISION	07/19/2011	RMP	PROPERTY LINE ADDED DIVIDING PARCEL 22A. R/W AND TCE REVISED TO TIE TO REVISED PROPERTY LINES ON PARCEL 22A.
R/W REVISION	07/19/2011	RMP	PARCEL 6 LS CHANGED TO 6Z.

8/17/99

6/2011
hydraulics\PERMITS_Environmental\Drawings\
B4599_hyd_prm_wet_psh_05.dgn
3:48 PM

Property Owners

Parcel Number	Names	Addresses			
1	**Roebuck Properties**	1816 Riversh ore RD	Elizabeth City	NC	27909
2	**Elizabeth City Brick Co**	PO Box 305	Elizabeth City	NC	27909
3	**The Neil Jeanette Living Trust**				

Permit Drawing
Sheet 6 of 7

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PASQUOTANK COUNTY
WBS - 33791.1.1 (B-4599)

SHEET 5/9/2011

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- STA 16+26 TO 18+77 (LT)	Roadway Fill	0.06				0.05					
2	-Y1- STA 11+13 TO 11+72 (RT)	Roadway Fill					0.01					
3	-L- STA 20+44 TO 28+18	Bridge		<0.01			0.03			85		
4	-L- STA 34+43 TO 34+92	Ditch			<0.01		0.01					
5	"-Y2- 11+00 TO 11+23 (RT)	Roadway Fill	<0.01				<0.01					
TOTALS:			0.06	<0.01	<0.01	0.00	0.10	0.00	0.00	85.00	0	0

Note: There will be additional temporary impacts of .01Ac within the Hand Clearing areas due to the installation of Erosion Control measures.

Permit Drawing
Sheet 7 of 7

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PASQUOTANK COUNTY
WBS - 33791.1.1 (B-4599)

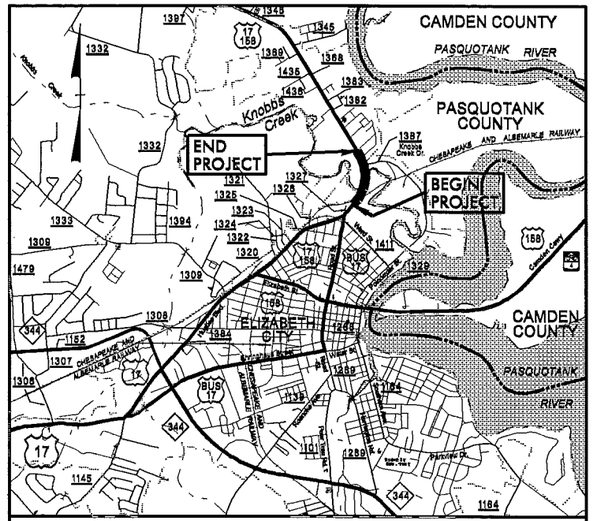
SHEET 7/26/2011

ATN Revised 3/31/05

09/28/99

TIP PROJECT: B-4599

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology



VICINITY MAP (N.T.S.)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

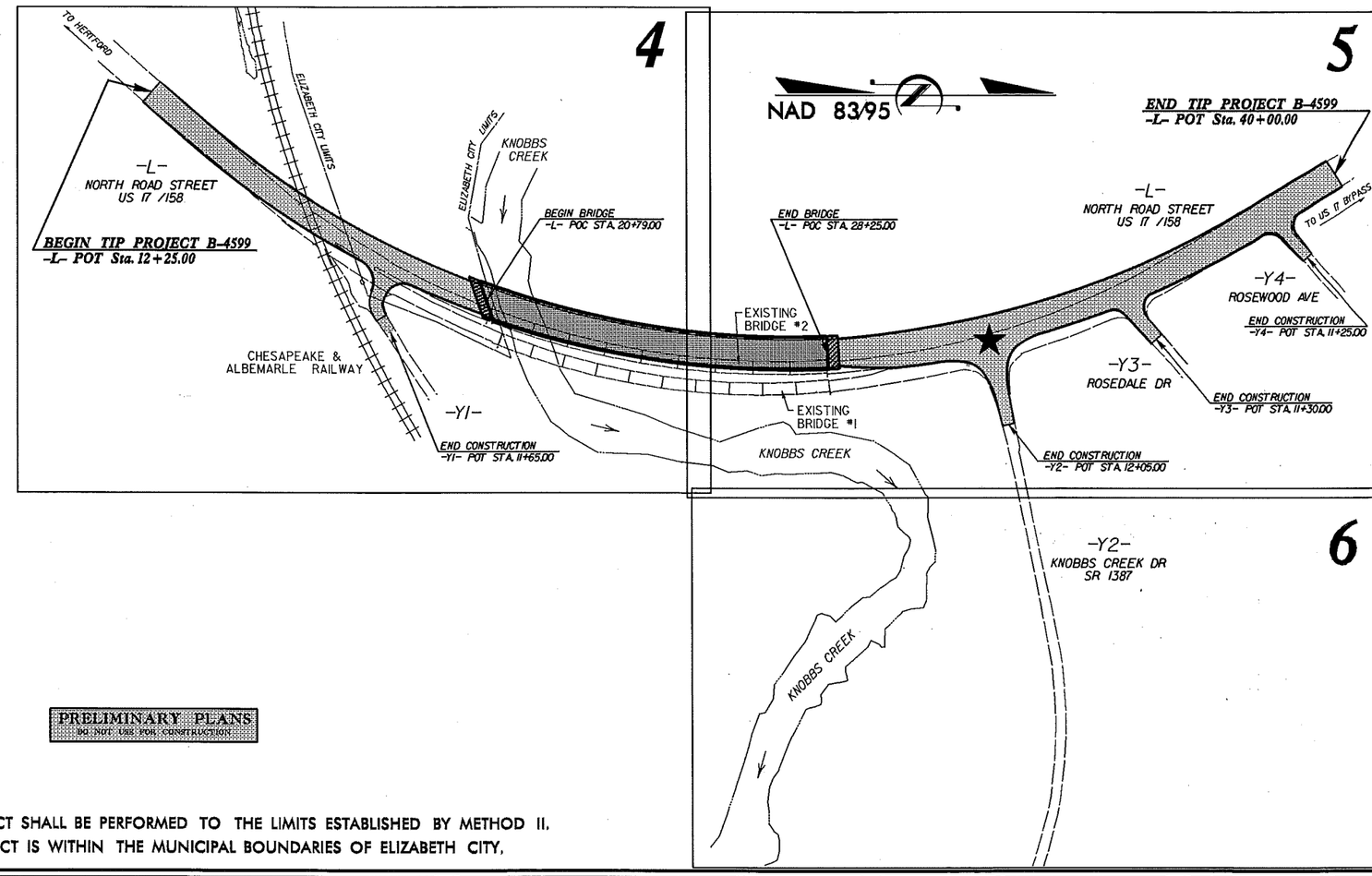
PASQUOTANK COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4599	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33791.1.1	BRSTP-17(41)	PE
33791.2.1	BRSTP-17(41)	R/W, UTILITIES

LOCATION: BRIDGES NOS. 1 & 2 OVER KNOBBS CREEK ON US 17 / US 158.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CURB & GUTTER, SIGNAL & STRUCTURE.



UPGRADE SIGNAL

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NCDOT CONTACT:
K. ZAK HAMIDI, PE
PROJECT ENGINEER
ENGINEERING COORDINATION SECTION
ROADWAY DESIGN UNIT

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ELIZABETH CITY.

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2011 = 40,700
ADT 2031 = 58,500
DHV = 10 %
D = 60 %
T = 7 % *
V = 50 MPH
* (TTST 4% + DUAL 3%)
FUNC. CLASS = URBAN PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4599	=	*0.385 mile*
LENGTH STRUCTURE TIP PROJECT B-4599	=	*0.141 mile*
TOTAL LENGTH TIP PROJECT B-4599	=	*0.526 mile*

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610
By:
M A Engineering Consultants, Inc.
598 East Chatham Street - Suite 137
Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 15, 2010

LETTING DATE:
JUNE 19, 2012

ROBERT W. PORTER, JR. PE
PROJECT ENGINEER

KEVIN S. HUTCHENS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
P.E.
STATE HIGHWAY DESIGN ENGINEER

07-JUN-2011 16:00
R:\Roadway\Proj\B4599_rdy_tsh.dgn
$$$$USERNAME$$$$

3/15/05

PROJECT REFERENCE NO.	SHEET NO.
B-4599	1-B

Note: Not to Scale

S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- 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 Wheel Chair Ramp — WCR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

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

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

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

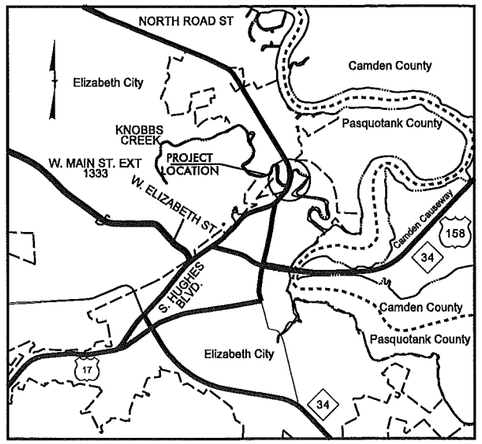
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

7/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4599	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4599



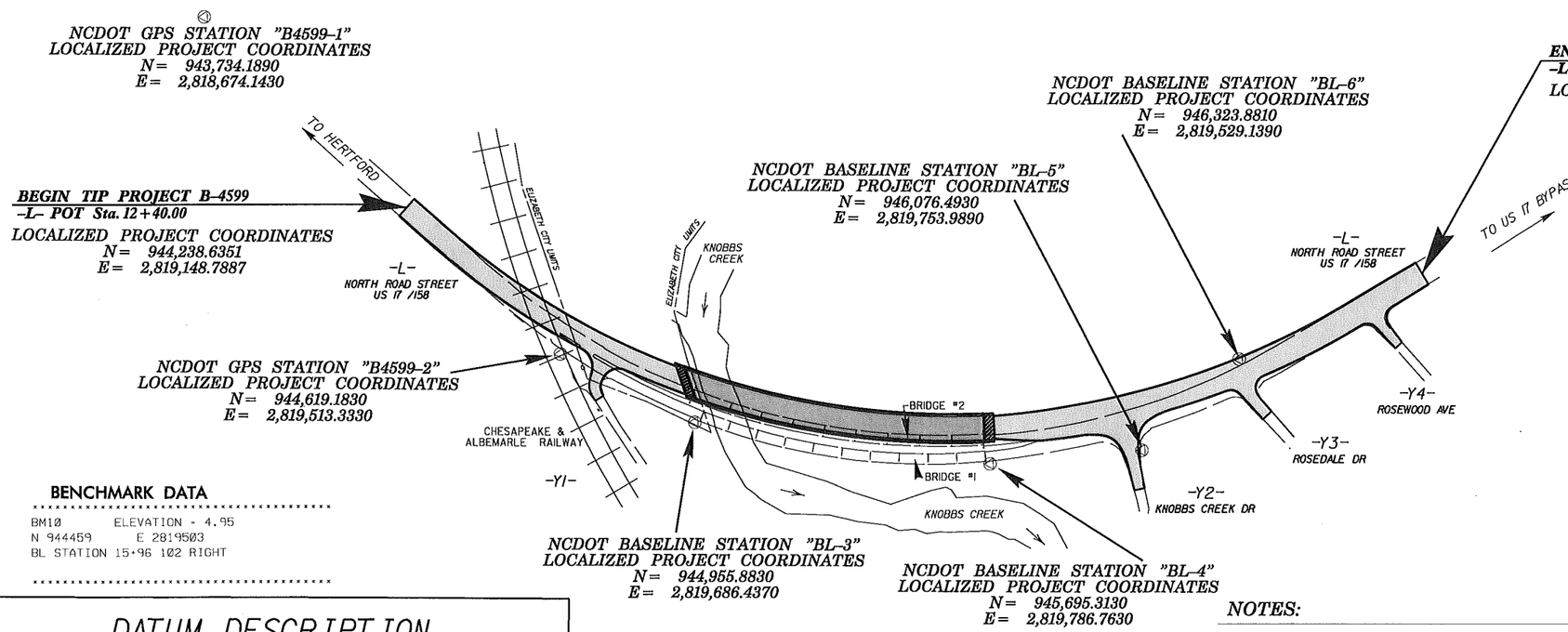
VICINITY MAP

CONTROL DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
B45991	GPS MON (B4599-1)	943734.1890	2818674.1430	5.56	OUTSIDE PROJECT LIMITS	
B45992	GPS MON (B4599-2)	944619.1830	2819513.3330	4.57	17+55.30	67.70 RT
BL3	(BL-3)	944955.8830	2819686.4370	4.88	21+18.91	90.72 RT
BL4	(BL-4)	945695.3130	2819786.7630	4.45	28+35.98	90.01 RT
BL5	(BL-5)	946076.4930	2819753.9890	4.73	31+99.58	111.89 RT
BL6	(BL-6)	946323.8810	2819529.1390	3.86	34+97.94	26.16 LT

NC GRID NAD 83/95



BENCHMARK DATA

BM10 ELEVATION - 4.95
N 944459 E 2819503
BL STATION 15+96 102 RIGHT

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4599-1"
WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 943,734.189 (US FT) EASTING: 2,818,674.143 (US FT)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00004923
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4599-1" TO -L- STATION 12+40.00 IS
N 43°15'23.9" E 692.64
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

THE FILES TO BE FOUND ARE AS FOLLOWS:
TIP B4599_LS_CONTROL_090511.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 EXISTING HARN MONUMENTATION

PROJECT REFERENCE NO.	SHEET NO.
B-4599	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

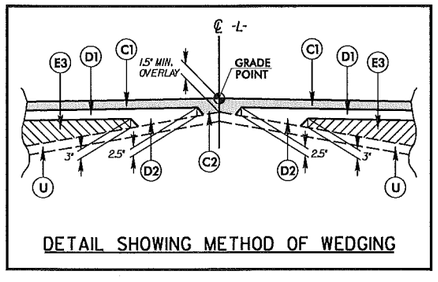
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

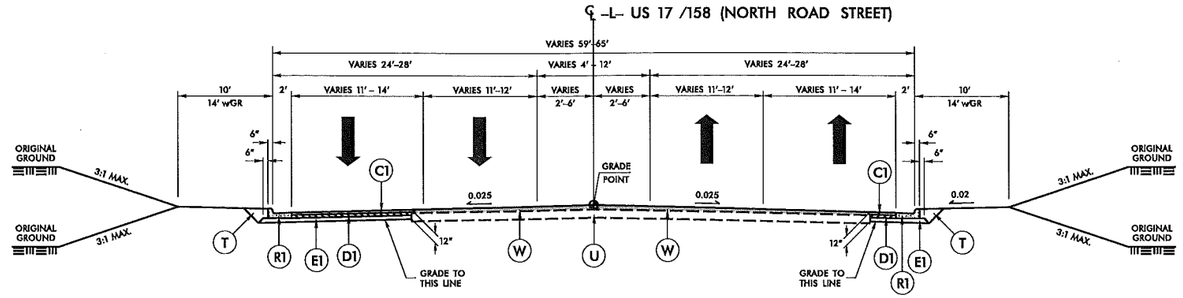
PAVEMENT SCHEDULE

C1	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 Lbs PER SQUARE YARD IN EACH OF TWO LAYERS.
C2	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 Lbs PER SQUARE YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2.0" IN DEPTH.
D1	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 Lbs. PER SQUARE YARD.
D2	PROP. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0BC, AT AN AVERAGE RATE OF 114 Lbs PER SQUARE YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4.0" IN DEPTH.
E1	PROP. APPROX. 5.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 Lbs PER SQUARE YARD.
E2	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 Lbs PER SQUARE YARD.
E3	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 Lbs PER SQUARE YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3.0" OR GREATER THAN 5.5" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER
R2	2'-0" CONCRETE VALLEY GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL THIS SHEET)

PAVEMENT EDGE SLOPES AND TRENCH SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



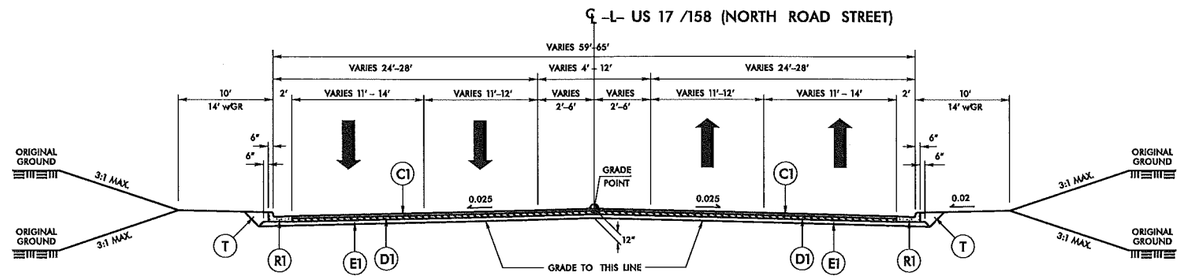
DETAIL SHOWING METHOD OF WEDGING



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1:

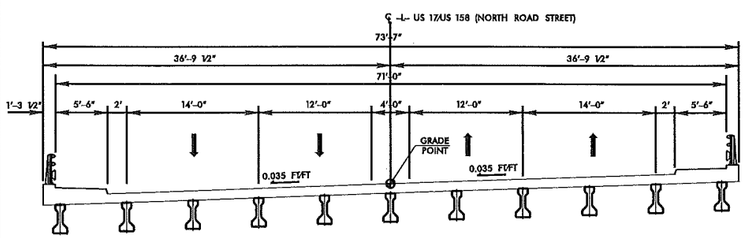
FROM -L- STA. 12+25.00 TO STA. 19+50 +/-
FROM -L- STA. 31+00 +/- TO STA. 40+00.00



TYPICAL SECTION NO. 2

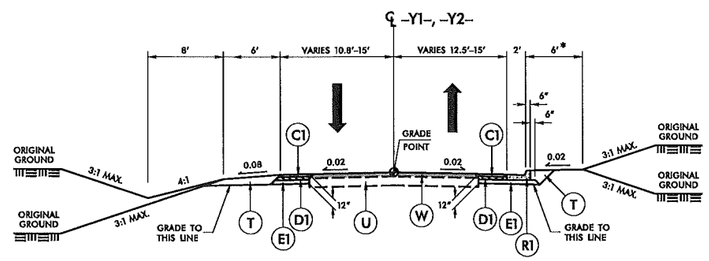
USE TYPICAL SECTION NO. 2:

FROM -L- STA. 19+50 +/- TO STA. 20+79.00 (BEGIN BRIDGE)
FROM -L- STA. 28+25.00 (END BRIDGE) TO STA. 31+00 +/-



TYPICAL SECTION ON STRUCTURE – PROPOSED

(TOTAL STRUCTURE WIDTH, GIRDER TYPE, AND GIRDER LOCATIONS TO BE DETERMINED)



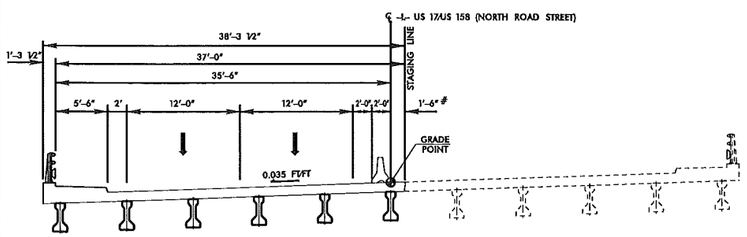
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3:

FROM -Y1- STA. 10+28.00 TO STA. 11+65.00
FROM -Y2- STA. 10+32.00 TO STA. 12+05.00

NOTES (TYPICALS #3 & #4):

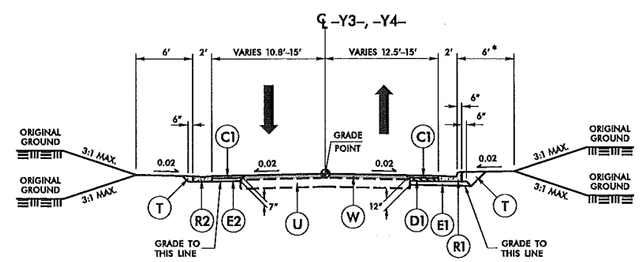
MIRROR TYPICALS WHERE NECESSARY.
* - USE 10' BERM WITHIN INTERSECTION RADII.



TYPICAL SECTION ON STRUCTURE – 1st PHASE

(PHASE I STRUCTURE WIDTH, GIRDER TYPE, AND GIRDER LOCATIONS TO BE DETERMINED)

- THIS DIMENSION TO BE DETERMINED BY STRUCTURE DESIGN



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4:

FROM -Y3- STA. 10+32.00 TO STA. 11+30.00
FROM -Y4- STA. 10+32.55 TO STA. 11+25.00

ANY WIDENING OUTSIDE THE LIMITS OF THE INTERSECTION RADII SHALL USE THE 7" PAVEMENT DESIGN WITH EITHER TYPE OF CURB.

6/2/99

5/9/2011
I:\B4599_Proj\B4599_rdy_typ.dgn

COMPUTED BY: RWP DATE: 03 / 02 / 2009
CHECKED BY: DATE:

PROJECT REFERENCE NO.	SHEET NO.
B-4599	3-A

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+30%	BORROW	WASTE
PHASE 1					
-L- LT. 12+40.00 TO 20+54.00 (BEGIN BRIDGE)	218		1,762	1,544	0
-L- LT. 28+25.00 (END BRIDGE) TO 40+00.00	440		2,096	1,656	0
TOTAL (PHASE 1)	658		3,858	3,200	0
PHASE 2					
-L- CL-RT. 19+40.00 TO 20+54.00 (BEGIN BRIDGE)	0		657	657	0
-L- CL-RT. 28+25.00 (END BRIDGE) TO 33+50.00	0		1,134	1,134	0
TOTAL (PHASE 2)	0		1,791	1,791	0
PHASE 3					
-L- RT. 12+40.00 TO 20+54.00 (BEGIN BRIDGE)	24		1,079	1,055	0
-Y1- 10+50.00 TO 11+25.00	41		20	0	21
-L- RT. 28+25.00 (END BRIDGE) TO 40+00.00	11		1,200	1,189	0
-Y2- 10+75.00 TO 12+00.00	5		169	164	0
-Y3- 10+50.00 TO 11+25.00	15		29	14	0
-Y4- 10+50.00 TO 11+25.00	24		25	1	0
SUBTOTAL (PHASE 3)	120		2,522	2,423	21
WASTE (FROM PHASE I) TO REPLACE BORROW				-21	-21
TOTAL (PHASE 2)	120		2,522	2,402	0
TOTAL (PHASE 1 + PHASE 2 + PHASE 3)	778		8,171	7,393	0
EST. LOSS DUE TO CLEARING & GRUBBING	-1			1	
GRAND TOTAL	777		8,171	7,394	0
SAY	800			7,400	0

APPROXIMATE QUANTITIES ONLY. CLEARING AND GRUBBING, UNCLASSIFIED EXCAVATION, SHOULDER BORROW, FINE GRADING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99

5/9/2011
r:\roadway\Proj\B4599_rdy_sum_3A.dgn
10:58:28 AM

PROJECT REFERENCE NO.	SHEET NO.
B-4599	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

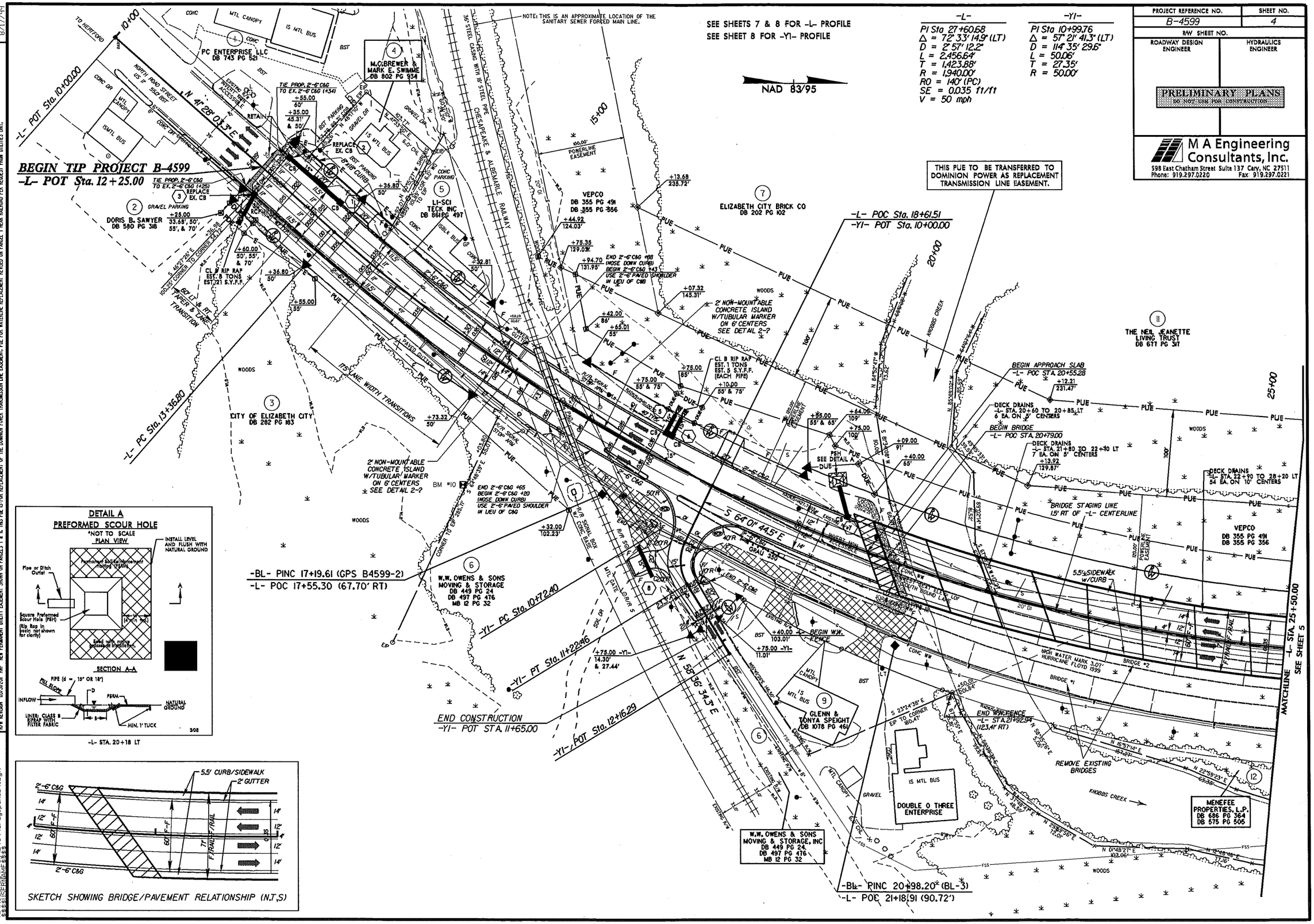
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

SEE SHEETS 7 & 8 FOR -L- PROFILE
SEE SHEET 8 FOR -Y1- PROFILE

NAD 83/95

-L-	-Y1-
PI Sta 27+60.68	PI Sta 10+99.76
Δ = 72° 33' 14.9" (LT)	Δ = 57° 21' 41.3" (LT)
D = 2° 57' 12.2"	D = 114° 35' 29.6"
L = 2,456.64'	L = 50.06'
T = 1,423.88'	T = 27.35'
R = 1,940.00'	R = 50.00'
RO = 140' (PC)	
SE = 0.035 ft/ft	
V = 50 mph	



DETAIL A
PREFORMED SCOUR HOLE

*NOT TO SCALE

-L- STA. 20+18 LT

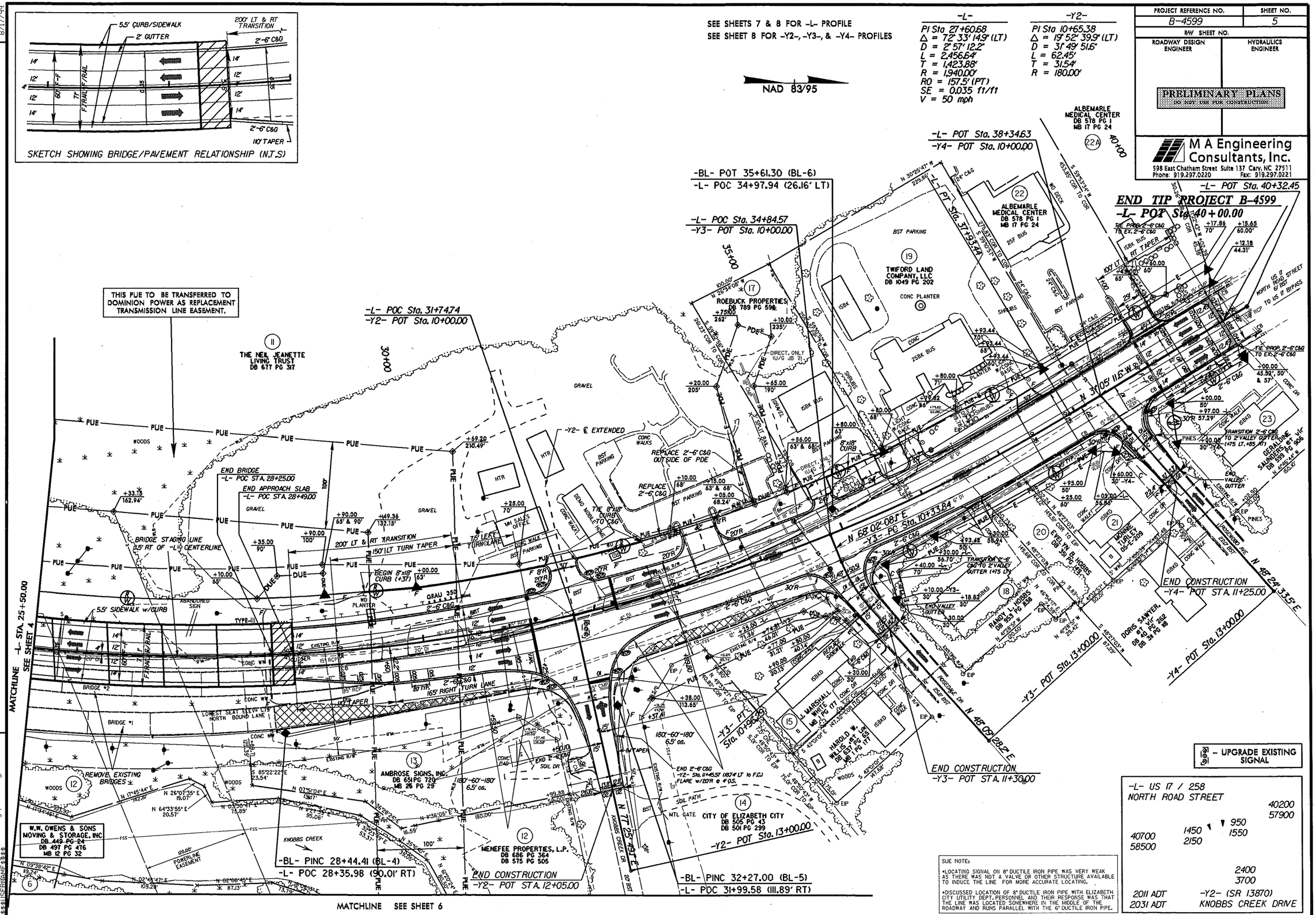
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP (N.T.S)

REVISIONS

R/W REVISION 03/23/2000 RRP: -Y1- EXTENDED AND TURNOUT ADDED FOR FUTURE CHAIN ACCESS, RIGHT OF WAY REVISED ON PARCELS 5 & 9, WOVEN WIRE FENCE ADDED ALONG EXISTING R/W ON PARCEL 9.
R/W REVISION 06/25/2000 RRP: PARCEL 3 DESIGNATION REMOVED FROM "VEPCO EASEMENT, NAME AND DEED BOOK CHANGE ON PARCELS 9 & 11, BOTH CHANGES DUE TO DRAINAGE REVISIONS.
R/W REVISION 07/19/2000 RRP: PIPE & PUE REVISED AT -L- STA. 19+95 TO 20+40 LT, R/W AND PUE REVISED AT -L- STA. 19+95 TO 20+40 LT, BOTH CHANGES DUE TO DRAINAGE REVISIONS.
R/W REVISION 07/19/2000 RRP: PARCEL 9 DESIGNATION REMOVED FROM "VEPCO EASEMENT, NAME AND DEED BOOK CHANGE ON PARCELS 9 & 11, OVERLAPPING PERMANENT UTILITY EASEMENT (PEA) AND PERMANENT DRAINAGE EASEMENT (PDE) CHANGED TO PERMANENT DRAINAGE UTILITY EASEMENT (DUE) ON PARCELS 2, 3 & 7.
R/W REVISION 02/20/2001 RRP: REMOVED 30' DRIVEWAY ON PARCEL 5 WITH CONCURRENCE FROM R/W UNIT AND PROPERTY OWNER.
R/W REVISION 05/30/2001 RRP: NEW PERMANENT UTILITY EASEMENT SHOWN ON PARCELS 7 & 8, THIS PUE IS FOR REPLACEMENT OF THE DOMINION POWER TRANSMISSION LINE EASEMENT, PIPE FOR WATERLINE REPLACEMENT REVISED ON PARCEL 7 NEAR RAILROAD PER REQUEST FROM UTILITIES UNIT.

8/17/99

07-JUN-2011 15:40
R:\Roadway\Proj\B4599_rdy_psh_04.dgn
$$$$USERNAME$$$$



SUE NOTE:

•LOCATING SIGNAL ON 8" DUCTILE IRON PIPE WAS VERY WEAK AS THERE WAS NOT A VALVE OR OTHER STRUCTURE AVAILABLE TO INDUCE THE LINE FOR MORE ACCURATE LOCATING.

•DISCUSSED LOCATION OF 8" DUCTILE IRON PIPE WITH ELIZABETH CITY UTILITY DEPT. PERSONNEL AND THEIR RESPONSE WAS THAT THE LINE WAS LOCATED SOMEWHERE IN THE MIDDLE OF THE ROADWAY AND RUNS PARALLEL WITH THE 6" DUCTILE IRON PIPE.

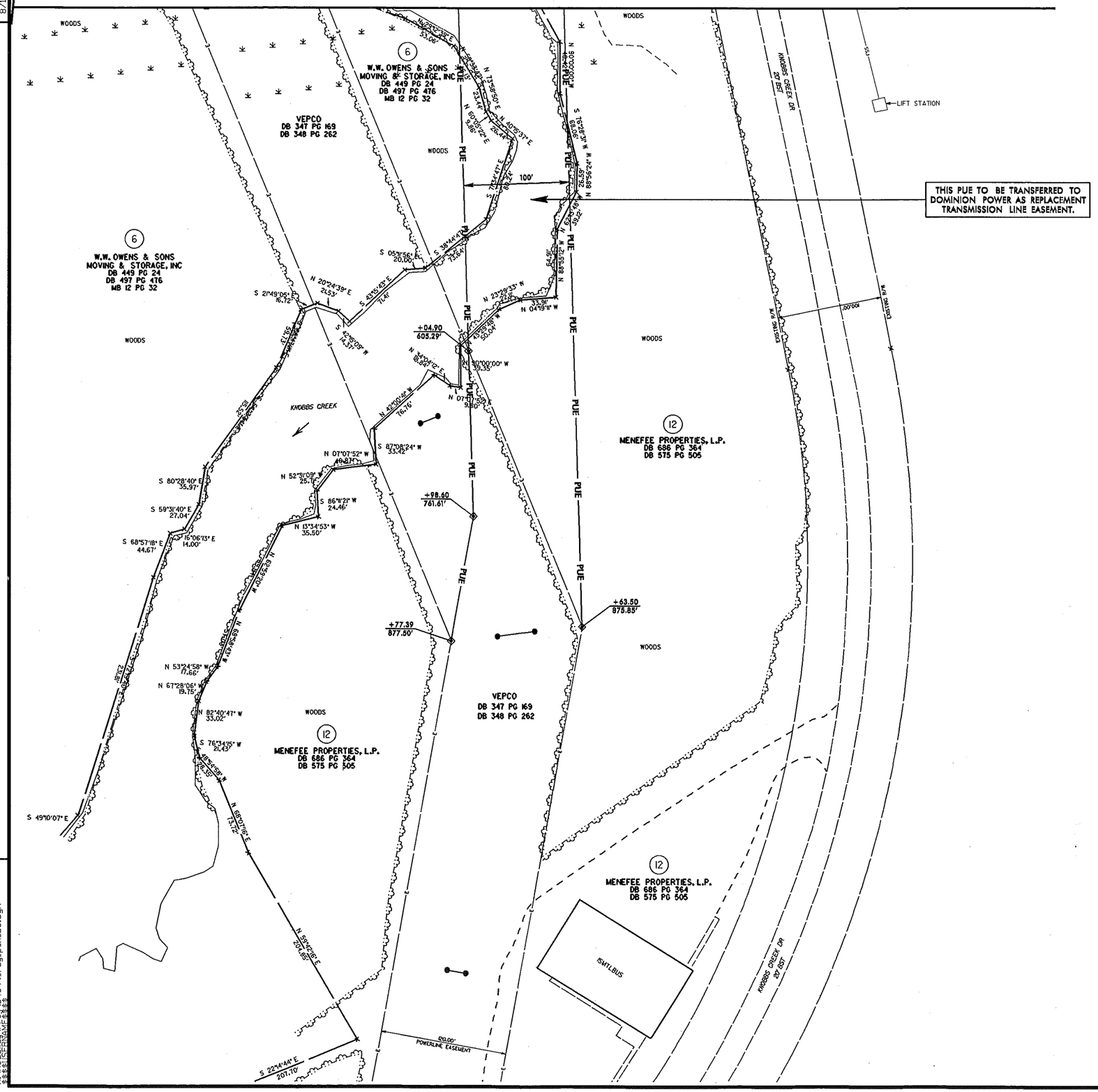
REVISIONS

R/W REVISION 07/09/2010 RWP PARCEL 8 DESIGNATION REMOVED FROM YEPCO EASEMENT, NAME AND DEED BOOK CHANGE ON PARCELS 8, 19, & 21. OVERLAPPING PERMANENT UTILITY EASEMENT (PUE) AND PERMANENT DRAINAGE EASEMENT (PDE) CHANGED TO PERMANENT DRAINAGE UTILITY EASEMENT (DUE) ON PARCELS 8 & 15.
R/W REVISION 05/31/2011 RWP NEW PERMANENT UTILITY EASEMENT SHOWN ON PARCELS 8, 12 & 13. THIS PUE IS FOR REPLACEMENT OF THE DOMINION POWER TRANSMISSION LINE EASEMENT. PUE, PDE, DUE, AND TCE FROM -L- 33+40 TO 39+60 LT REVISED PER REQUEST FROM UTILITIES UNIT. PROPERTY LINE ADDED CREATING PARCEL 22A. R/W AND TCE REVISED TO TIE TO REVISED PROPERTY LINES ON PARCEL 22A.

07-JUN-2011 5:47
R:\Roadway\Proj\B4599_rdy_psh_05.dgn
$$$$USERNAME$$$$

8/17/99

MATCHLINE SEE SHEET 5



PROJECT REFERENCE NO.	SHEET NO.
B-4599	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

THIS SHEET FOR RIGHT OF WAY PURPOSES ONLY.

REVISIONS

R/W REVISION 05/29/08 RWP NEW PLANSHEET 6 ADDED TO SHOW CONTINUATION OF NEW PERMANENT UTILITY EASEMENT ON PARCELS 6 & 12. THIS PUE IS FOR REPLACEMENT OF THE DOMINION POWER TRANSMISSION LINE EASEMENT.

07-JUN-2011 15:48
R:\Roadway\Proj\B4599_rdy_psh_06.dgn

5/28/99

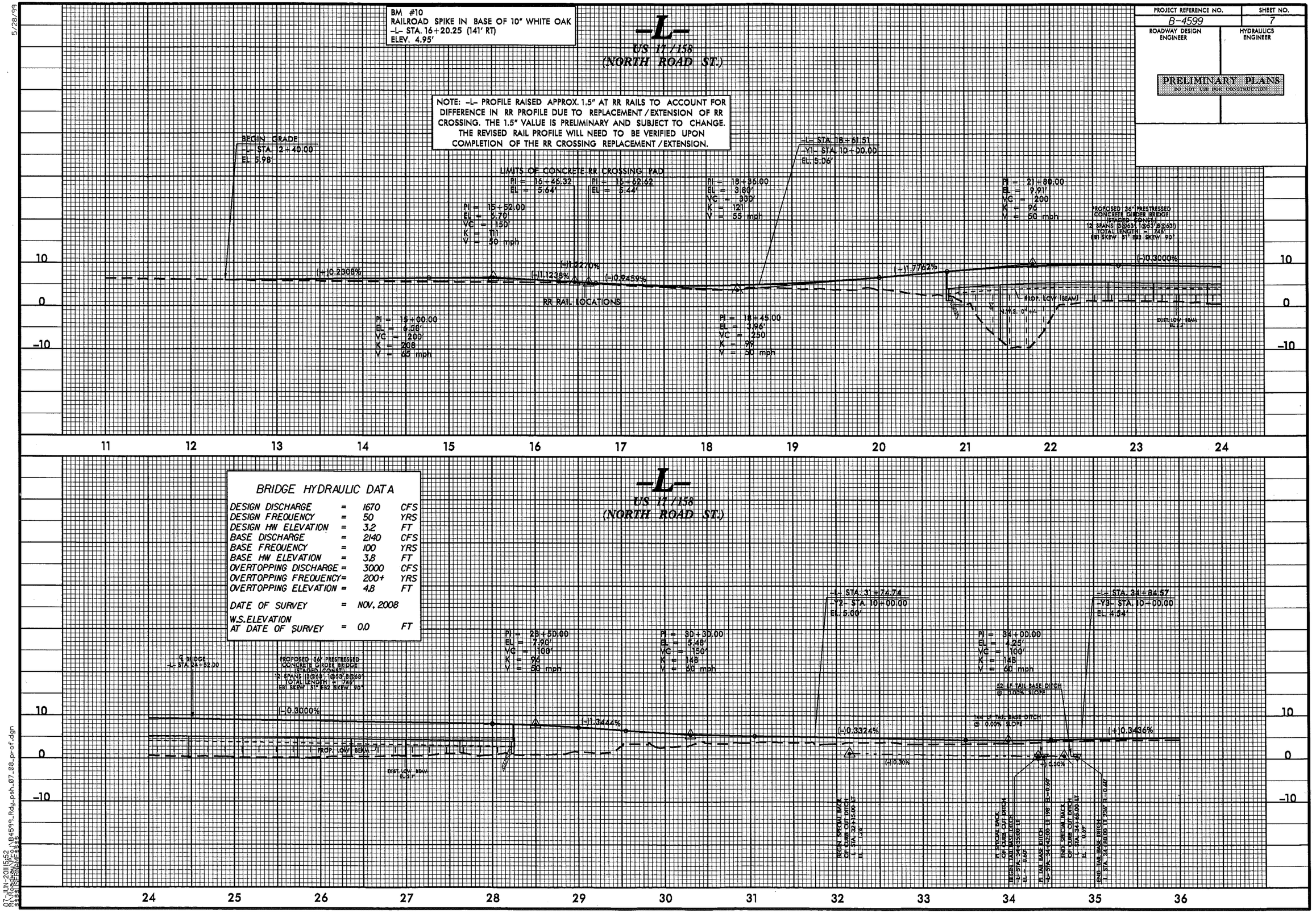
PROJECT REFERENCE NO.	SHEET NO.
B-4599	7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM #10
RAILROAD SPIKE IN BASE OF 10" WHITE OAK
-L- STA. 16+20.25 (141' RT)
ELEV. 4.95'

-L-
US 17/158
(NORTH ROAD ST.)

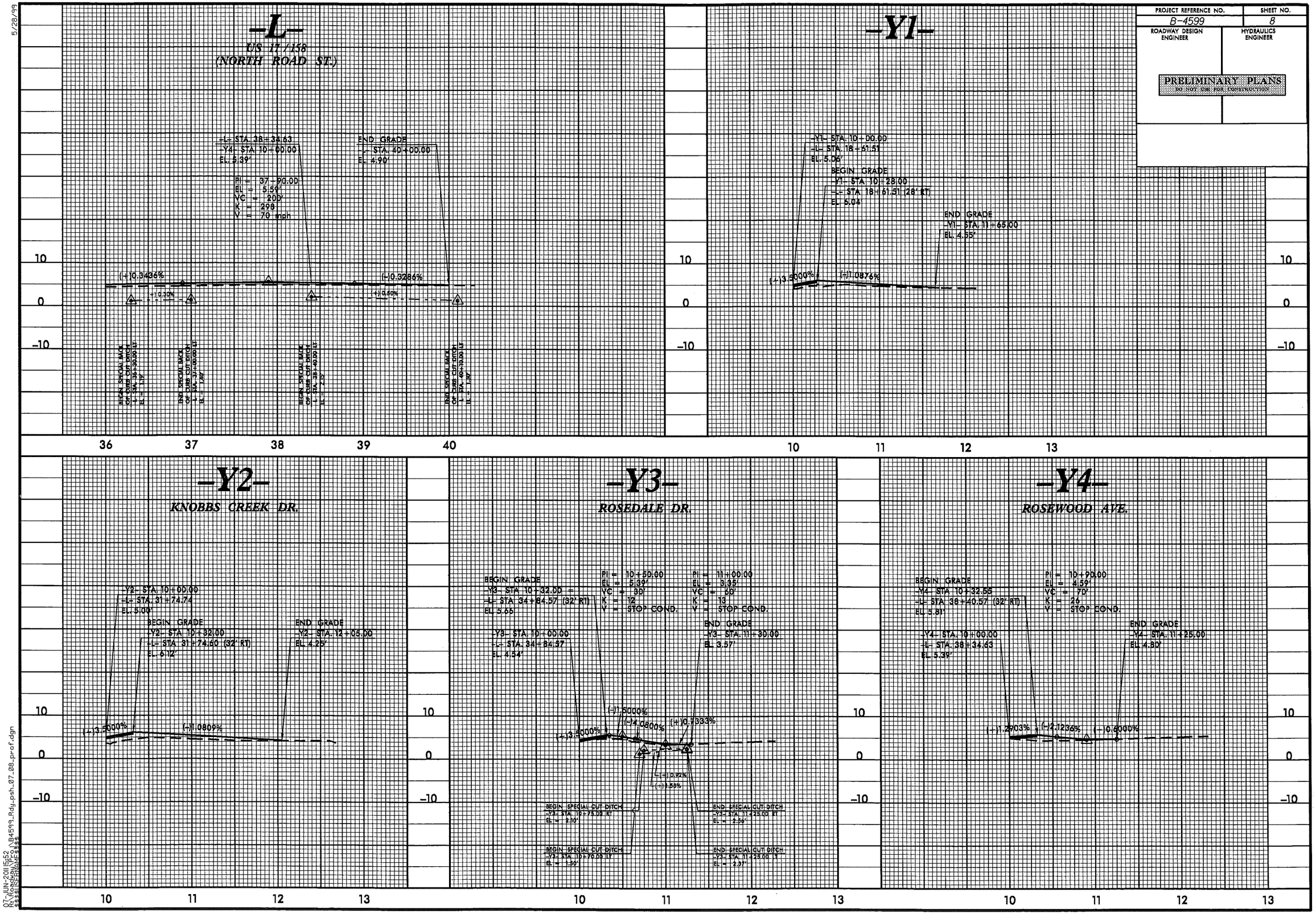
NOTE: -L- PROFILE RAISED APPROX. 1.5" AT RR RAILS TO ACCOUNT FOR DIFFERENCE IN RR PROFILE DUE TO REPLACEMENT / EXTENSION OF RR CROSSING. THE 1.5" VALUE IS PRELIMINARY AND SUBJECT TO CHANGE. THE REVISED RAIL PROFILE WILL NEED TO BE VERIFIED UPON COMPLETION OF THE RR CROSSING REPLACEMENT / EXTENSION.



07-JUN-2011 15:52
R:\Roadway\Proj\B4599_Rdy_psh_07_08_prof.dgn
$$$$USER NAME$$$$

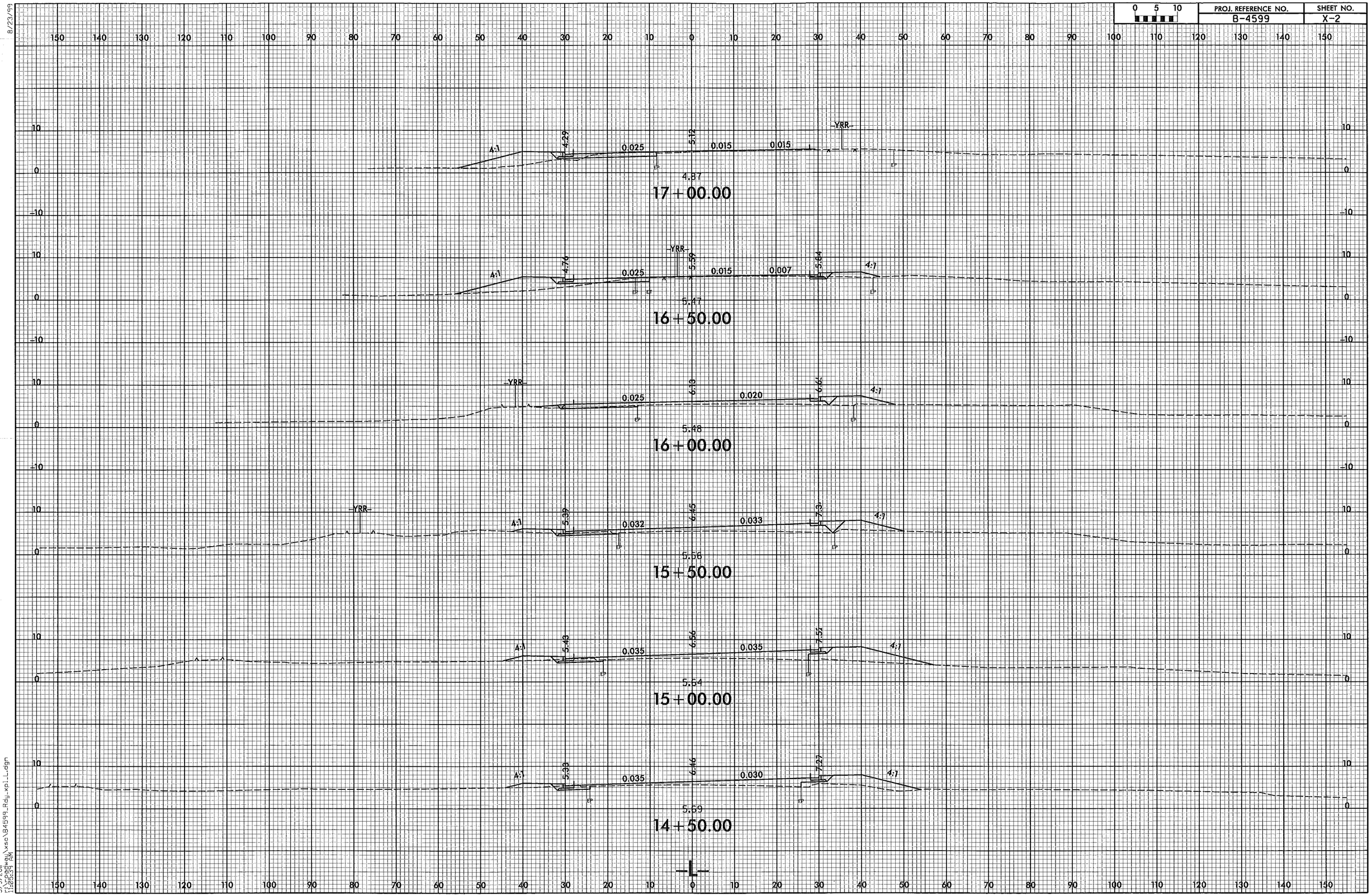
PROJECT REFERENCE NO.	SHEET NO.
B-4599	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



07-JUN-2011 15:52
R:\Roadway\Proj\B4599_Rdy_psh_07_08_prof.dgn
$$$$USERNAME$$$$

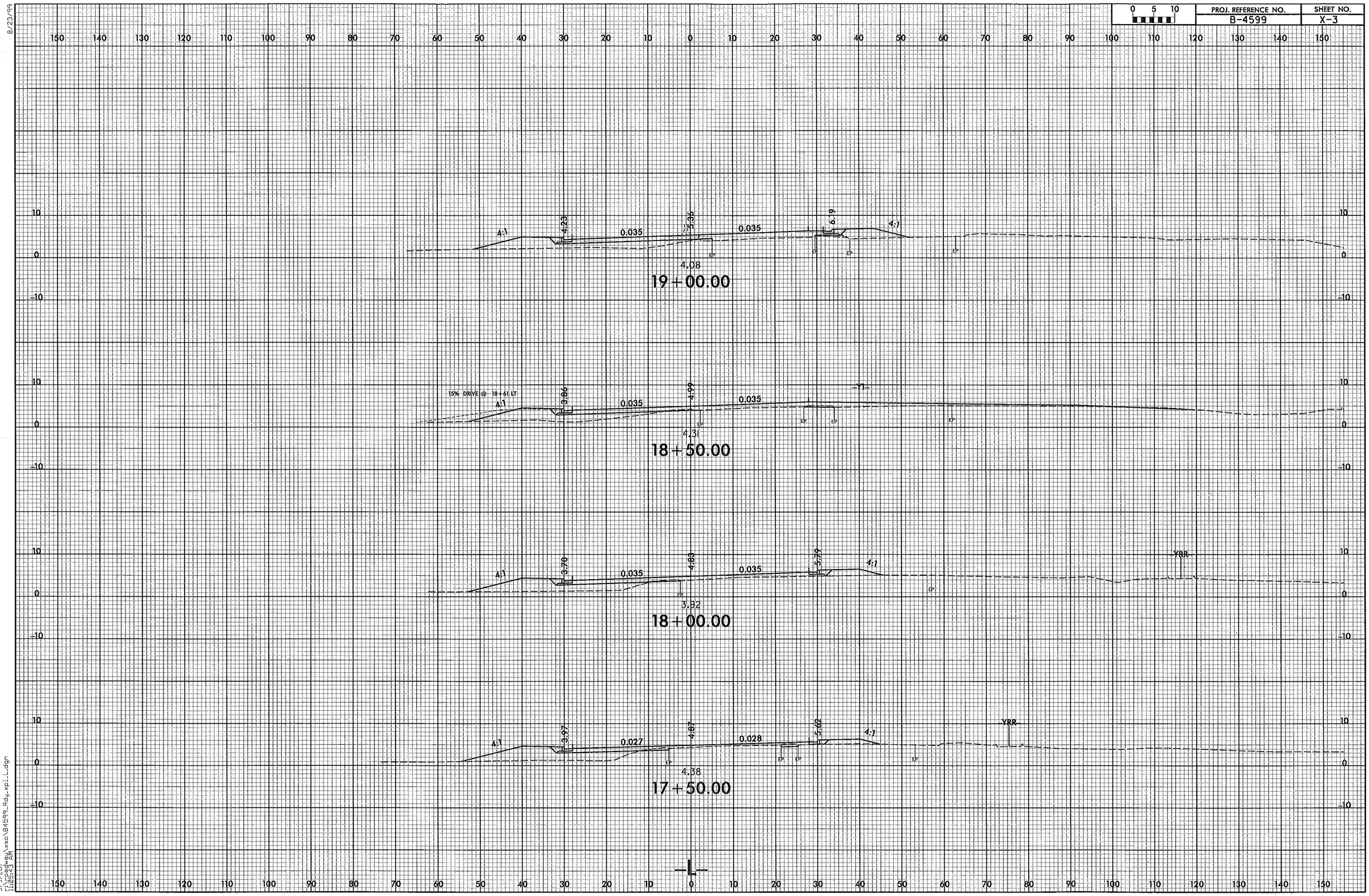
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4599	X-2



8/23/99

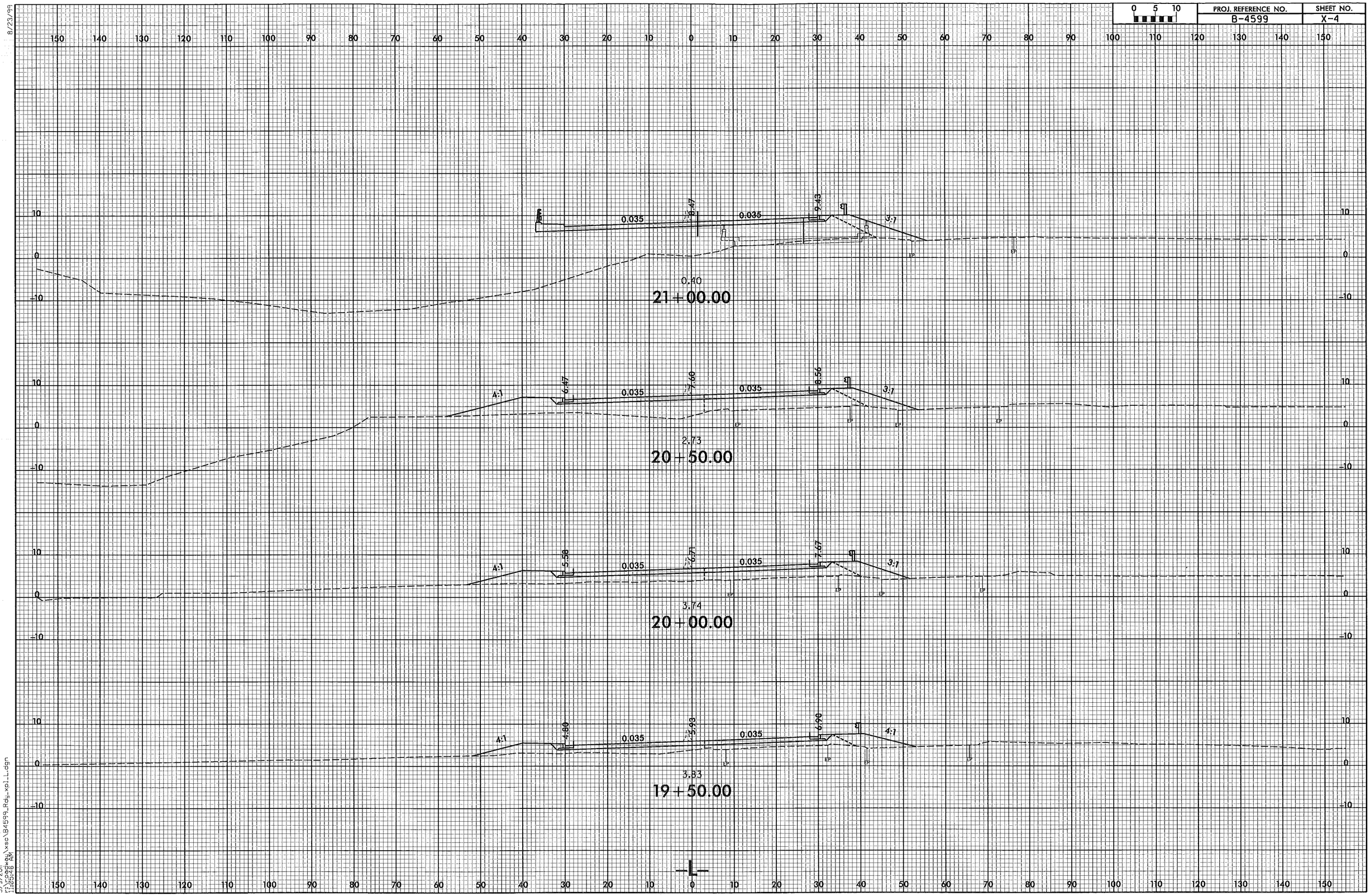
5/9/2011
F:\roadway\xse\B4599_Rdy_xpl_L.dgn
11:20:33 AM

PROJ. REFERENCE NO.	SHEET NO.
B-4599	X-3



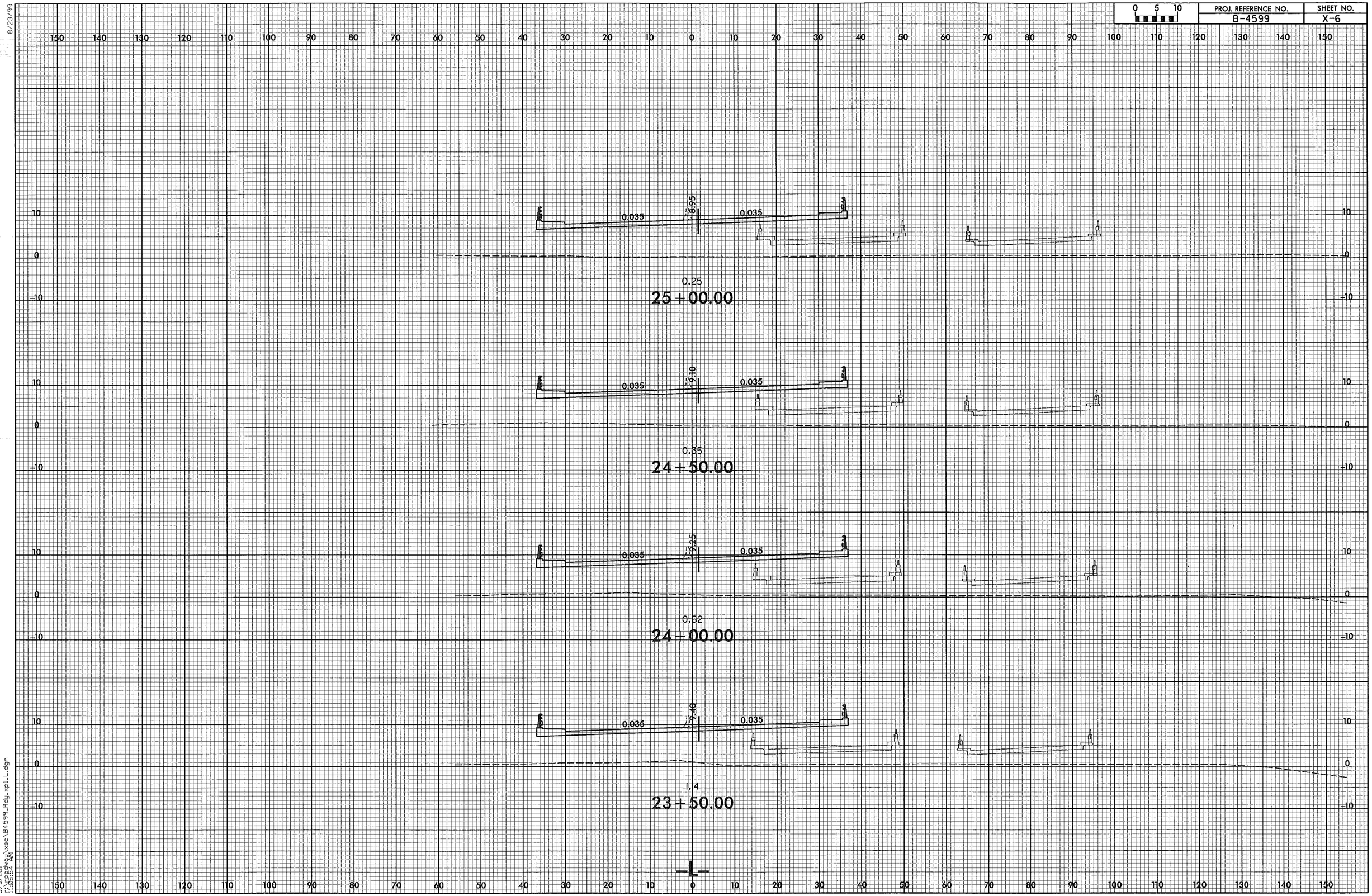
8/23/99

5/9/2011
r:\roadway\xsc\B4599_Rdy_xpl_L.dgn
11:05:43 AM



0 5 10
PROJ. REFERENCE NO.
B-4599
SHEET NO.
X-4
8/23/99
0.035
8.47
9.43
3:1
0.40
21+00.00
4:1
6.47
7.60
8.56
2.73
20+50.00
5.58
6.71
7.67
3.74
20+00.00
4.80
5.93
6.90
3.83
19+50.00
-L-
5/9/2011
r:\roadway\xsc\B4599_Rdy_xpl_L.dgn
11:05:46 AM

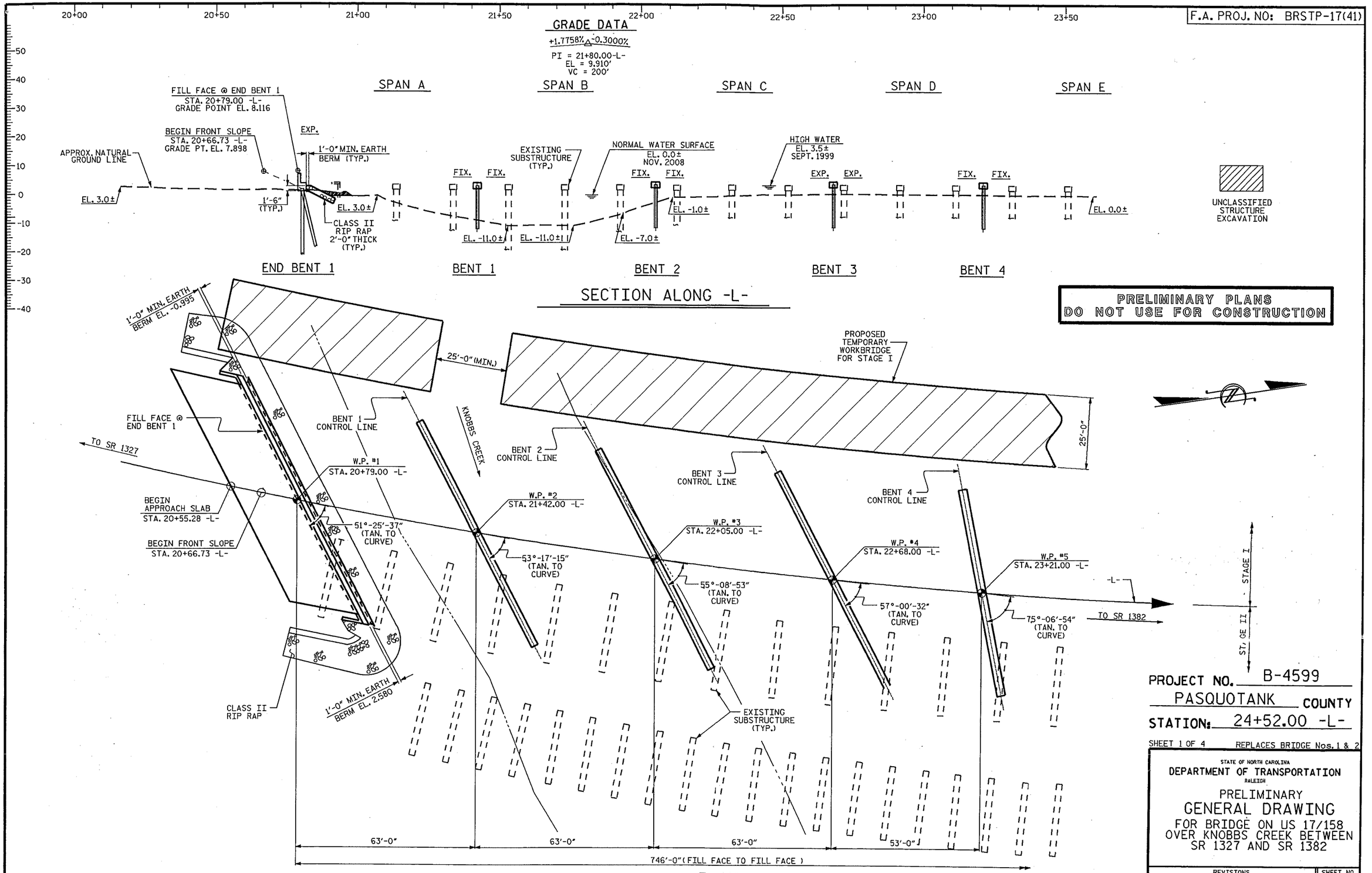
PROJ. REFERENCE NO.	SHEET NO.
B-4599	X-6



8/23/99

5/9/2011
r:\roadway\xsc\B4599_Rdy_xpl_L.dgn
11:05:54 AM

F.A. PROJ. NO: BRSTP-17(41)



PLAN
(PILES NOT SHOWN FOR CLARITY)

PROJECT NO. B-4599
PASQUOTANK COUNTY
STATION: 24+52.00 -L-

SHEET 1 OF 4 REPLACES BRIDGE Nos. 1 & 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

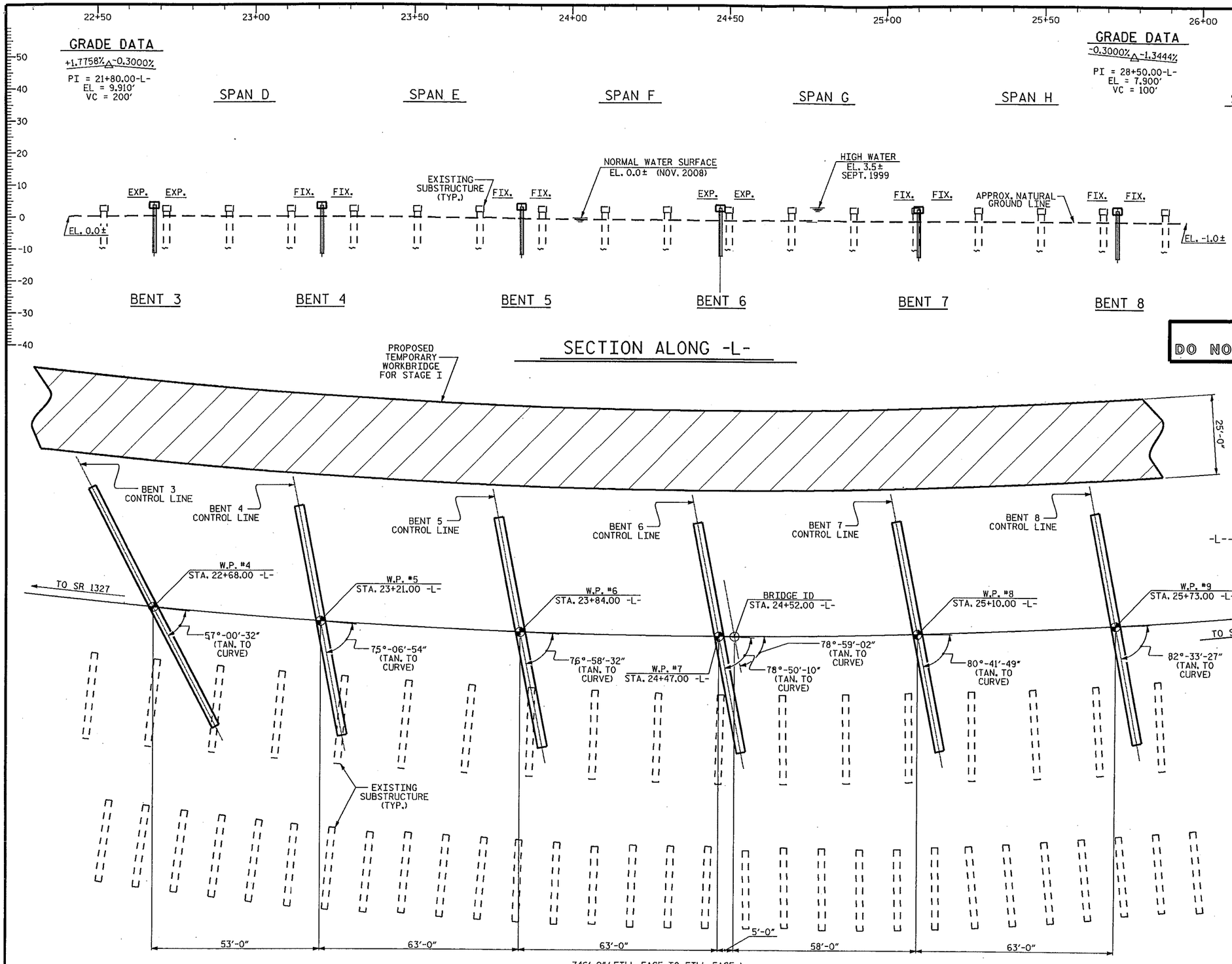
PRELIMINARY
GENERAL DRAWING
FOR BRIDGE ON US 17/158
OVER KNOBBS CREEK BETWEEN
SR 1327 AND SR 1382

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

DRAWN BY : J. G. KHARVA DATE : 08/12/09
CHECKED BY : J. D. HAWK DATE : 08/25/09

03-MAY-2011 13:35
R:\Structures\Plans\B-4599_SD_PGD_01.dgn
wkfleaher

F.A. PROJ. NO: BRSTP-17(41)



PLAN

(PILES NOT SHOWN FOR CLARITY)

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT NO. B-4599

PASQUOTANK COUNTY

STATION: 24+52.00 -L-

SHEET 2 OF 4 REPLACES BRIDGE Nos. 1 & 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

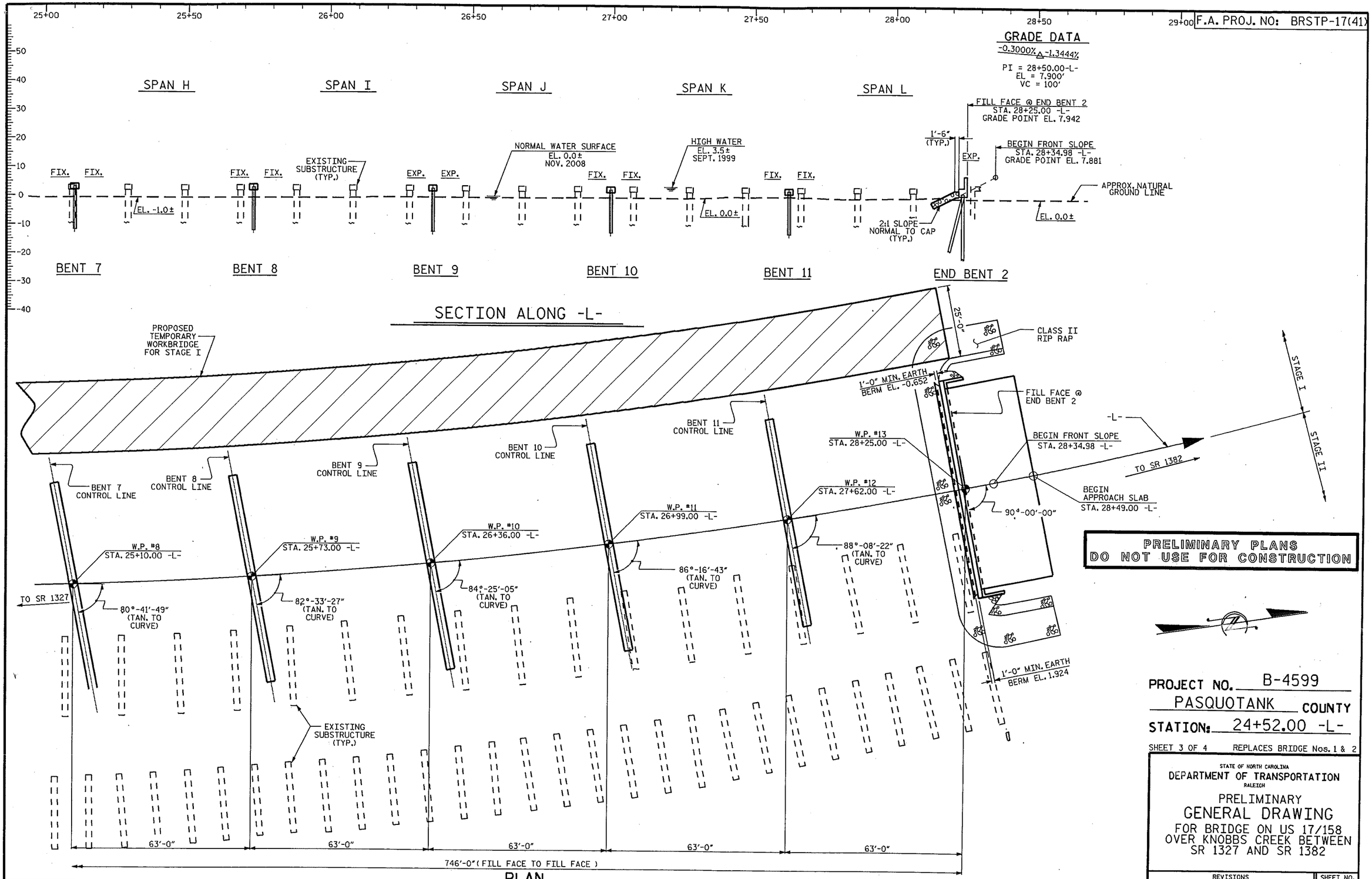
PRELIMINARY
GENERAL DRAWING
FOR BRIDGE ON US 17/158
OVER KNOBBS CREEK BETWEEN
SR 1327 AND SR 1382

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

DRAWN BY : J. G. KHARVA DATE : 08/12/09
CHECKED BY : J. D. HAWK DATE : 08/25/09

03-MAY-2011 13:36
h:\Structures\Plans\B-4599_SD_PGD_01.dgn
wkfisher

F.A. PROJ. NO: BRSTP-17(41)



PLAN

(PILES NOT SHOWN FOR CLARITY)

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT NO. B-4599

PASQUOTANK COUNTY

STATION: 24+52.00 -L-

SHEET 3 OF 4 REPLACES BRIDGE Nos. 1 & 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRELIMINARY
GENERAL DRAWING
FOR BRIDGE ON US 17/158
OVER KNOBBS CREEK BETWEEN
SR 1327 AND SR 1382

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

DRAWN BY : J. G. KHARVA DATE : 08/12/09
CHECKED BY : J. D. HAWK DATE : 08/25/09

03-MAY-2011 13:36
R:\Structures\Plans\B-4599_SD_PGD_01.dgn
wkfisher