



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

February 2, 2011

Mr. Tom Steffens, NCDOT Coordinator
U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Mr. Stephen Lane, NCDOT Coordinator
N. C. Dept. of Environment and Natural
Resources
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

Dear Sirs:

Subject: **Application for Nationwide 13, 23 and 33 Permits, CAMA Major Development Permit Application, Section 401 General Water Quality Certification and Tar-Pamlico Buffer Authorization** for the replacement of Bridge No. 21 over Acre Swamp on NC 32 in Beaufort County. Federal Aid Project Number BRSTP-32(5). Debit \$400.00 from WBS 33691.1.1; TIP No. B-4415.

Please find enclosed the North Carolina Division of Coastal Management Major Permit Forms 1, 2, and 5, Pre-Construction Notification (PCN) form, permit drawings, half-size plan sheets, utility narrative and drawings, and the adjacent riparian landowner certified mail receipts. A request for a Preliminary Jurisdictional Determination is also included with this application. A Categorical Exclusion (CE) was completed for this project on February 4, 2008, and distributed shortly thereafter. Additional copies are available upon request.

The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the Federal Highway Administration (FHWA), proposes to replace Bridge No. 21 on NC 32 over Acre Swamp/Pungo Creek in Beaufort County. The existing structure is a 4-span, 91-foot long bridge with a reinforced concrete floor with a substructure of timber caps on timber piles. Three steel crutch bents have been added to strengthen the structure until replacement. The proposed structure will be a 3-span, 120-foot long cored slab bridge with concrete overlay and steel bents on pile foundations. The causeway that is removed due to the increased length of the bridge will be excavated to natural floodplain elevations. Bank stabilizing rip rap will be added to the outlet area of two existing drainage pipes. There will be 0.01 acre of permanent impacts to riparian wetlands adjacent to Acre Swamp due to the relocation of two maintenance access roads. There will be 33 linear feet of permanent stream impacts due to bank stabilization. There will be 14,001 sq. ft. of impacts to Tar-Pamlico River Basin buffers; including 8,857 sq. ft. of Zone 1 impacts and 5,144 sq. ft. of Zone 2 impacts. Traffic will be maintained on an onsite temporary detour bridge during construction.

The proposed let date for the project is November 15, 2011 with a review date of September 27, 2011: However, the let date may advance as additional funds become available.

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

TELEPHONE: 919-431-2000
FAX: 919-431-2002

WEBSITE: WWW.NCDOT.ORG

LOCATION:
4701 ATLANTIC AVENUE
SUITE 116
RALEIGH NC 27604

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 33691.1.1 is hereby given.

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 these activities. We are also requesting the issuance of a Nationwide Permit 13 for bank stabilization and a Nationwide Permit 33 for temporary impacts due to an onsite detour. (72 CFR; 11092-11198, March 12, 2007).

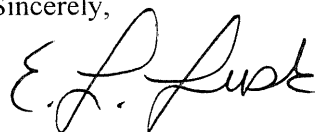
Section 401 Permit: We anticipate 401 General Certification numbers 3688, 3689 and 3701 will apply to this project. In accordance with 15A NCAC 2H, Section .0500(a), we are providing five copies of this application to the NCDWQ for their approval.

Tar-Pamlico River Basin Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Tar-Pamlico River Riparian Buffer Authorization.

A copy of this permit application 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 or email Mrs. Veronica Barnes, at 919-431-6758 or vabarnes@ncdot.gov.

Sincerely,



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

cc List:

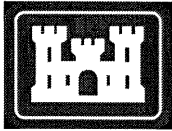
W/attachment

Mr. Brian Wrenn, NCDWQ (5 Copies)
Mr. Steve Sollod, NCDCM

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Dewayne Sykes, P.E., Utilities
Mr. Mark Staley, Roadside Environmental
Mr. C. E. Lassiter, P.E., Div. 2 Engineer
Mr. Jay Johnson, Div. 2 Environm. Officer

Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Mr. Ron Sechler, NMFS
Ms. Anne Deaton, NCDMF
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Program. and TIP
Mr. Art McMillan, P.E., Highway Design
Ms. Dionne Brown, PDEA



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: 13 23 33 or General Permit (GP) number:

1c. Has the NWP or GP number been verified by the Corps?

☐ Yes ☒ No

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

☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit
☐ 401 Water Quality Certification – Express ☒ Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?

For the record only for DWQ 401 Certification:

☐ Yes ☒ No

For the record only for Corps Permit:

☐ Yes ☒ No

1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.

☐ Yes ☒ No

1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.

☒ Yes ☐ No

1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?

☒ Yes ☐ No

2. Project Information

2a. Name of project:

Replace Bridge No. 21 over Acre Swamp on NC 32

2b. County:

Beaufort

2c. Nearest municipality / town:

Pinetown

2d. Subdivision name:

not applicable

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

B-4415

3. Owner Information

3a. Name(s) on Recorded Deed:

North Carolina Department of Transportation

3b. Deed Book and Page No.

not applicable

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

not applicable

3d. Street address:

1598 Mail Service Center

3e. City, state, zip:

Raleigh, NC 27699

3f. Telephone no.:

(919) 431-6758

3g. Fax no.:

(919) 431-2002

3h. Email address:

vabarnes@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):	N/A	
1b. Site coordinates (in decimal degrees):	Latitude: 35.583618 (DD.DDDDDD)	Longitude: - 76.841469 (-DD.DDDDDD)
1c. Property size:	N/A acres	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Acre Swamp	
2b. Water Quality Classification of nearest receiving water:	C;Sw;NSW	
2c. River basin:	Tar Pamlico	
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: Existing conditions on the site include woodland areas and Bottomland Hardwood Forest. Land use in the general vicinity is low density residential and agricultural land.		
3b. List the total estimated acreage of all existing wetlands on the property: 5.8		
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 555		
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.		
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a structurally deficient bridge with a three-span cored slab bridge with concrete overlay on steel pile bents. The existing structure is a four-span bridge with reinforced concrete floor on continuous I-beams over timber caps and timber piles. Three steel crutch bents have been added to strengthen the structure until replacement. Standard road building equipment will be used. Existing utilities will be relocated on-site via the directional bore method.		
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: Site visit was conducted by William Wescott on 3/22/2006; a tear sheet was never issued. Paper work has subsequently been lost and is being resubmitted with this application.	☒ Yes ☐ No ☐ Unknown	
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☐ Preliminary ☐ Final	
4c. If yes, who delineated the jurisdictional areas? Name (if known): Lauren Cobb and Robert Turnbull	Agency/Consultant Company: Environmental Services, Inc Other:	
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.		
5. Project History		
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown	
5b. If yes, explain in detail according to "help file" instructions. N/A		

B. Project Information and Prior Project History

6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain. N/A	

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)
W1 ☒ P ☐ T	Permanent fill	Riparian	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.01
W2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
W2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
W4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
W5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
W6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
2g. Total wetland impacts					0.01

2h. Comments: Proposed temporary impacts to wetlands of < 0.01 acre of Temporary Fill in Wetlands in the Hand Clearing areas for the installation of erosion control measures, including Temporary Silt Fence and/or Special Sediment Control Fence.

3. Stream Impacts

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

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
S2 ☒ P ☐ T	Fill	Acre Swamp	☒ PER ☐ INT	☒ Corps ☐ DWQ	40	11
S2 ☒ P ☐ T	Fill	Acre Swamp	☒ PER ☐ INT	☒ Corps ☐ DWQ	40	12
S2 ☒ P ☐ T	Bank Stabilization	Acre Swamp	☒ PER ☐ INT	☒ Corps ☐ DWQ	40	10
S4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
S5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
S6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
3h. Total stream and tributary impacts						33

3i. Comments: Impacts due to bents in the water: 6.8 Sq. Ft.

4. Open Water Impacts

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

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
4f. Total open water impacts				

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: N/A

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.

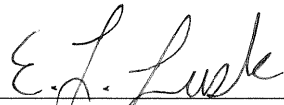
6a. Project is in which protected basin?			☐ Neuse ☒ Tar-Pamlico ☐ Other: ☐ Catawba ☐ Randleman		
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☒ P ☐ T	Bridge	Acre Swamp	☐ Yes ☒ No	3,438	1,034
B2 ☒ P ☐ T	Road Crossing	Acre Swamp	☐ Yes ☒ No	0	148
B3 ☒ P ☐ T	Maintenance Access	Acre Swamp	☐ Yes ☒ No	1,465	1,413
B4 ☒ P ☐ T	Temp Detour	Acre Swamp	☐ Yes ☒ No	1,019	2,407
B5 ☒ P ☐ T	Detour Bridge	Acre Swamp	☐ Yes ☒ No	2,935	142
B6 ☐ P ☐ T			☐ Yes ☐ No		
B7 ☐ P ☐ T			☐ Yes ☐ No		
6h. Total buffer impacts				8,857	5,144
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. Measures taken during the design process to avoid or minimize impacts include the use of Design Standards for Sensitive Watersheds, increasing the length of the proposed bridge, decreasing the number of bents from 3 to 2, maintenance access roads will remain grassed within the buffer zone, and removal of the existing causeway graded down to natural floodplain level.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Construction techniques used to minimize impacts include the use of NCDOT Best Management Practices for the Protection Surface Waters, top down construction and 3:1 fill slopes where practicable.		
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 Due to the minimal impacts and quality of the wetland on the project, NCDOT does not propose any compensatory mitigation.	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☐ Corps	
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☐ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	☐ Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	N/A square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	N/A acres	
4g. Coastal (tidal) wetland mitigation requested:	N/A acres	
4h. Comments: N/A		
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	N/A		3 (2 for Catawba)	
Zone 2	N/A		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). N/A				
6h. Comments: N/A				

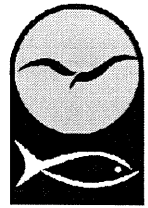
E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☒ Yes ☐ No
1b. If yes, then is a diffuse flow plan included? If no, explain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

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes ☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes ☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	☒ Yes ☐ No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes ☒ No
2b. Is this an after-the-fact permit application?	☐ Yes ☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes ☒ No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.	
4. Sewage Disposal (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	☐ Yes	☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☐ Yes	☒ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☐ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS list of Threatened and Endangered Species for Beaufort County (September 22, 2010); Natural Heritage Program Database.		
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? Index of Waterbodies with Essential Fish Habitat		
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? NC State Historic Preservation Office correspondence		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☒ Yes	☐ No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit will coordinate with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA maps		
Gregory J. Thorpe, PhD Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	2.2.11 Date

APPLICATION for Major Development Permit

(last revised 12/27/06)



North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name NC Department Of Transportation		Project Name (if applicable) B-4415 (33691.1.1)	
Applicant 1: First Name Gregory	MI	Last Name Thorpe	
Applicant 2: First Name	MI	Last Name	
<i>If additional applicants, please attach an additional page(s) with names listed.</i>			
Mailing Address 1598 Mail Service Center		PO Box	City Raleigh
		State NC	
ZIP 27699 1598	Country USA	Phone No. 919 - 431 - 2000 ext.	FAX No. 919 - 431 - 2002
Street Address (if different from above)		City	State
			ZIP -
Email vabarnes@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) Beaufort	Street Address N/A		State Rd. # NC 32	
Subdivision Name N/A	City Douglas Crossroads	State NC	Zip -	
Phone No. - - ext.		Lot No.(s) (if many, attach additional page with list) , , , ,		
a. In which NC river basin is the project located? Tar-Pamlico		b. Name of body of water nearest to proposed project Pungo Creek/Acre Swamp		
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. Pungo Creek		
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. N/A		

4. Site Description

a. Total length of shoreline on the tract (ft.) 393'	b. Size of entire tract (sq.ft.) 143,715 sq ft (inside R/W and Construction limits)
c. Size of individual lot(s) N/A, (If many lot sizes, please attach additional page with a list)	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) 3.8' - 16.6' ☐ NHW or ☒ NWL
e. Vegetation on tract Wetlands, trees, grass (NC 32 shoulders)	
f. Man-made features and uses now on tract Existing NC 32 road facility including ditches and access roads(both sides)	
g. Identify and describe the existing land uses <u>adjacent</u> to the proposed project site. Existing NC 32 road facility, ditches	
h. How does local government zone the tract? Right of 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. If yes, by whom? NCDOT Archeologists, details in CE	
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. None
o. Describe existing drinking water supply source. None
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. Replace existing bridge due to low sufficiency rating. Lengthen bridge and improve road facility and safety with widening and addition of guardrail		
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. Propose top/down construction with no temporary causeway(s). Typical construction equipment includes crane, bulldozer, dump trucks, motor grader, etc.		
d. List all development activities you propose. Replace/Lengthen bridge; Remove portion of existing road fill/causeway down to natural floodplain elevation to improve bridge hydraulic conveyance. Existing piers will be removed (3) and replaced with proposed piers (2). Addition of fill due to widening facility and raising of the existing road grade.		
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?	3.3	☐ 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. Existing ditches drain to creek/wetlands in all 4 quadrants. Propose shoulder berm gutter on West side of road which will outlet to grassed swales. East side of road will drain over grassed shoulders to grassed swales.		
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?	☐ Yes ☒ No ☐ NA	
If yes, attach a mitigation proposal.		

<Form continues on back>

6. Additional Information

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

a. A project narrative.
b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.
c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.
e. The appropriate application fee. Check or money order made payable to DENR.
f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management. Name See attached permit drawing sheet 3 of 9. 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. <i>(Must be signed by property owner)</i>
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 1.31.11 Print Name _____
Signature E. L. Lusk

Please indicate application attachments pertaining to your proposed project.

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

EXCAVATION and FILL

(Except for bridges and culverts)

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

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

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

1. EXCAVATION☒ *This section not applicable*

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

2. DISPOSAL OF EXCAVATED MATERIAL☒ *This section not applicable*

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

3. SHORELINE STABILIZATION

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

☐ This section not applicable

- a. Type of shoreline stabilization:
☐ Bulkhead ☒ Riprap ☐ Breakwater/Sill ☐ Other: _____
- b. Length: 33'
Width: 40'
- c. Average distance waterward of NHW or NWL: 13' - rip rap will stabilize an area that has already been scoured forming small inlets.
- d. Maximum distance waterward of NHW or NWL: 22'
- e. Type of stabilization material:
Class I Rip Rap w/ Filter Fabric
- f. (i) Has there been shoreline erosion during preceding 12 months?
☒ Yes ☐ No ☐ NA
(ii) If yes, state amount of erosion and source of erosion amount information.
Existing outlet pipes in NW & SE quad (36" & 24" pipes, respectively)
- g. Number of square feet of fill to be placed below water level.
Bulkhead backfill _____ Riprap 575 sq ft
Breakwater/Sill _____ Other _____
- h. Type of fill material.
Class I Rip Rap w/ filter fabric
- i. Source of fill material.

4. OTHER FILL ACTIVITIES

(Excluding Shoreline Stabilization)

☒ This section not applicable

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

5. GENERAL

- a. How will excavated or fill material be kept on site and erosion controlled?
Standard NCDOT BMP's will be utilized.
- b. What type of construction equipment will be used (e.g., dragline, backhoe, or hydraulic dredge)?
Typical construction equipment includes crane, bulldozer, dump trucks, motor grader, etc.
- c. (i) Will navigational aids be required as a result of the project?
☐ Yes ☐ No ☒ NA
(ii) If yes, explain what type and how they will be implemented.
- d. (i) Will wetlands be crossed in transporting equipment to project site? ☐ Yes ☒ No ☐ NA
(ii) If yes, explain steps that will be taken to avoid or minimize environmental impacts.

1.31.11

Date

B-4415

Project Name

Gregory Thorpe

Applicant Name

Applicant Signature

E. L. Lusk

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:
 Pungo Creek/Acre Swamp
- c. Type of bridge (construction material):
 3 @ 40' -- 21" Cored Slab
- d. Water depth at the proposed crossing at NLW or NWL:
 Varies 1' - 2'
- e. (i) Will proposed bridge replace an existing bridge? ☒ Yes ☐ No
 If yes,
 (ii) Length of existing bridge: 91.0'
 (iii) Width of existing bridge: 24.0'
 (iv) Navigation clearance underneath existing bridge: 14.6'
 (v) Will all, or a part of, the existing bridge be removed?
 (Explain) All the existing bridge will be removed.
 Portion of existing road fill 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: 120'
- h. Width of proposed bridge: 33' Clear Roadway
- i. Will the proposed bridge affect existing water flow? ☒ Yes ☐ No
 If yes, explain: Longer bridge and removed fill will improve bridge conveyance and reduce velocities.
- j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ☒ Yes ☐ No
 If yes, explain: Bridge opening will increase from existing 736 sq ft to 897 sq ft. Clearance will be improved to 15.6'.
- k. Navigation clearance underneath proposed bridge: 15.6'
- 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:
- n. Height of proposed bridge above wetlands: _____

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)

f. Length of proposed culvert: _____

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

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

If yes, 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)

g. Width of proposed culvert: _____

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

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: 33'(iii) Avg. width of area to be excavated: 32'(iv) Avg. depth of area to be excavated: 4.5'(v) Amount of material to be excavated in cubic yards: +/- 170
cu yds

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

(i) Location of the spoil disposal area: Offsite or as approved fill material to be utilized on project.

(ii) Dimensions of the spoil disposal area: _____

(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 _____ ☐ None

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

Fill due to proposed access road.

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: 480'

(iii) Avg. width of area to be filled: 40'

(iv) Purpose of fill: Due to proposed road widening and raising of existing road grade.

Detour: Avg. length of area to be filled= 559'

Avg. width of area to be filled= 30'

4. GENERAL

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

If yes, explain: see attached Utility Relocation Permit Plans

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: To maintain traffic flow on NC 32. Proposed 90' temp detour bridge.

< Form continues on back >

c. Will the proposed project require any work channels?

☐ Yes ☒ No

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

If yes, complete Form DCM-MP-2.

- e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?
Crane, bulldozer, dump truck, motor grader, pile driver, etc.

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

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

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

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

Date

1-31-11

Project Name

B-4415

Applicant Name

Applicant Signature

E. L. Luck

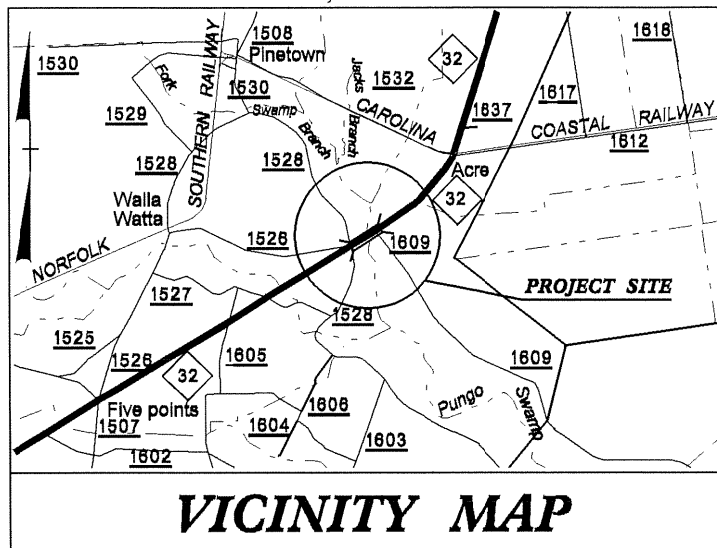
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03/08/99

CONTRACT:

TIP PROJECT: B-4415

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



VICINITY MAP

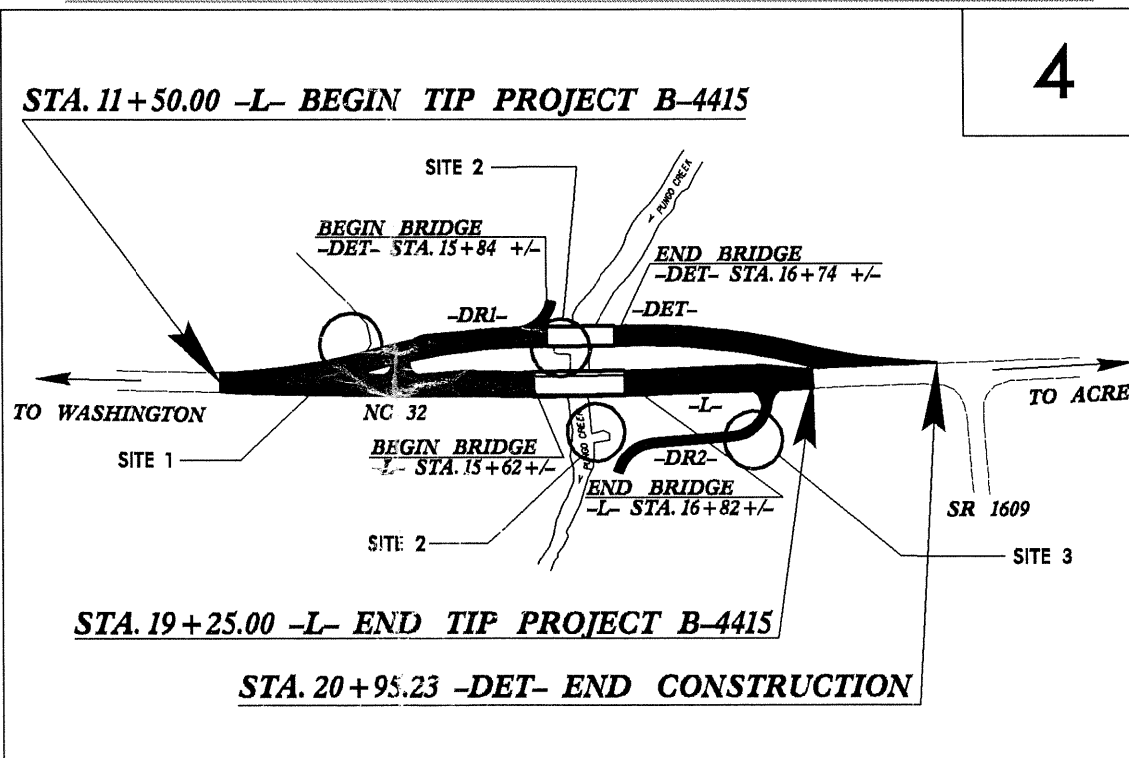
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BEAUFORT COUNTY

LOCATION: BRIDGE NO. 21 OVER PUNGO CREEK ON NC 32

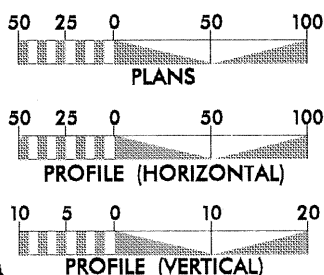
TYPE OF WORK: GRADING, DRAINAGE, GUARDRAIL, PAVING,
AND STRUCTURES

WETLAND/STREAM IMPACTS



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

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 3,869
ADT 2030 = 6,100
DHV = 10%
D = 60%
T = 4% *
V = 60 MPH
V (DETOUR) = 50 MPH
FUNC CLASS = RURAL MAJOR COLLECTOR
* (TTST 1% + DUAL 3%)

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4415 = 0.124 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4415 = 0.023 MILES
TOTAL LENGTH OF TIP PROJECT B-4415 = 0.147 MILES

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

2006 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
OCTOBER 16, 2009

LETTING DATE:
OCTOBER 19, 2010

BRENDA MOORE, P.E.
PROJECT ENGINEER

THAD F. DUNCAN, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



Permit Drawing
Sheet 1 of 9 P.E.
STATE HIGHWAY DESIGN ENGINEER

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

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	12+74-L- LT.	DETOUR FILL					<0.01					
2	15+98-L- LT.	RIP-RAP						0.010		11		
2	16+47-L- RT.	RIP-RAP						0.010		12		
3	18+60-L- RT.	DRIVE FILL	0.01				0.02					
2	16+12-L- LT.	RIP-RAP						<0.01		10		
TOTALS:			0.01				0.02	0.02		33		

Temporary Impacts: Proposed temporary impacts to wetlands of < 0.01 acre of Temporary Fill in Wetlands in the Hand Clearing areas for the installation of erosion control measures, including Temporary Silt Fence and/or Special Sediment Control Fence.

BEAUFORT COUNTY
WBS - 33691.1.1 (B-4415)

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	JAMES T. BUFORD, JR.	9328 BRENTWOOD DR. MECHANICSVILLE, VA. 23116
2	TIMOTHY W. TETTERTON	5242 N. BOYD RD. PINETOWN, N.C. 27865
3	FRED T. HOWELL	16905 NC 32 NORTH PINETOWN, N.C. 27865
4	LARRY BOYD	837 BEAVERDAM RD. PINETOWN, N.C. 27863

NCDOT

DIVISION OF HIGHWAYS

BEAUFORT COUNTY

PROJECT: 33691.1.1 (B-4415)

**REPLACEMENT OF BRIDGE #21 ON
NC 32 OVER PUNGO CREEK / ACRE
SWAMP**

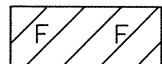
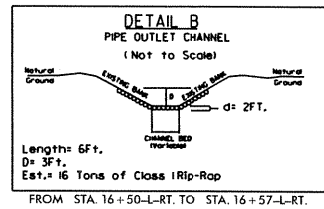
SHEET

OF

10 / 09

Permit Drawing
Sheet 3 of 9

PROJECT REFERENCE NO.	SHEET NO.
B-4415	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



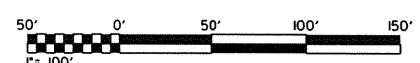
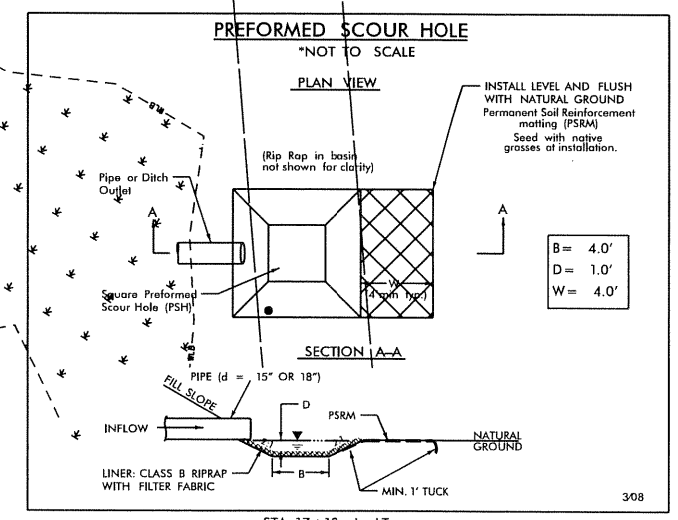
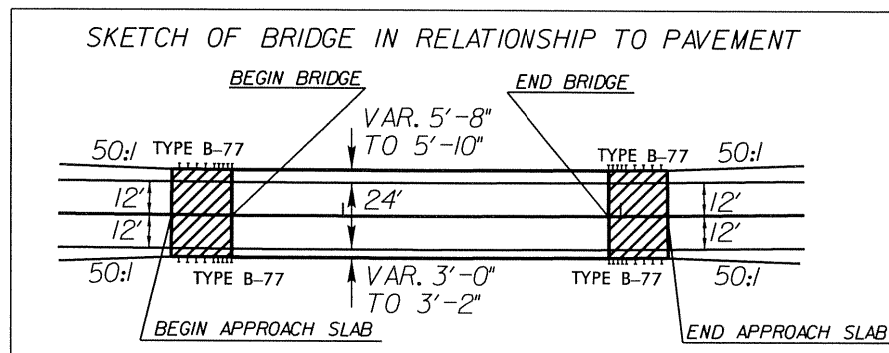
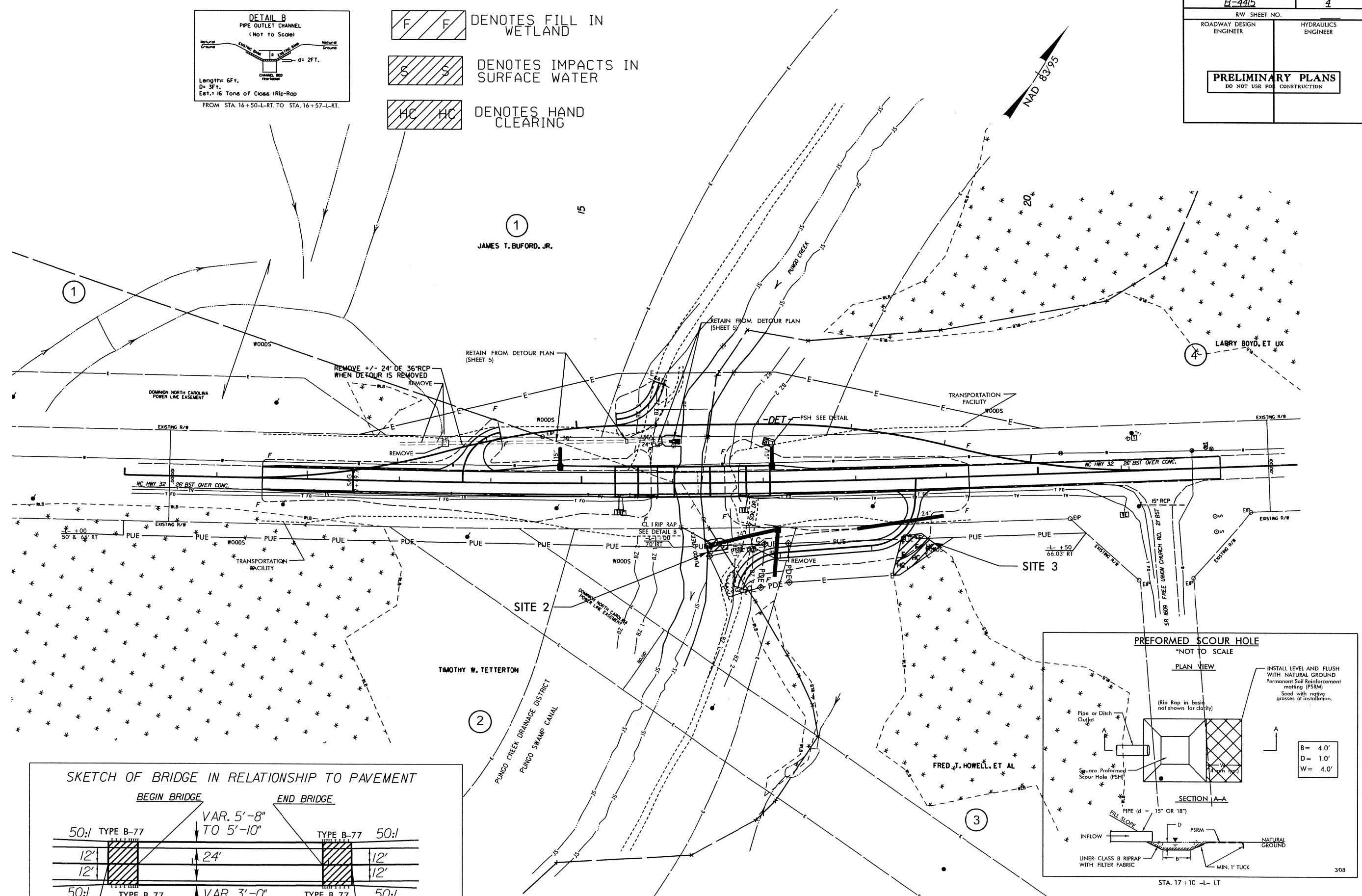
DENOTES FILL IN WETLAND



DENOTES IMPACTS IN SURFACE WATER



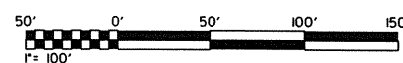
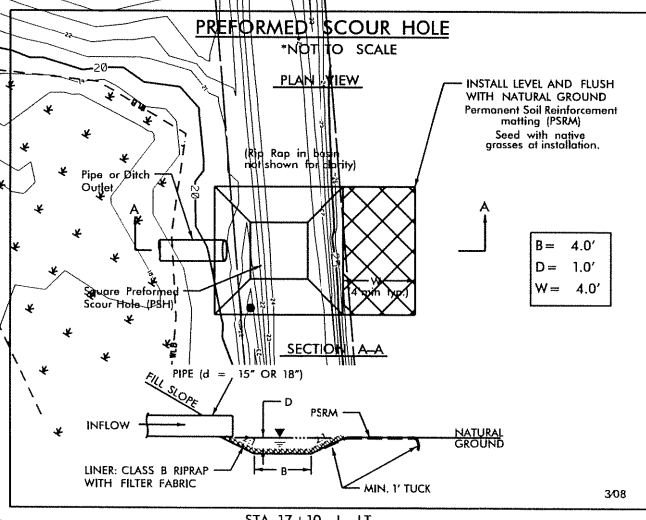
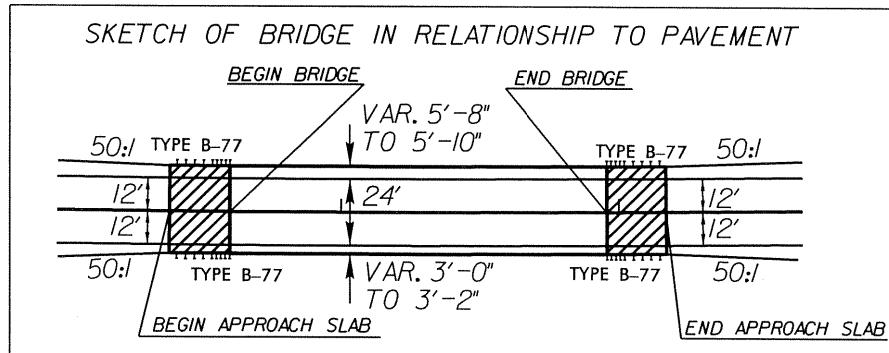
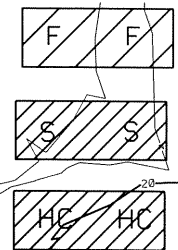
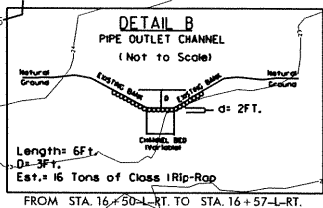
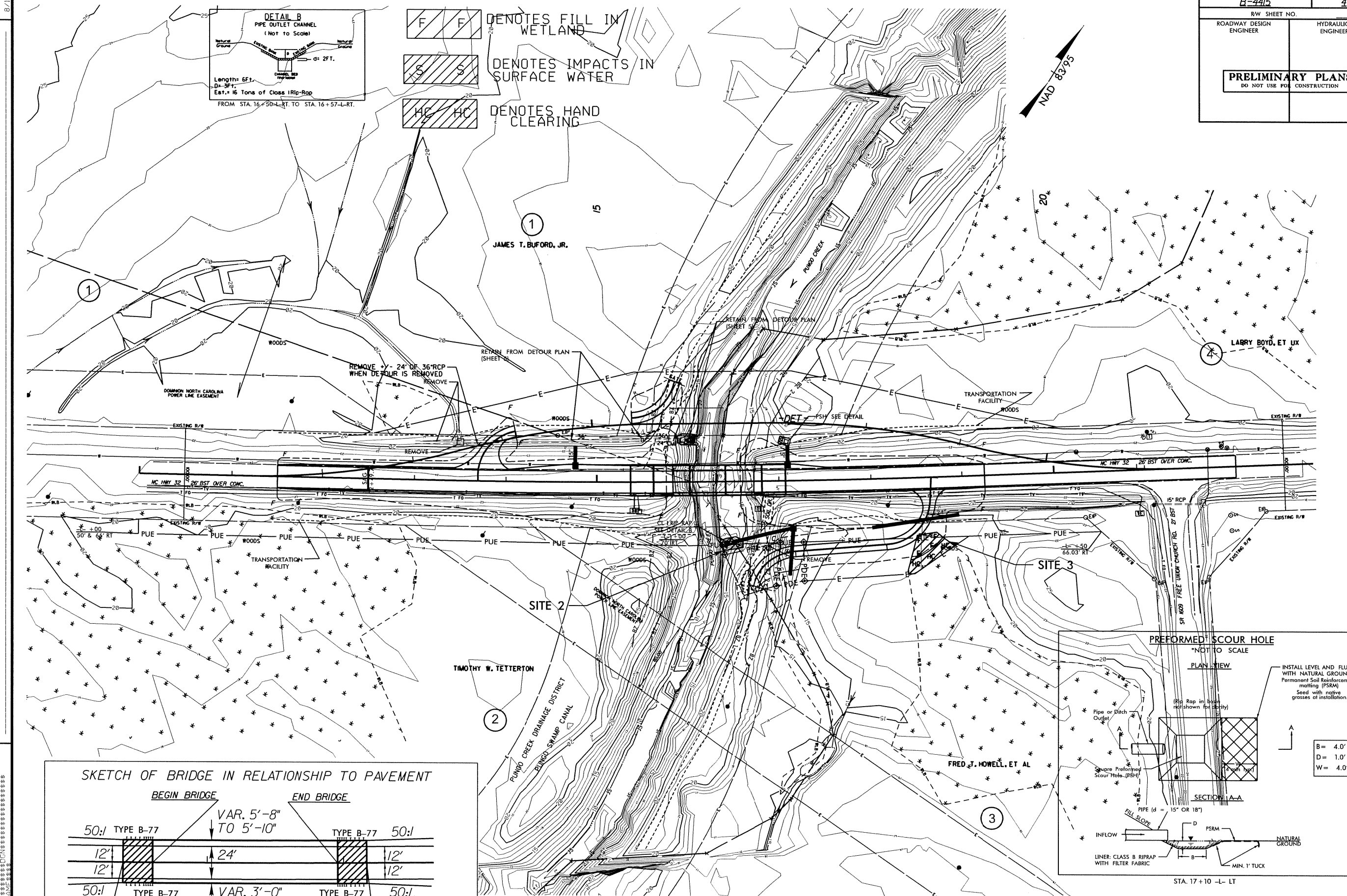
DENOTES HAND CLEARING



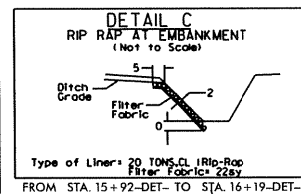
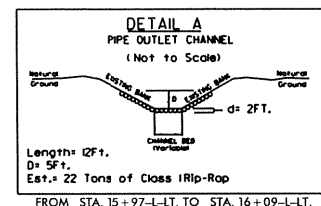
SBG: SHOULDER BERM GUTTER
SBG -L- STA. 14+69 TO -L- STA. 15+62 LT.
SBG -L- STA. 16+82 TO -L- STA. 17+15 LT.

PROJECT REFERENCE NO.	SHEET NO.
B-4415	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

8/17/95



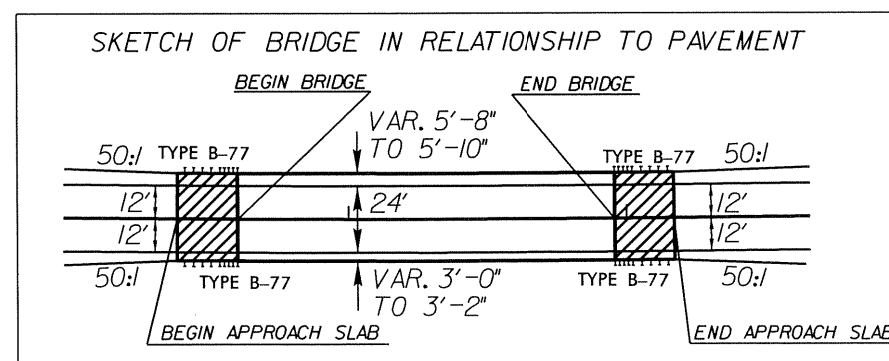
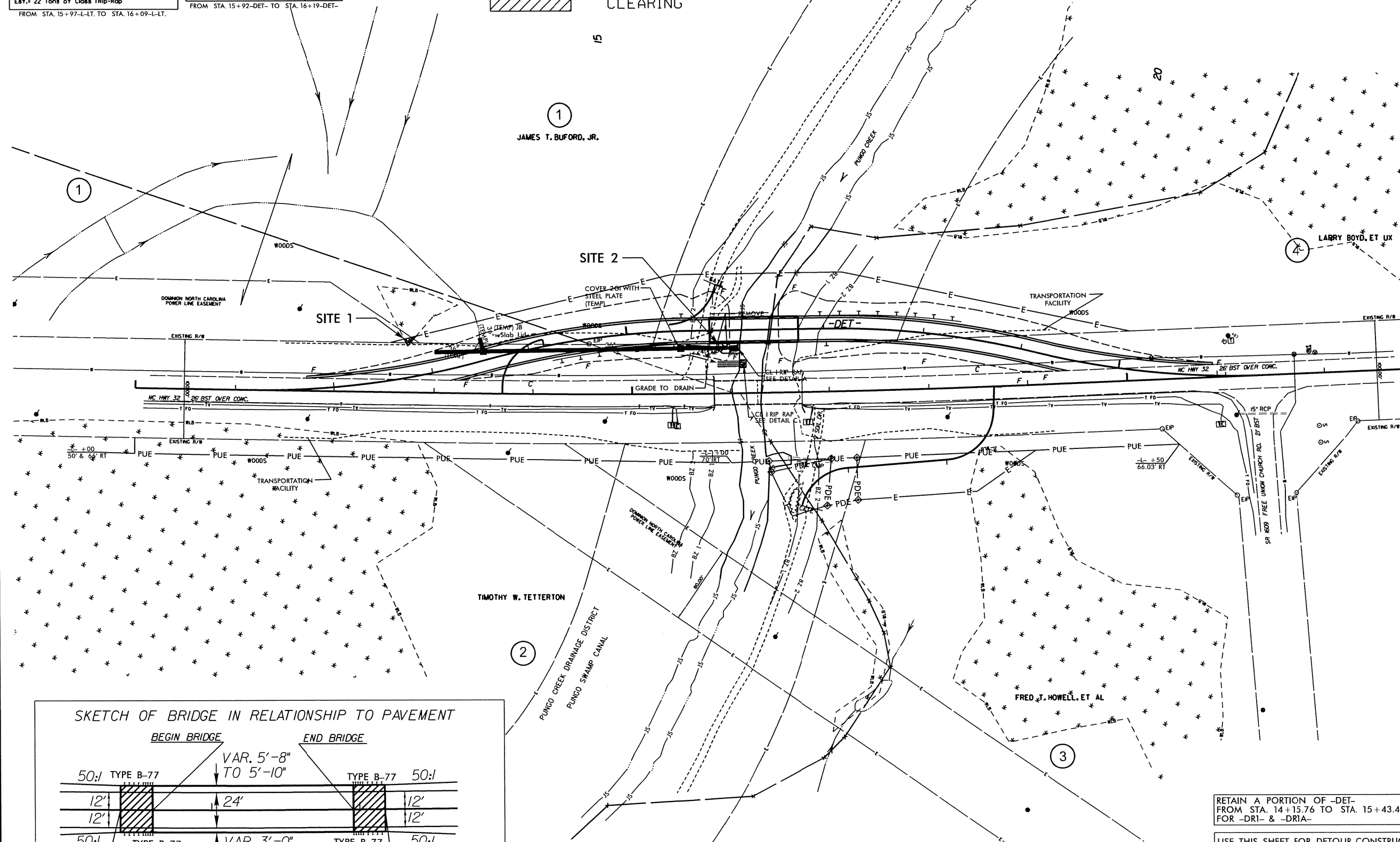
SBG: SHOULDER BERM GUTTER
SBG -L- STA. 14+69 TO -L- STA. 15+62 LT.
SBG -L- STA. 16+82 TO -L- STA. 17+15 LT.



 DENOTES FILL IN WETLAND

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES HAND CLEARING



RETAIN A PORTION OF -DET-
FROM STA. 14+15.76 TO STA. 15+43.40
FOR -DR1- & -DR1A-

USE THIS SHEET FOR DETOUR CONSTRUCTION ONLY
FOR -L- PLAN VIEW SEE SHEET 4

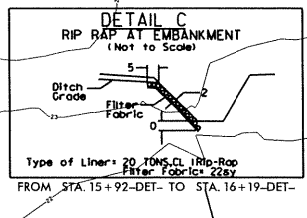
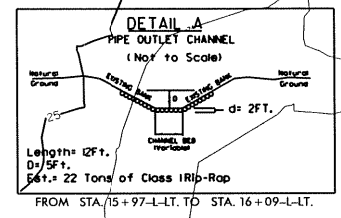
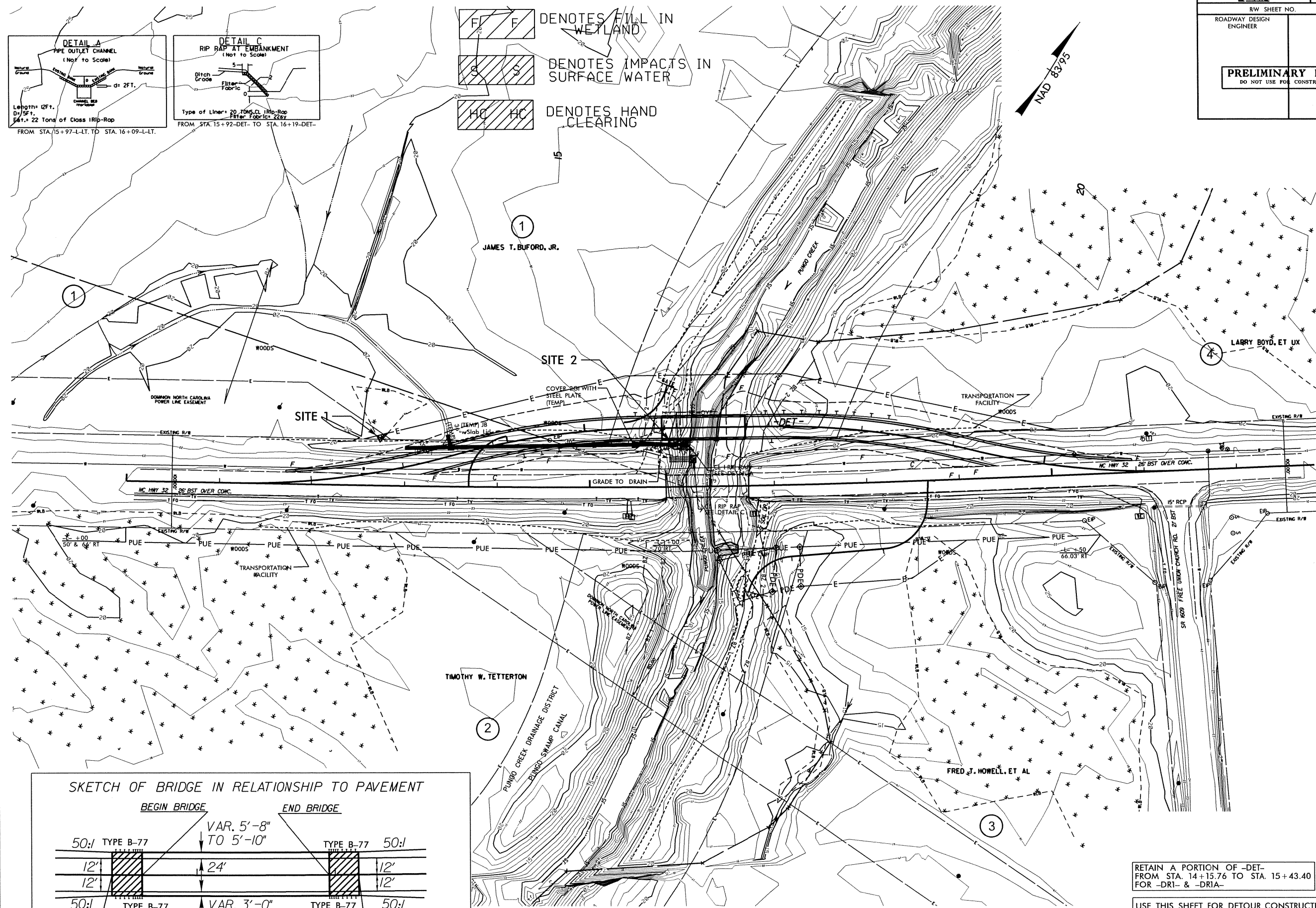
SBG: SHOULDER BERM GUTTER

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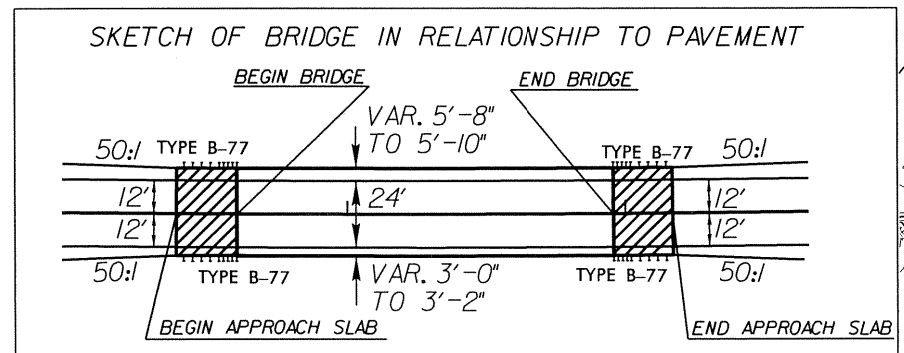
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-4415	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

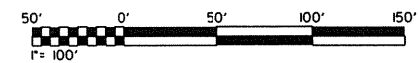


- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES HAND CLEARING



RETAIN A PORTION OF -DET- FROM STA. 14+15.76 TO STA. 15+43.40 FOR -DRI- & -DRIA-

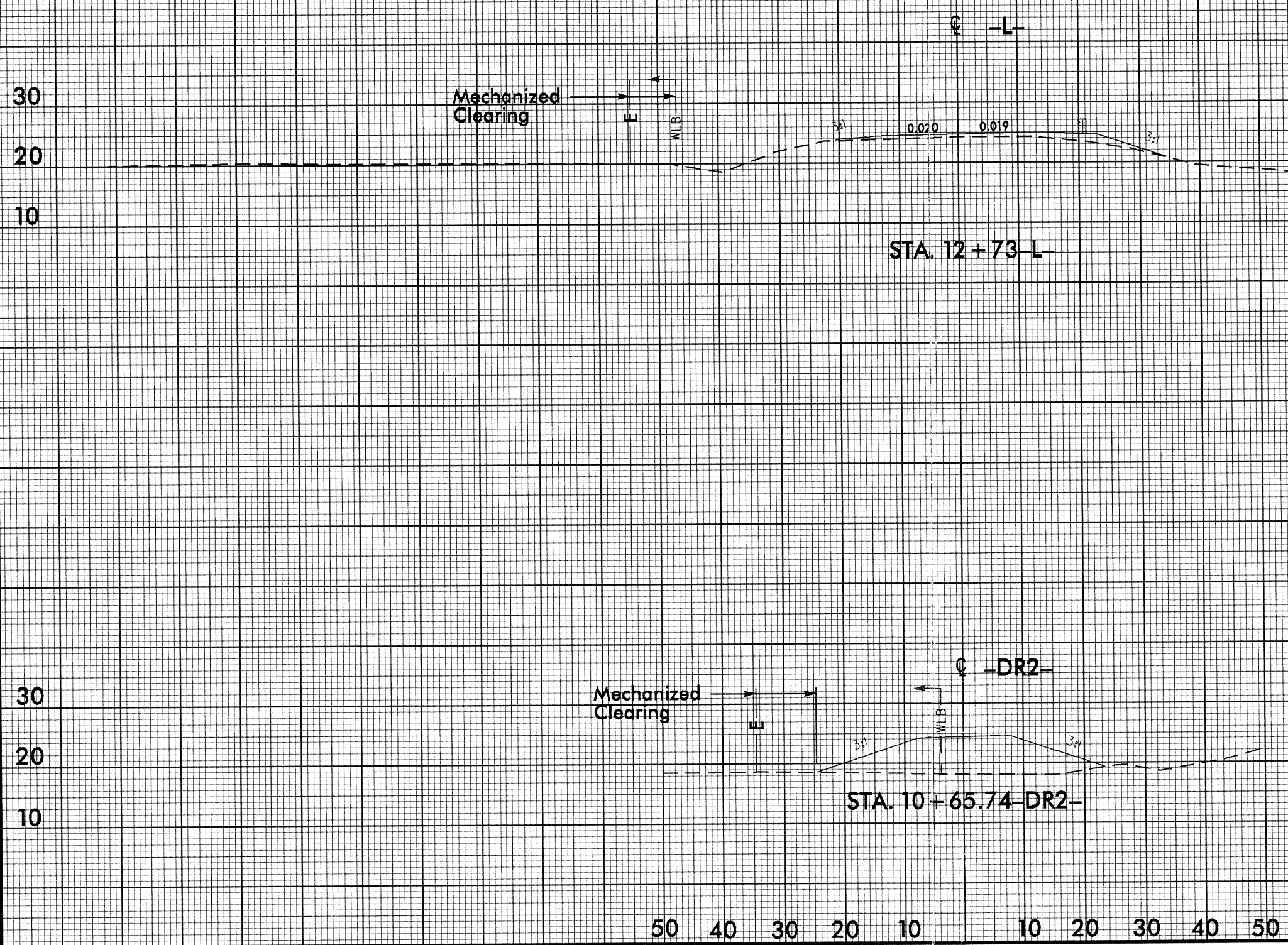
USE THIS SHEET FOR DETOUR CONSTRUCTION ONLY FOR -L- PLAN VIEW SEE SHEET 4



SBG: SHOULDER BERM, GUTTER
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SBG -L- STA. 16+82 TO -L- STA. 17+15 LT.

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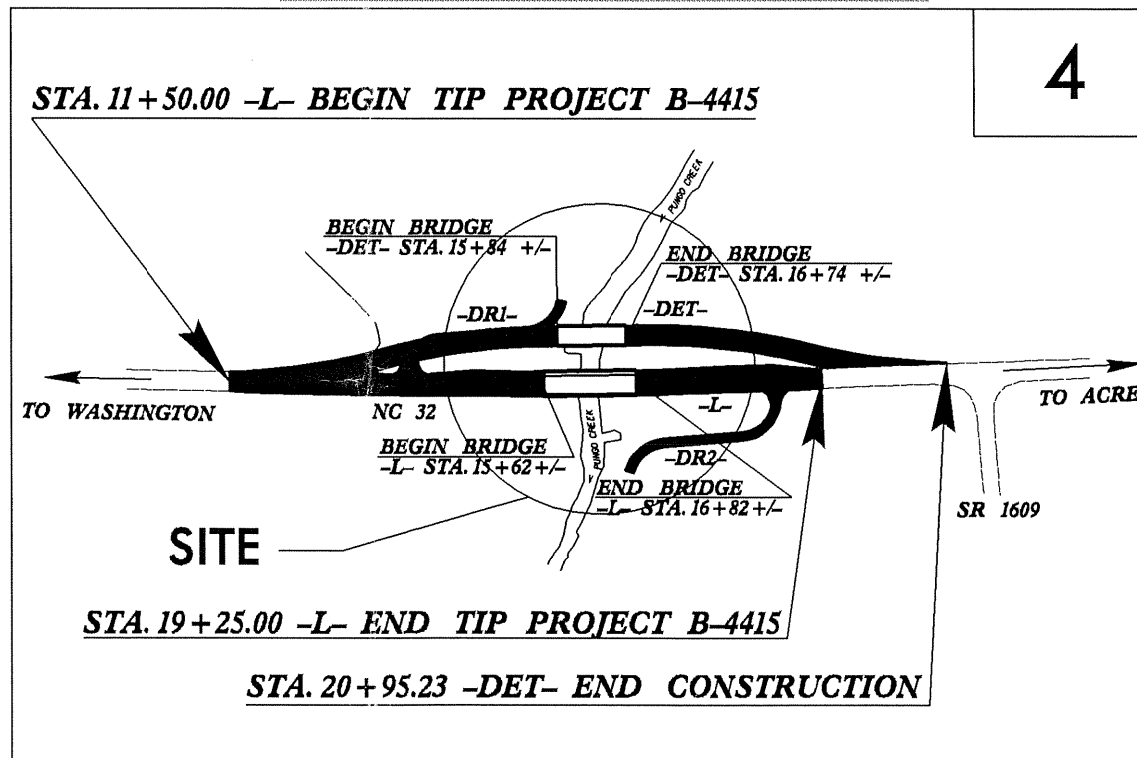
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mkelly AT HY244564

CONTRACT:

TIP PROJECT: B-4415



**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**



**Buffer Drawing
Sheet 1 of 8 P.E.**

STATE HIGHWAY DESIGN ENGINEER

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
	3@40' CORED SLAB	16+31 to 16+82-L-		X		3438	1034.0	4472.0					
	ROAD	16+82 to 16+88-L-	X			0.0	148.0	148.0					
	MAINTENANCE ACCESS	15+86 to 16+40 -L-LT	X			1465.0	1413.0	2878.0					
		16+40 to 16+88 -L-RT											
	ROAD (DET)	15+65 to 15+84-DET-	X			1019.0	2407.0	3426.0					
		16+74 to 17+36-DET-											
	DETOUR BRIDGE	15+84-to 16+74-DET-		X		2935.0	142.0	3077.0					
TOTAL:						8857.0	5144.0	14001.0	0.0	0.0	0.0		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

BEAUFORT COUNTY
PROJECT: 33691.1.1 (B-4415)

1/18/2011 REV
SHEET OF

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	JAMES T. BUFORD, JR.	9328 BRENTWOOD DR. MECHANICSVILLE, VA. 23116
2	TIMOTHY W. TETTERTON	5242 N. BOYD RD. PINETOWN, N.C. 27865
3	FRED T. HOWELL	16905 NC 32 NORTH PINETOWN, N.C. 27865
4	LARRY BOYD	837 BEAVERDAM RD. PINETOWN, N.C. 27863

NCDOT

DIVISION OF HIGHWAYS

BEAUFORT COUNTY

PROJECT: 33691.1.1 (B-4415)

**REPLACEMENT OF BRIDGE #21 ON
NC 32 OVER PUNGO CREEK / ACRE
SWAMP**

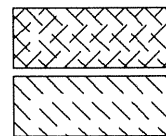
SHEET OF 10 / 09

Buffer Drawing
Sheet 3 of 8

8/17/99

5/21/2011

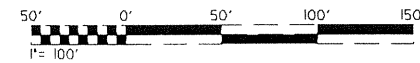
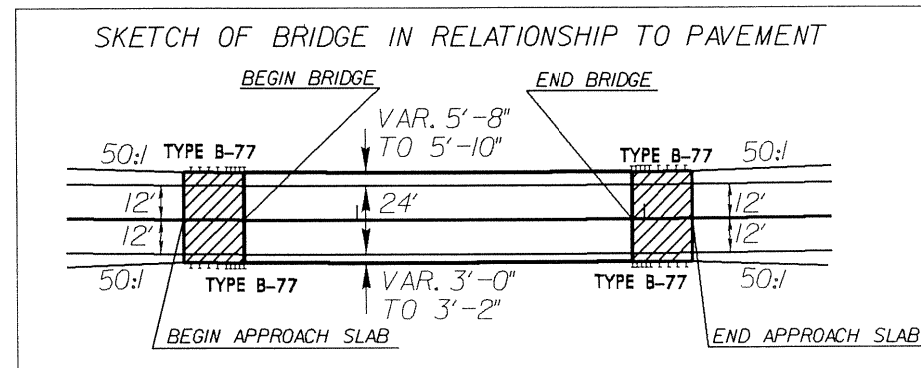
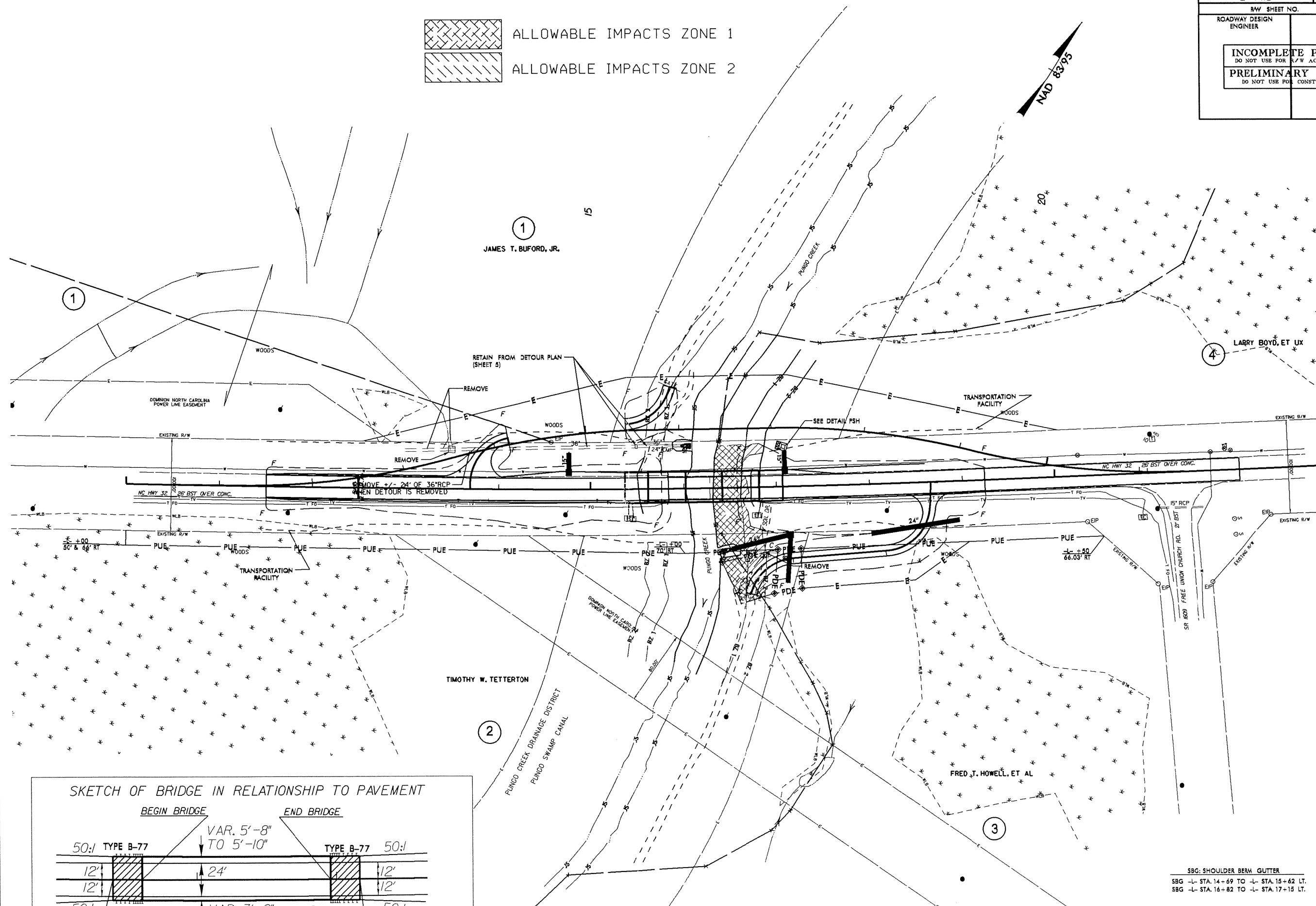
REVISIONS



ALLOWABLE IMPACTS ZONE 1

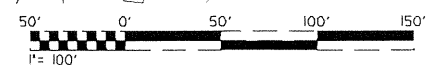
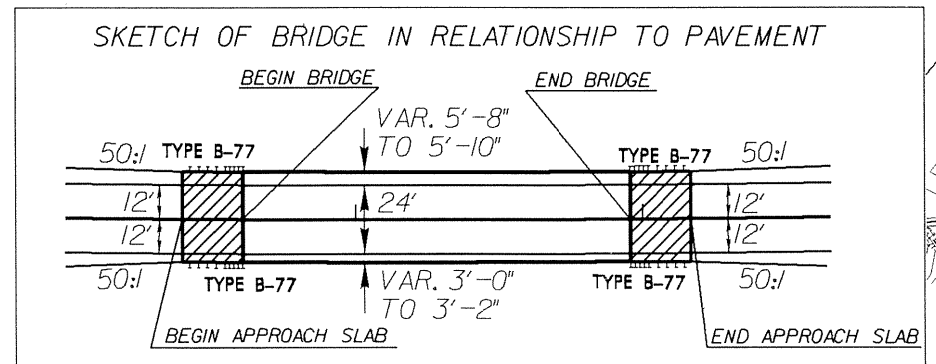
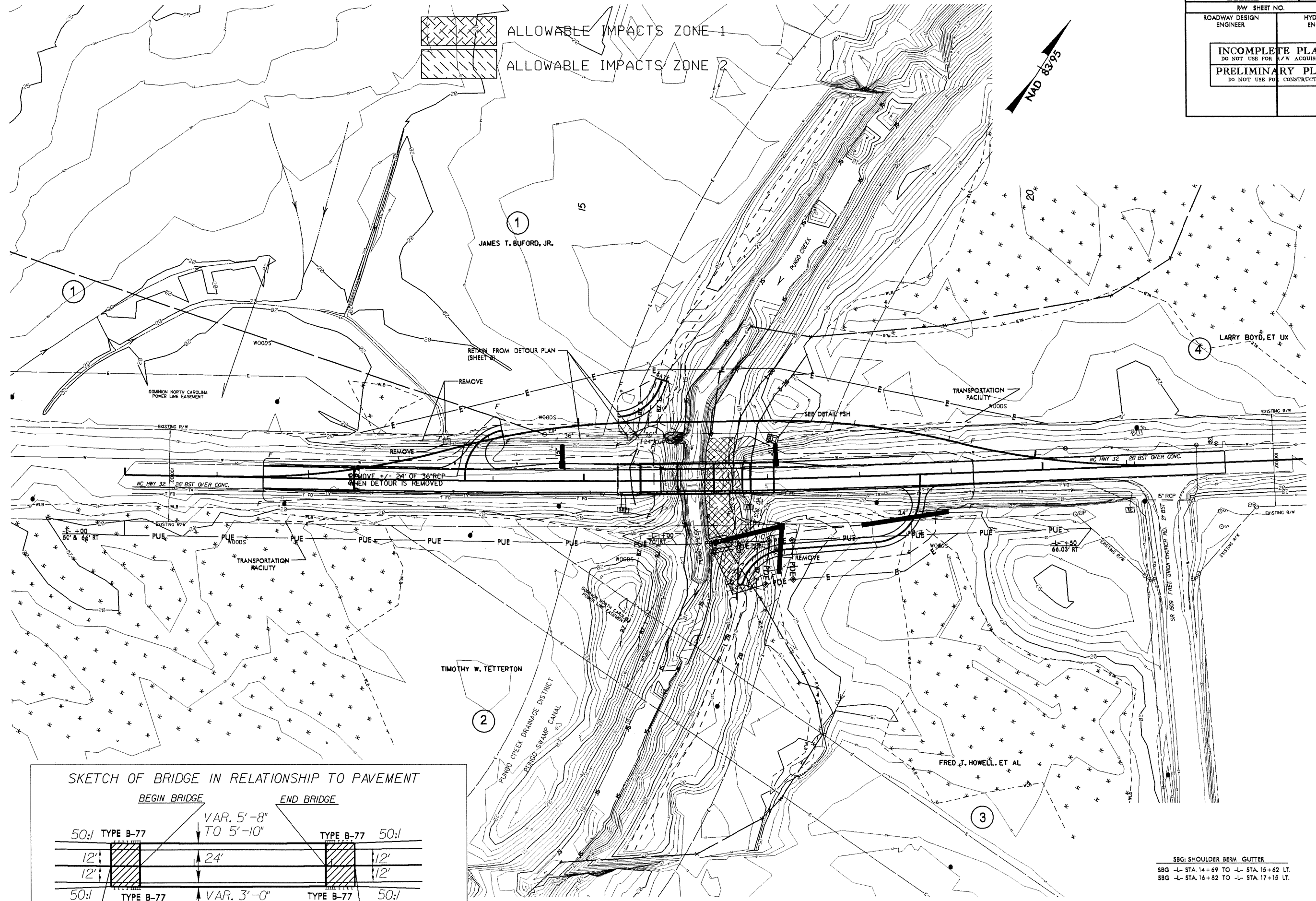
ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO. B-4415	SHEET NO. 4
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



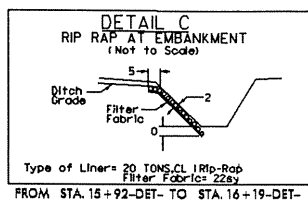
SBG: SHOULDER BERM GUTTER
SBG -L- STA. 14+69 TO -L- STA. 15+42 LT.
SBG -L- STA. 16+82 TO -L- STA. 17+15 LT.

PROJECT REFERENCE NO.	SHEET NO.
B-4415	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

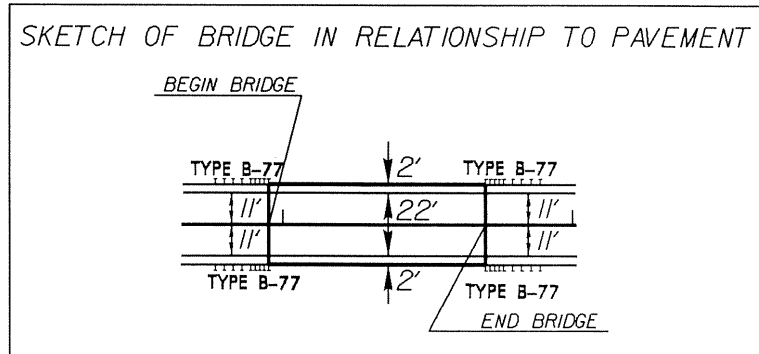
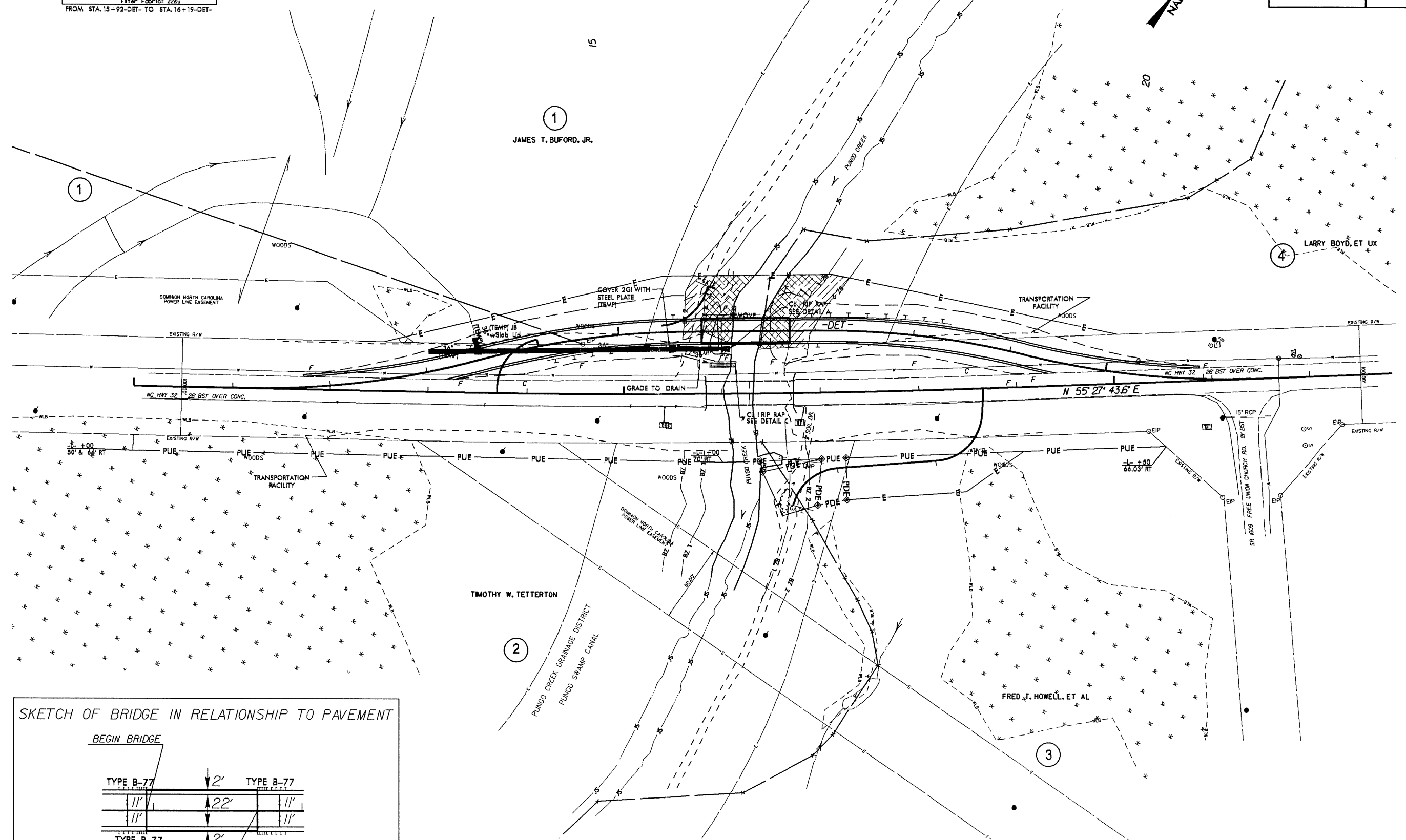


SBG: SHOULDER BERM GUTTER
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 SBG -L- STA. 16+82 TO -L- STA. 17+15 LT.

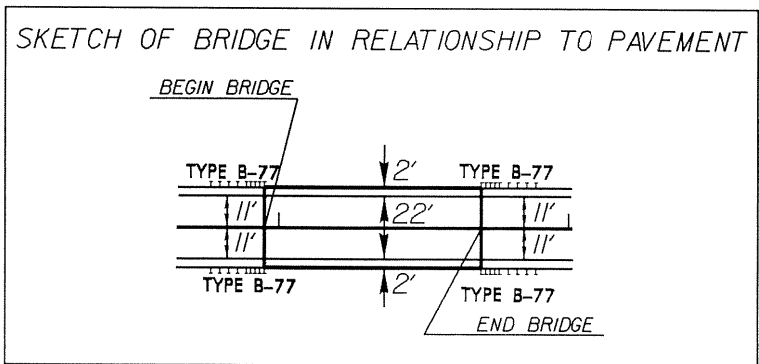
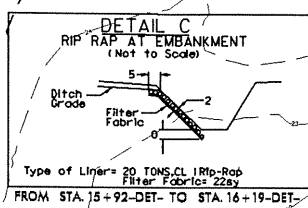
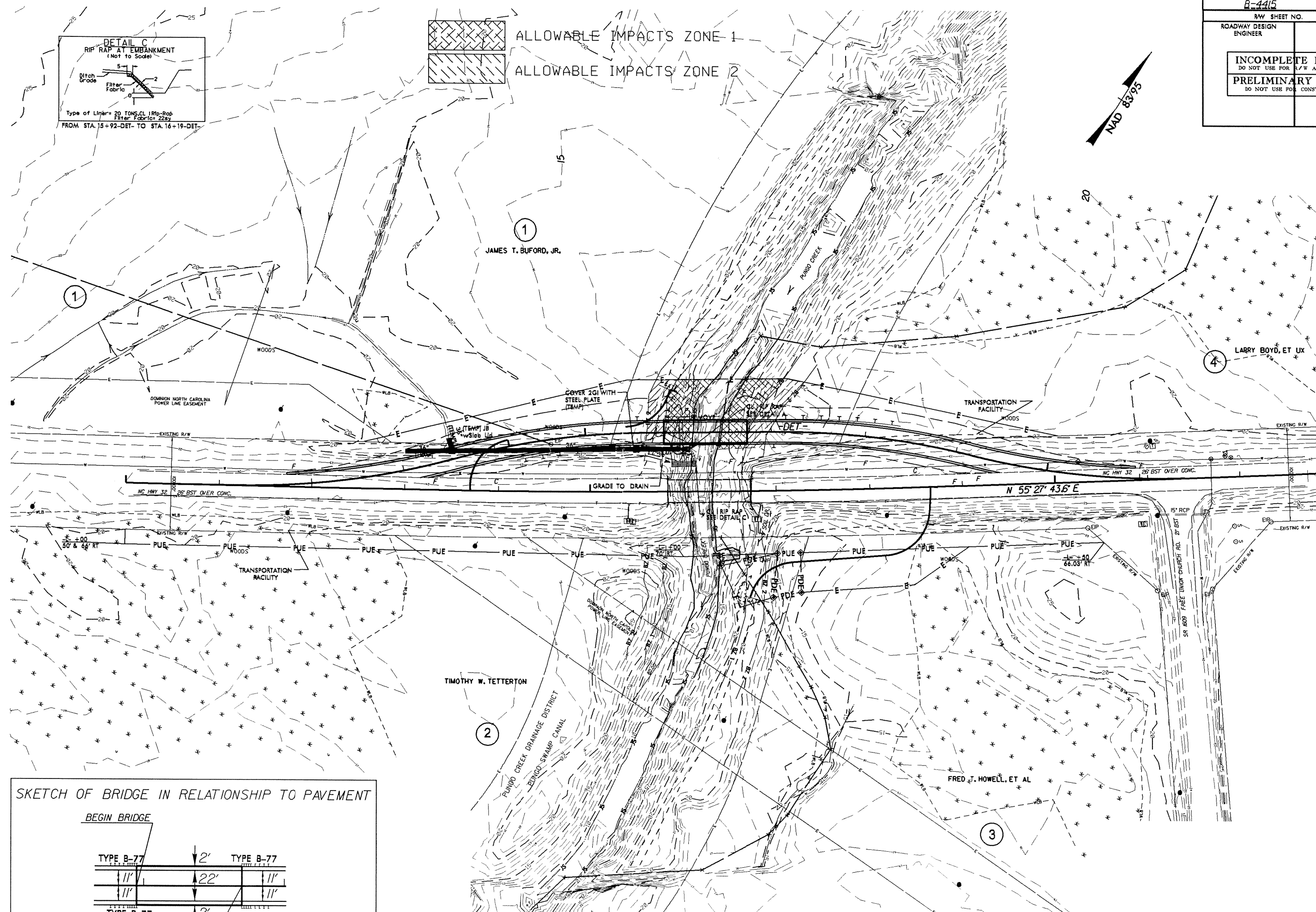
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 REVISIONS
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ALLOWABLE IMPACTS ZONE 1
 ALLOWABLE IMPACTS ZONE 2



PROJECT REFERENCE NO.		SHEET NO.	
B-4415		5	
RAW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

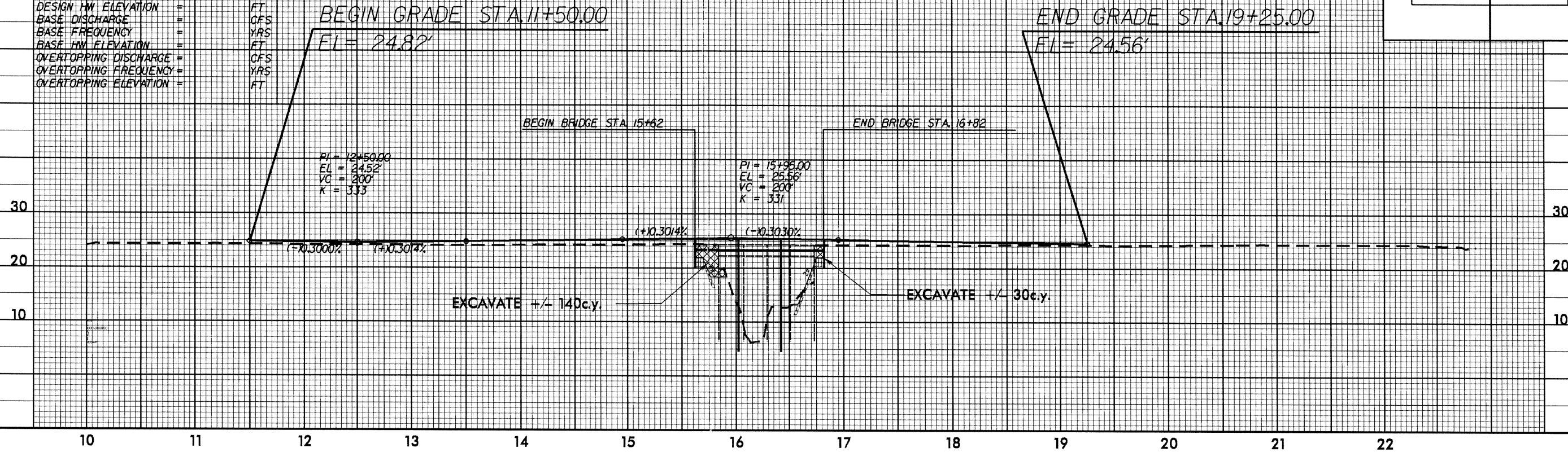


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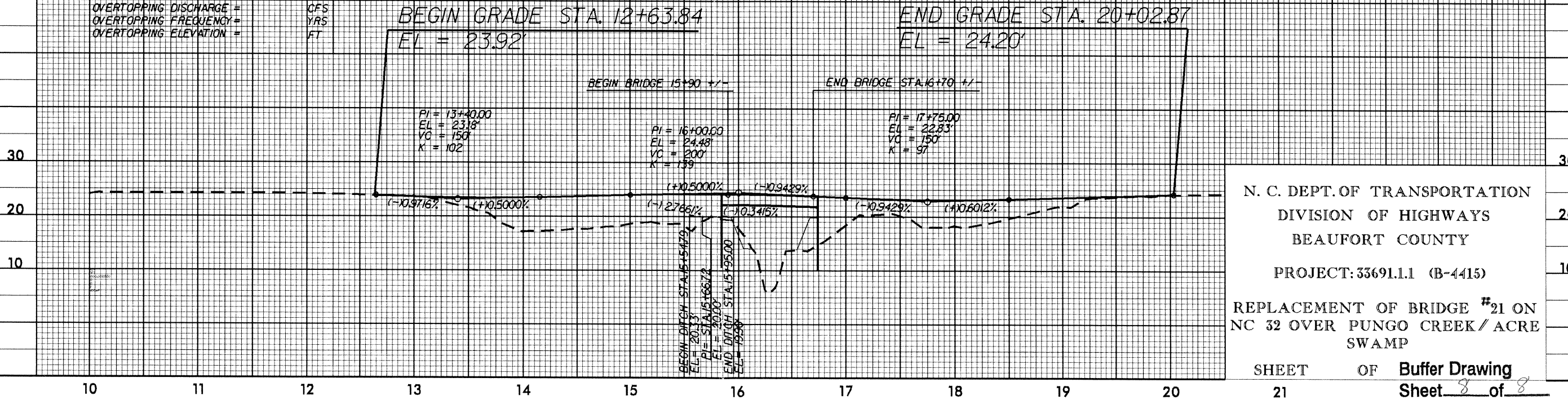
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

STRUCTURE HYDRAULIC DATA		
DESIGN DISCHARGE	=	CFS
DESIGN FREQUENCY	=	YRS
DESIGN HW ELEVATION	=	FT
BASE DISCHARGE	=	CFS
BASE FREQUENCY	=	YRS
BASE HW ELEVATION	=	FT
OVERTOPPING DISCHARGE	=	CFS
OVERTOPPING FREQUENCY	=	YRS
OVERTOPPING ELEVATION	=	FT



—DET—

STRUCTURE HYDRAULIC DATA		
DESIGN DISCHARGE	=	CFS
DESIGN FREQUENCY	=	YRS
DESIGN HW ELEVATION	=	FT
BASE DISCHARGE	=	CFS
BASE FREQUENCY	=	YRS
BASE HW ELEVATION	=	FT
OVERTOPPING DISCHARGE	=	CFS
OVERTOPPING FREQUENCY	=	YRS
OVERTOPPING ELEVATION	=	FT



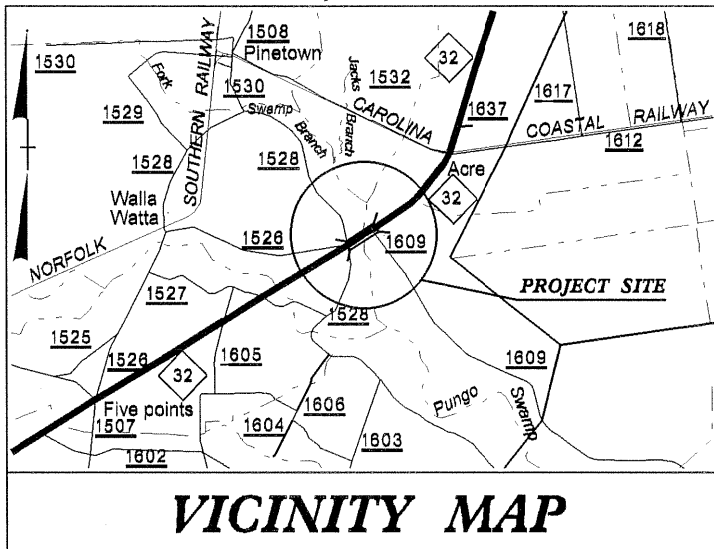
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BEAUFORT COUNTY
PROJECT: 33691.1.1 (B-4415)
REPLACEMENT OF BRIDGE #21 ON
NC 32 OVER PUNGO CREEK / ACRE
SWAMP
SHEET OF Buffer Drawing
Sheet 8 of 8

TIP PROJECT: B-4415

23-DEC-2010 16:00
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BEEUSERNAME\$\$\$\$

CONTRACT:

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



12/23/10

B-4415 Beaufort County Bridge Project Utility Impacts

Utilities impacting environmental features on this project consist of the relocations of overhead power lines to the south side of the proposed bridge, relocation of the existing 12" diameter water line to the north side of the proposed bridge, and the relocation of an underground telephone line on the south side of the bridge. The proposed water line will be installed by directional bore (HDPE pipe), and the overhead power lines will be installed on poles outside the existing right-of-way in a permanent utility easement. The underground telephone will be a 1.25" conduit and installed by directional bore. Environmental impacts are the aerial crossing across Pungo Creek which will require some hand clearing in the buffer zones. There are no other utility impacts on this project.

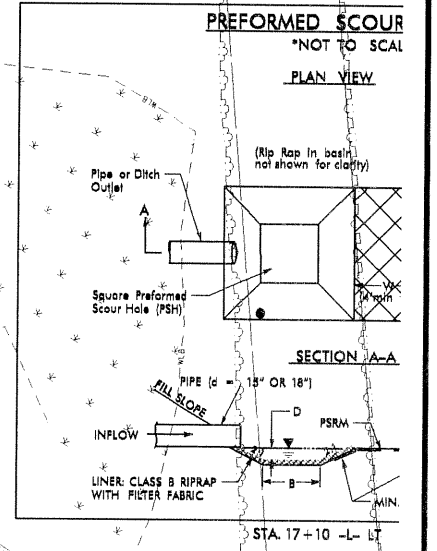
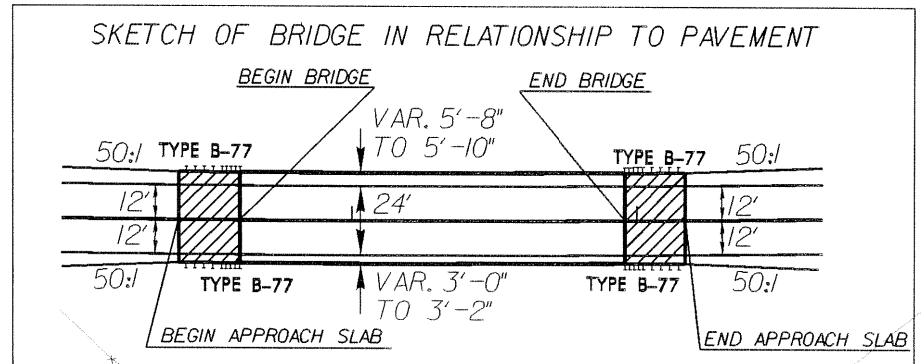
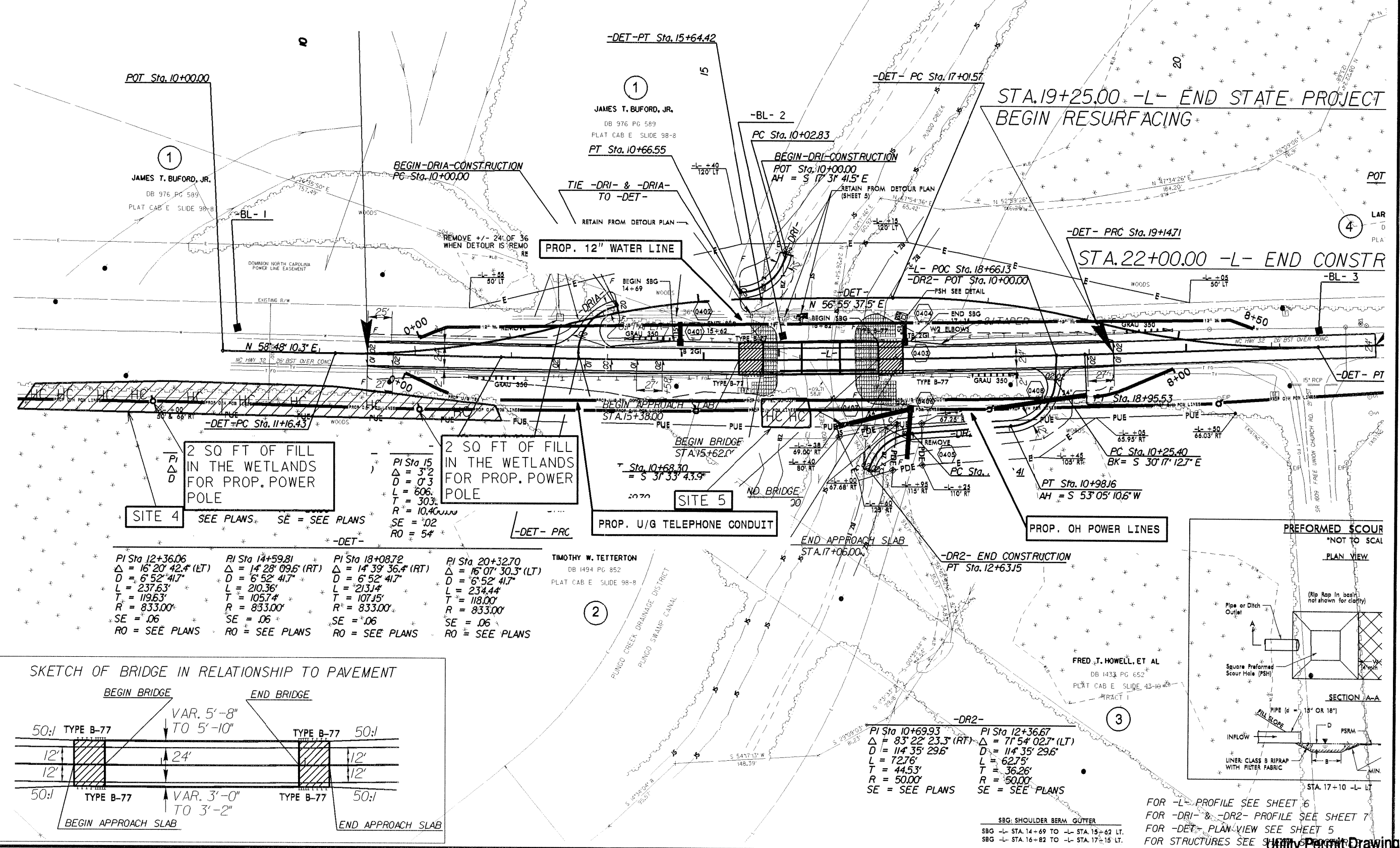
UTILITIES WETLAND AND BUFFER PERMIT IMPACT SUMMARY												
			WETLAND AND BUFFER IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Hand Clearing in Buffers (ac)	Hand Clearing 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)
4	OUTSIDE LIMITS		0.0002				0.32					
	STA. 12+94-L- RT											
5	STA. 15+60-L- RT					0.036						
	STA. 16+10-L- RT											
TOTALS:			0.0002			0.036	0.32					

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

HC HC DENOTES HAND CLEARING

BEGIN STATE PROJECT B-4415



FOR -L- PROFILE SEE SHEET 6

FOR -DRI- & -DR2- PROFILE SEE SHEET 7

FOR -DET- PLAN VIEW SEE SHEET 5

FOR STRUCTURES SEE SHEET 4

SBG: SHOULDER BERM GUTTER

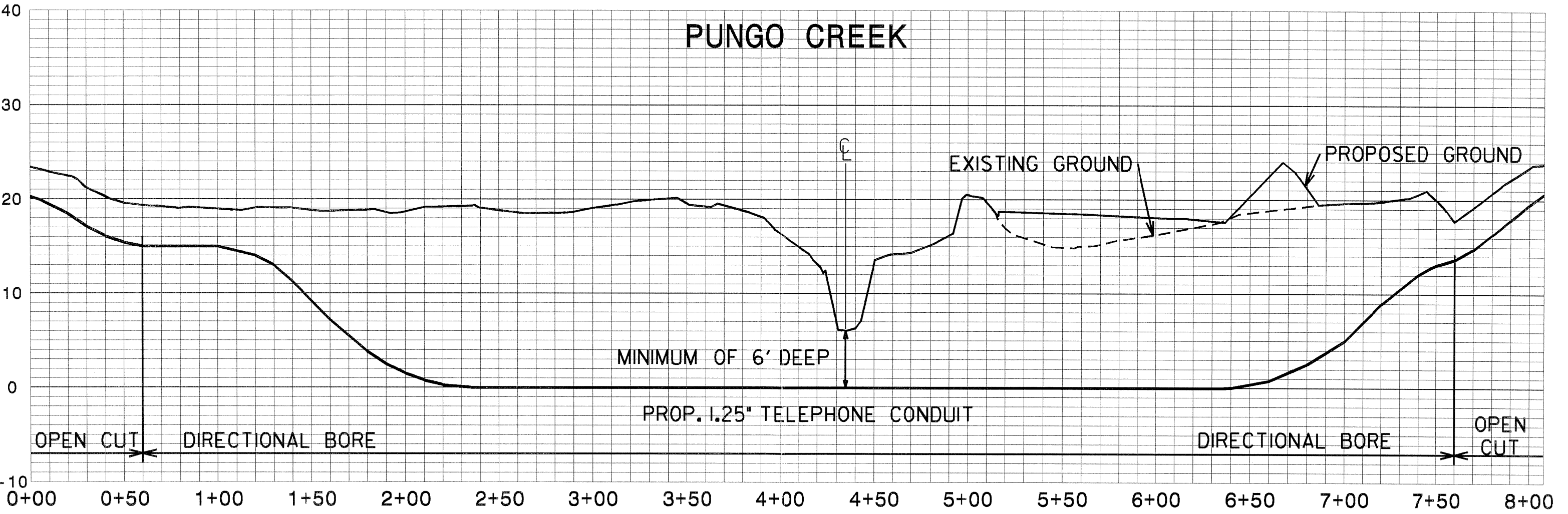
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SBG -L- STA. 16+82 TO -L- STA. 17+15 LT.

REVISIONS

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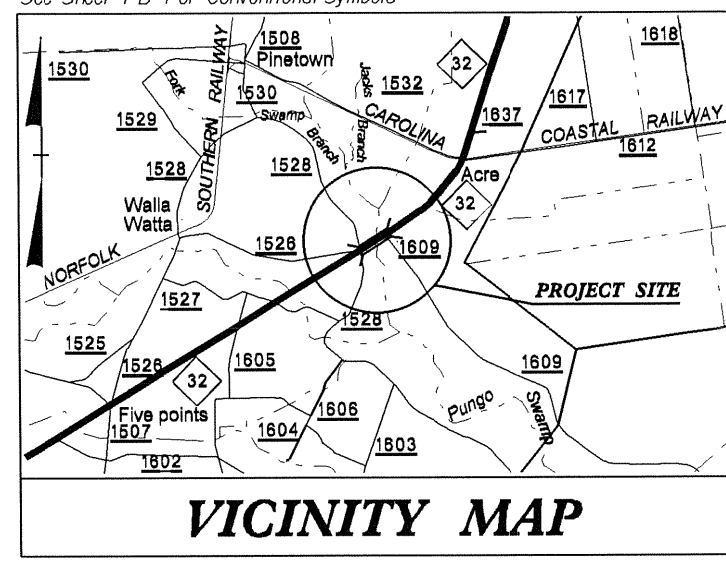
B-4415 BEAUFORT COUNTY UC-4



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CONTRACT: TIP PROJECT: B-4415

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

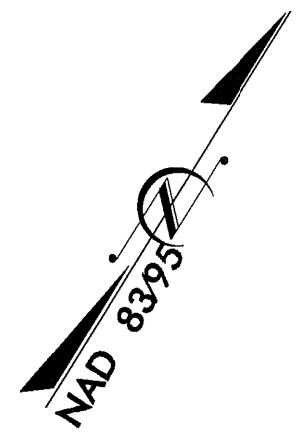
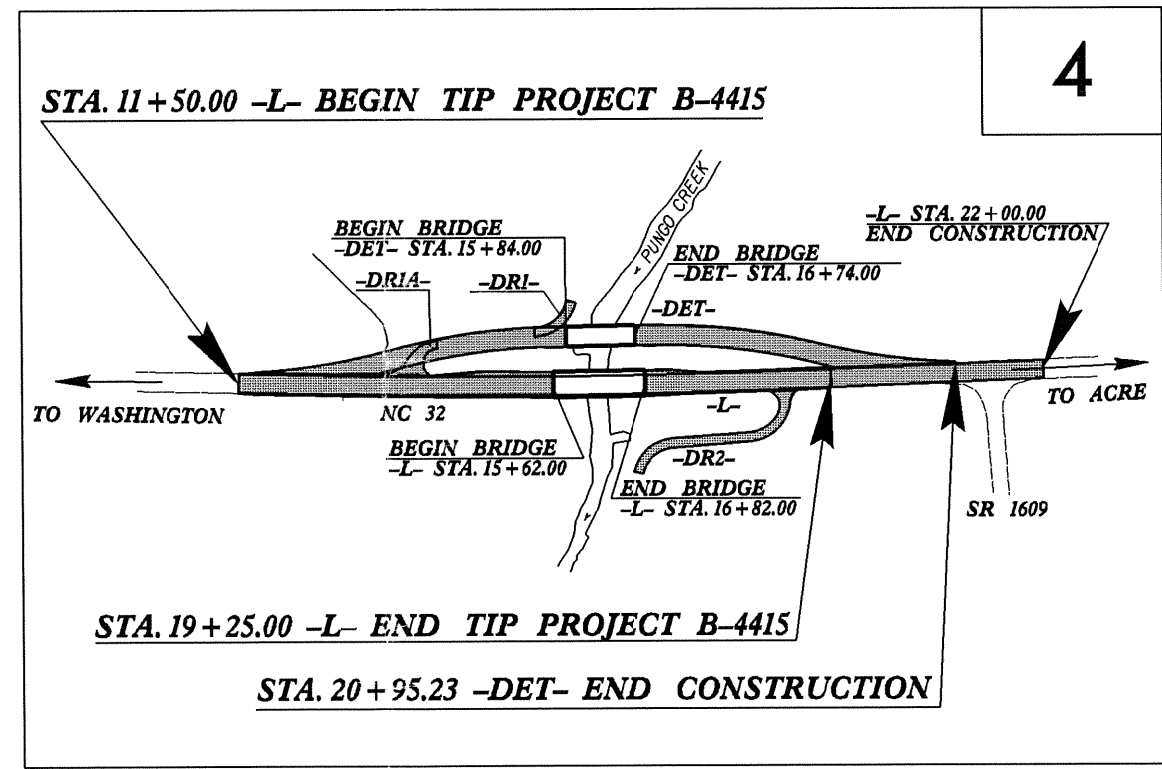


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
BEAUFORT COUNTY

LOCATION: BRIDGE NO. 21 OVER PUNGO CREEK ON NC 32

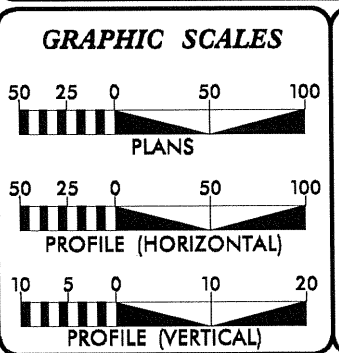
TYPE OF WORK: GRADING, DRAINAGE, GUARDRAIL, PAVING,
AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4415	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33691.1.1	BRSTP-32(5)	P.E.	
33691.2.1	BRSTP-32(5)	ROW, UTIL.	



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA	
ADT 2010	= 3,869
ADT 2030	= 6,100
DHV	= 10 %
D	= 60 %
T	= 4 % *
V	= 60 MPH
V (DETOUR)	= 50 MPH
FUNC CLASS	= RURAL MAJOR COLLECTOR
REGIONAL TIER	
* (TTST 1% + DUAL 3%)	

PROJECT LENGTH	
LENGTH OF ROADWAY TIP PROJECT B-4415	= 0.124 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4415	= 0.023 MILES
TOTAL LENGTH OF TIP PROJECT B-4415	= 0.147 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 19, 2010

LETTING DATE:
NOVEMBER 15, 2011

BRENDA MOORE, P.E.
PROJECT ENGINEER

THAD F. DUNCAN, P.E.
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

Note: Not to Scale***S.U.E. = Subsurface Utility Engineering**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYSPROJECT REFERENCE NO.
B-4415
SHEET NO.
1-B

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙
Property Corner	⊙
Property Monument	⊙
Parcel/Sequence Number	②3
Existing Fence Line	---x---x---x---
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---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	⊙
Well	⊙
Small Mine	⊙
Foundation	⊙
Area Outline	⊙
Cemetery	⊙
Building	⊙
School	⊙
Church	⊙
Dam	⊙

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	-----
Existing Right of Way Marker	-----
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage /Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair Ramp	-----
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	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

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



-L- STA. 11+50.00 TO -L- STA. 15+62.00 (BEGIN BRIDGE)

-L- STA. 16+82.00 (END BRIDGE) TO -L- STA. 19+25.00



-DET- STA. 12+63.84 TO -DET- STA. 15+84.00 (BEGIN BRIDGE)

-DET- STA. 16+74.00 (END BRIDGE) TO -DET- STA. 20+02.87



USE GRASS ONLY

-DR1- STA. 10+00.00 TO -DR1- STA. 10+45.00

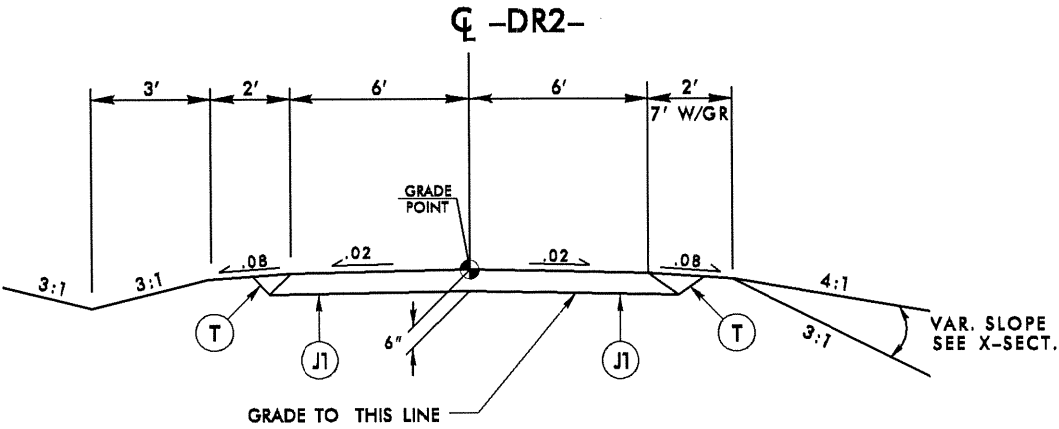
USE ABC

-DR1- STA. 10+45.00 TO -DR1- STA. 10+66.54

-DR1A- STA. 10+00.00 TO -DR1A- STA. 10+62.43

PROJECT REFERENCE NO.	SHEET NO.
B-4415	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3" S9.5B
J1	6" ABC
T	EARTH MATERIAL



TYPICAL SECTION NO. 4

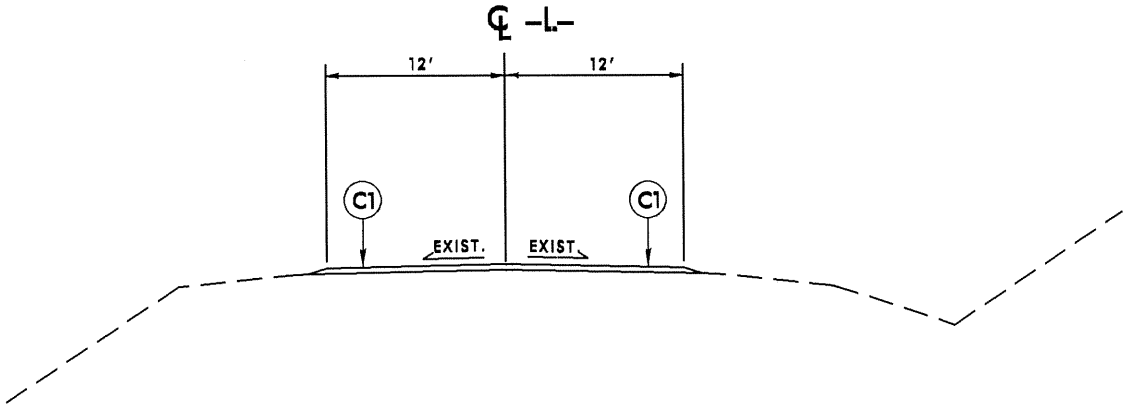
USE TYPICAL SECTION NO. 4

USE ABC

-DR2- STA. 10+12.03 TO -DR2- STA. 12+25.00

USE GRASS ONLY

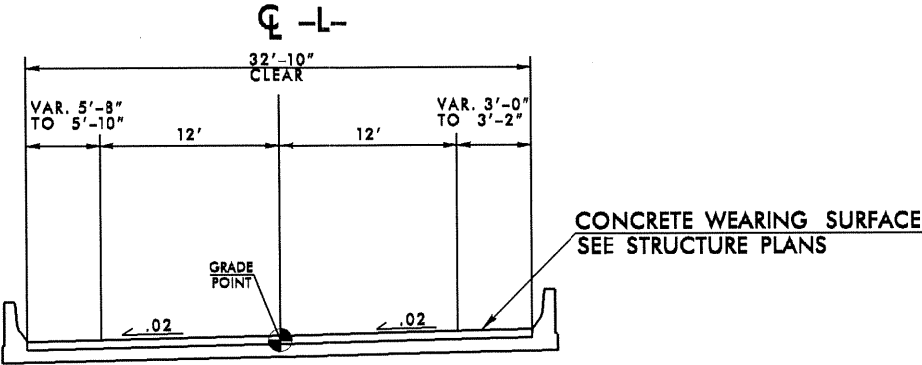
-DR2- STA. 12+25.00 TO -DR2- STA. 12+63.15



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

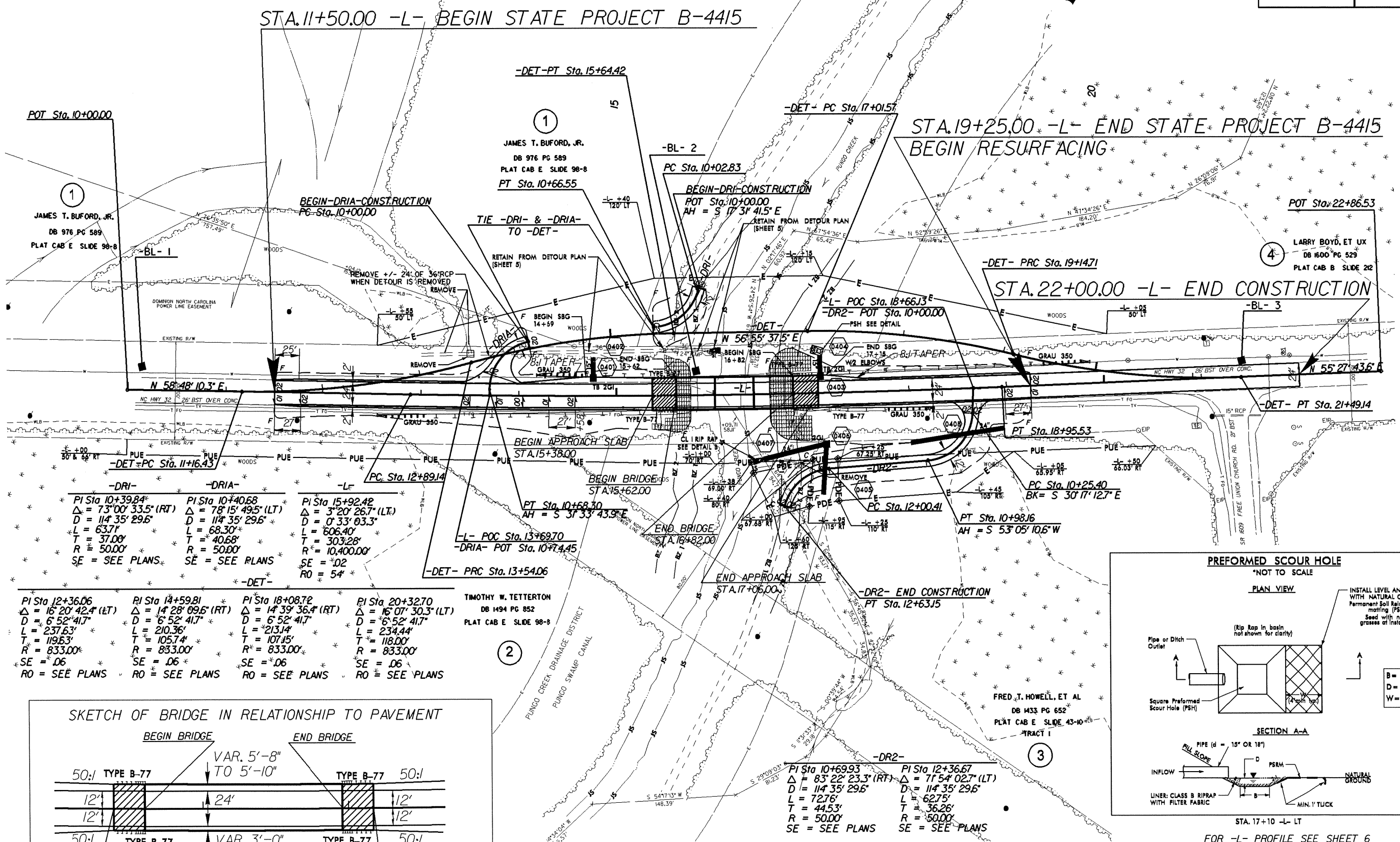
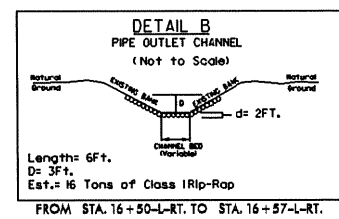
-L- STA. 19+25.00 TO -L- STA. 22+00.00



BRIDGE TYPICAL SECTION NO. 1

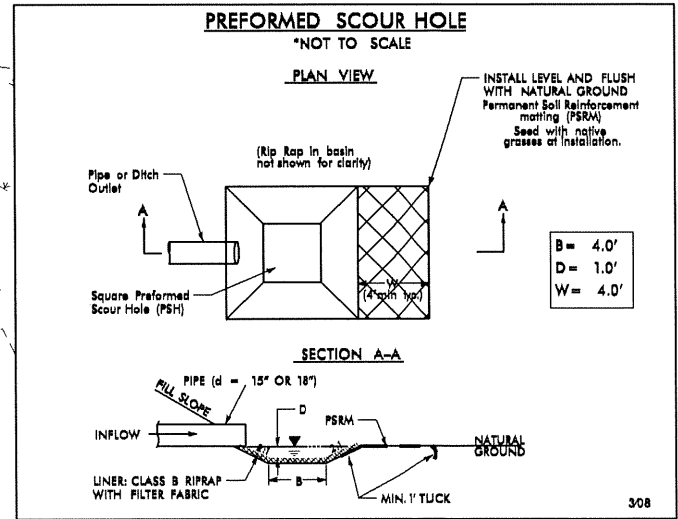
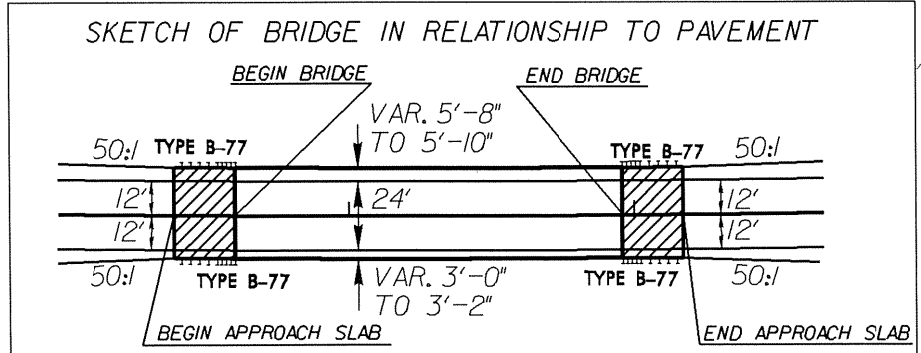
USE BRIDGE TYPICAL SECTION NO. 1

-L- STA. 15+62.00 TO -L- STA. 16+82.00



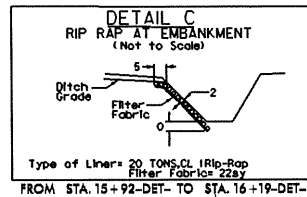
-DRI-	-DRIA-	-L-
PI Sta 10+39.84	PI Sta 10+40.68	PI Sta 15+92.42
Δ = 73°00'33.5" (RT)	Δ = 78°15'49.5" (LT)	Δ = 3°20'26.7" (LT)
D = 114°35'29.6"	D = 114°35'29.6"	D = 0°33'03.3"
L = 637.1'	L = 68.30'	L = 606.40'
T = 37.00'	T = 40.68'	T = 303.28'
R = 50.00'	R = 50.00'	R = 10,400.00'
SE = SEE PLANS	SE = SEE PLANS	SE = .02
RO = 54'		

-DET-	-DRI-	-DRIA-	-L-
PI Sta 12+36.06	PI Sta 14+59.81	PI Sta 18+08.72	PI Sta 20+32.70
Δ = 16°20'42.4" (LT)	Δ = 14°28'09.6" (RT)	Δ = 14°39'36.4" (RT)	Δ = 16°07'30.3" (LT)
D = 6°52'41.7"	D = 6°52'41.7"	D = 6°52'41.7"	D = 6°52'41.7"
L = 237.63'	L = 210.36'	L = 213.14'	L = 234.44'
T = 119.63'	T = 105.74'	T = 107.15'	T = 118.00'
R = 833.00'	R = 833.00'	R = 833.00'	R = 833.00'
SE = .06	SE = .06	SE = .06	SE = .06
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS



8/17/99
 REVISIONS
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 P:\Projects\B4415\B4415-rd-psh-4.dgn

FOR -L- PROFILE SEE SHEET 6
 FOR -DRI- & -DR2- PROFILE SEE SHEET 7
 FOR -DET- PLAN VIEW SEE SHEET 5
 FOR STRUCTURES SEE SHEET S10 SX



POT Sta. 10+00.00

PC Sta. 11+16.43

PRC Sta. 13+54.06

JAMES T. BUFORD, JR.
DB 976 PG 589
PLAT CAB E SLIDE 98-8

-BL- 2

PC Sta. 10+02.83

BEGIN-DRP-CONSTRUCTION

POT Sta. 10+00.00
AH = S 71° 31' 41.5" E

PC Sta. 17+01.57

PT Sta. 21+49.14

-1- POT Sta. 22+86.53*

LARRY BOYD, ET UX
DB 1600 PG 529
PLAT CAB B SLIDE 212

-L- POC Sta. 13+69.70
-DRIA- POT Sta. 10+74.45

TIMOTHY W. TETTERTON
DB 1494 PG 852
PLAT CAB E SLIDE 98-8

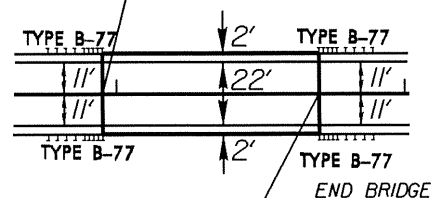
~~STA. 20+95.23 - DET - END CONSTRUCTION~~

-DR2-

PI Sta 10+69.93		PI Sta 12+36.67	
$\Delta = 83^\circ 22' 23.3''$ (RT)		$\Delta = 71^\circ 54' 02.7''$ (LT)	
$D = 114^\circ 35' 29.6''$		$D = 114^\circ 35' 29.6''$	
$L = 72.76'$		$L = 62.75'$	
$T = 44.53'$		$T = 36.26'$	
$R = 50.00'$		$R = 50.00'$	
SE = SEE PLANS		SE = SEE PLANS	

FRED T. HOWELL, ET AL
DB M33 PG 652
PLAT CAB E SLOE 43-10

BEGIN BRIDGE

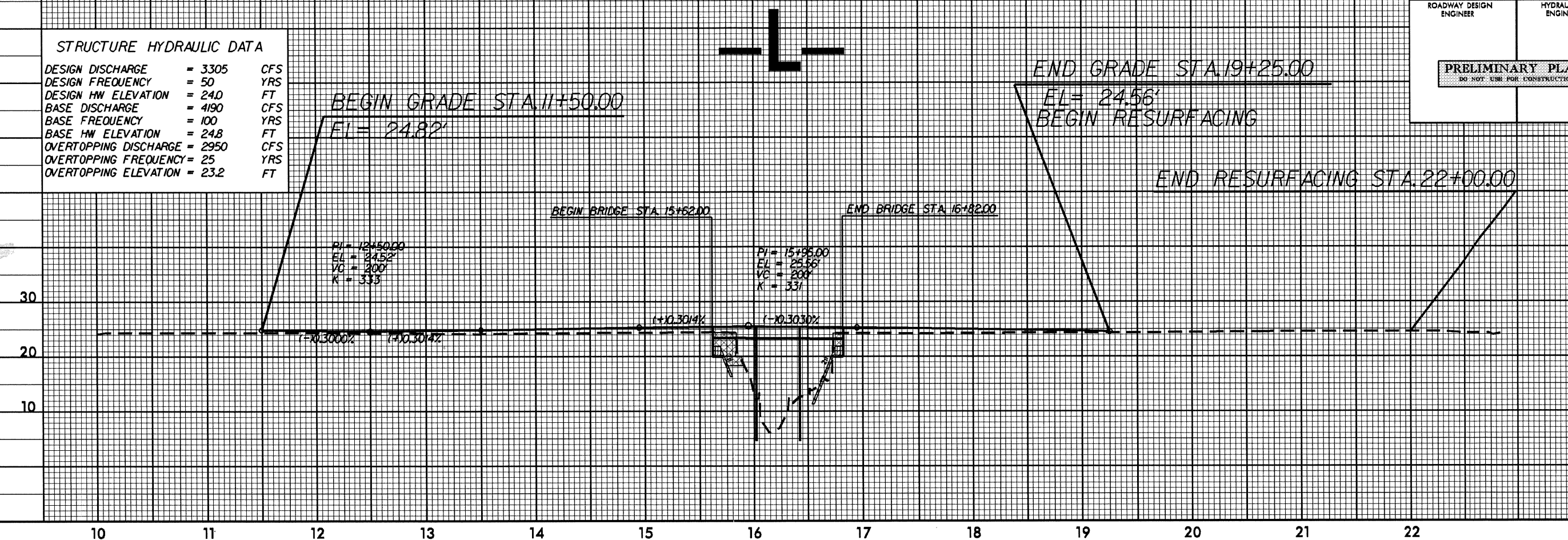


RETAIN A PORTION OF -DET-
FROM STA. 14+15.76 TO STA. 15+43.40
FOR -DR1- & -DR1A-

USE THIS SHEET FOR DETOUR CONSTRUCTION ONLY
 FOR -L- PLAN VIEW SEE SHEET 4
 FOR -DET- PROFILE SEE SHEET 6
 FOR -DET- STRUCTURES SEE SHEET 5 TO SX

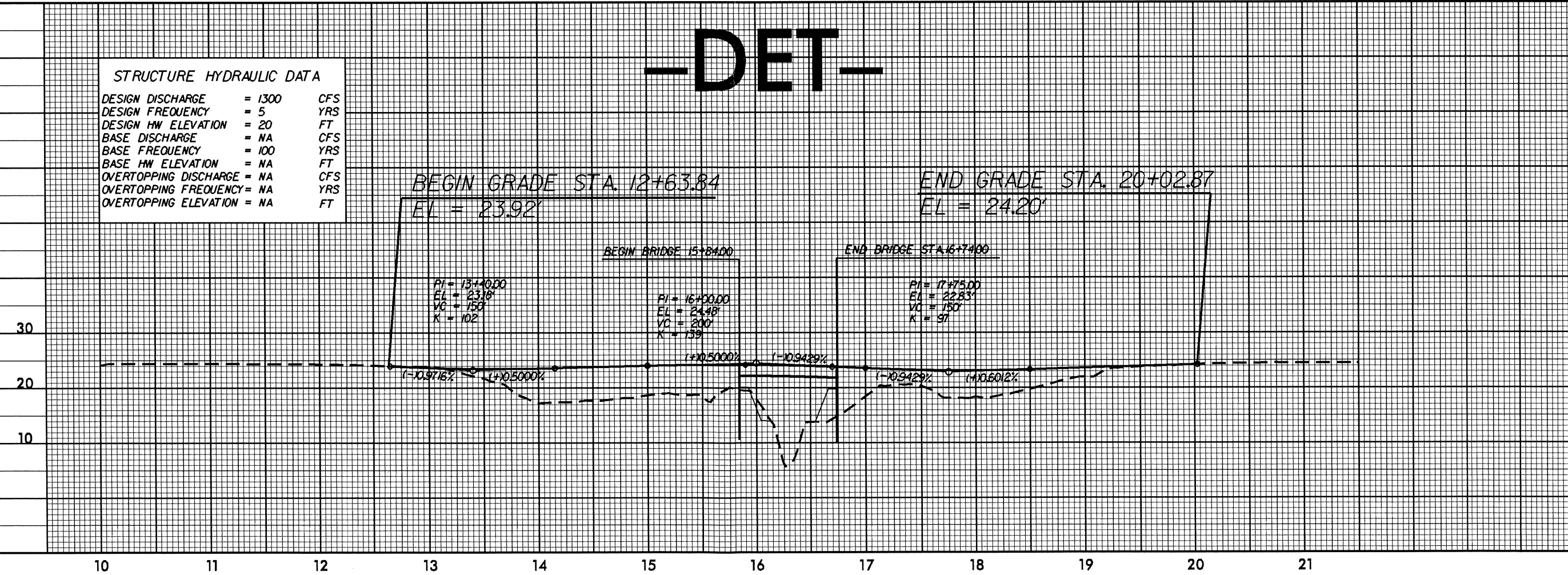
STRUCTURE HYDRAULIC DATA		
DESIGN DISCHARGE	= 3305	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 240	FT
BASE DISCHARGE	= 4190	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 248	FT
OVERTOPPING DISCHARGE	= 2950	CFS
OVERTOPPING FREQUENCY	= 25	YRS
OVERTOPPING ELEVATION	= 23.2	FT

PROJECT REFERENCE NO. B-4415	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



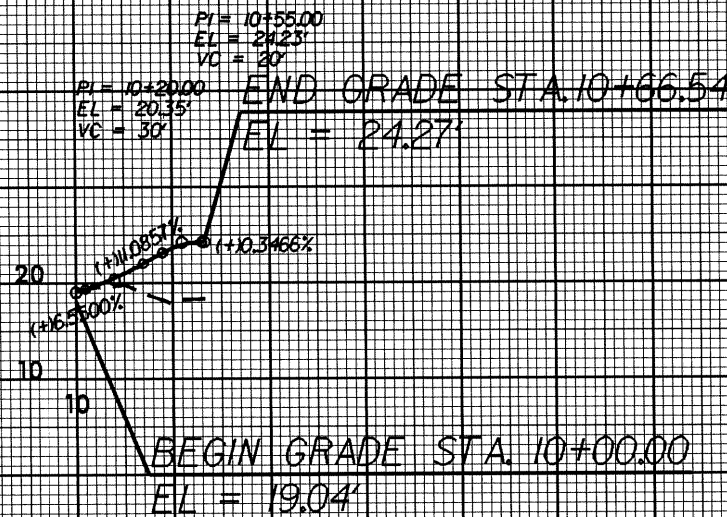
-DET-

STRUCTURE HYDRAULIC DATA		
DESIGN DISCHARGE	= 1300	CFS
DESIGN FREQUENCY	= 5	YRS
DESIGN HW ELEVATION	= 20	FT
BASE DISCHARGE	= NA	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= NA	FT
OVERTOPPING DISCHARGE	= NA	CFS
OVERTOPPING FREQUENCY	= NA	YRS
OVERTOPPING ELEVATION	= NA	FT

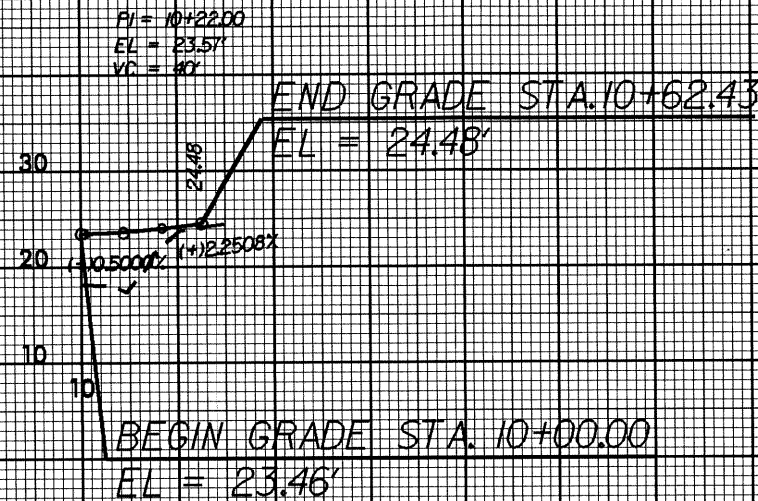


PROJECT REFERENCE NO. B-4415		SHEET NO. 7
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

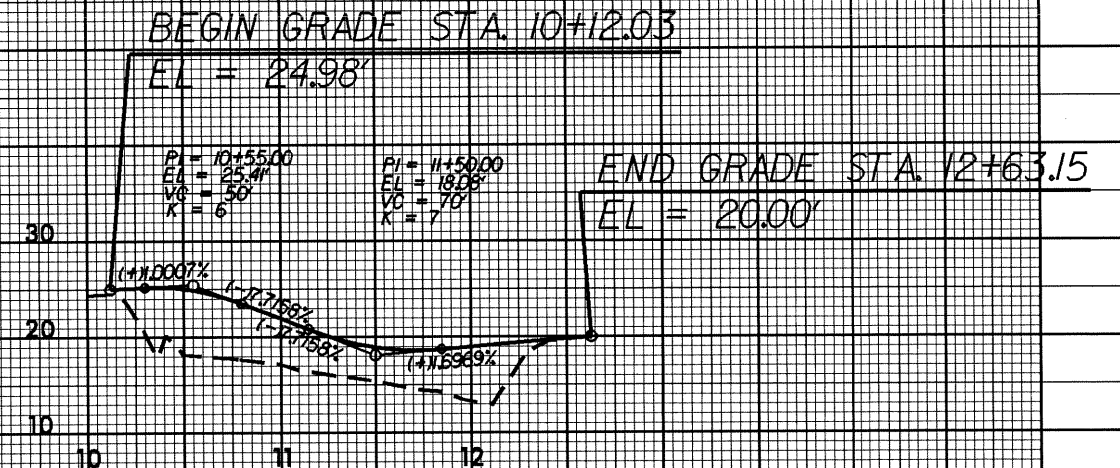
—DR1—



—DR1A—

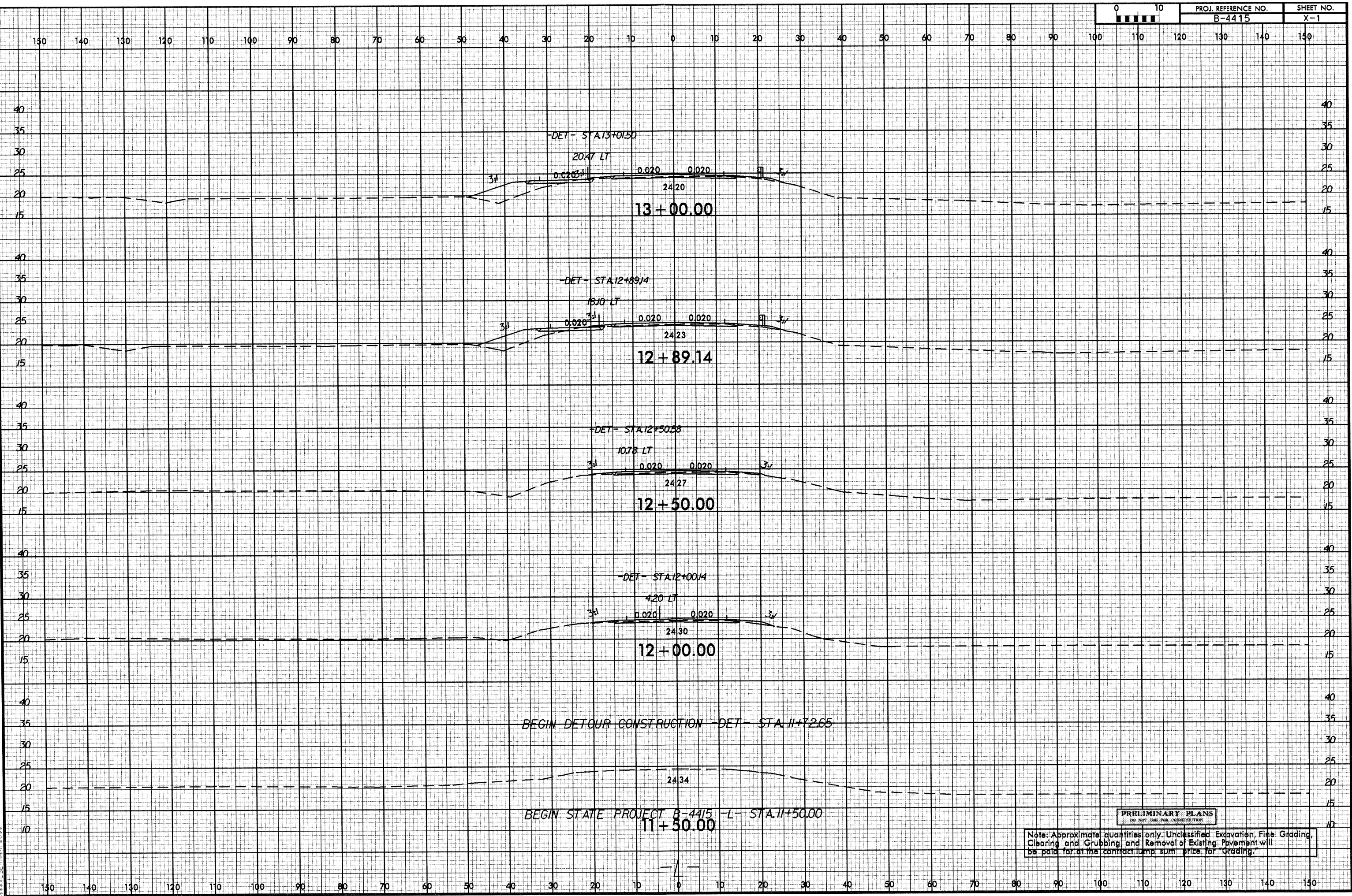


—DR2—



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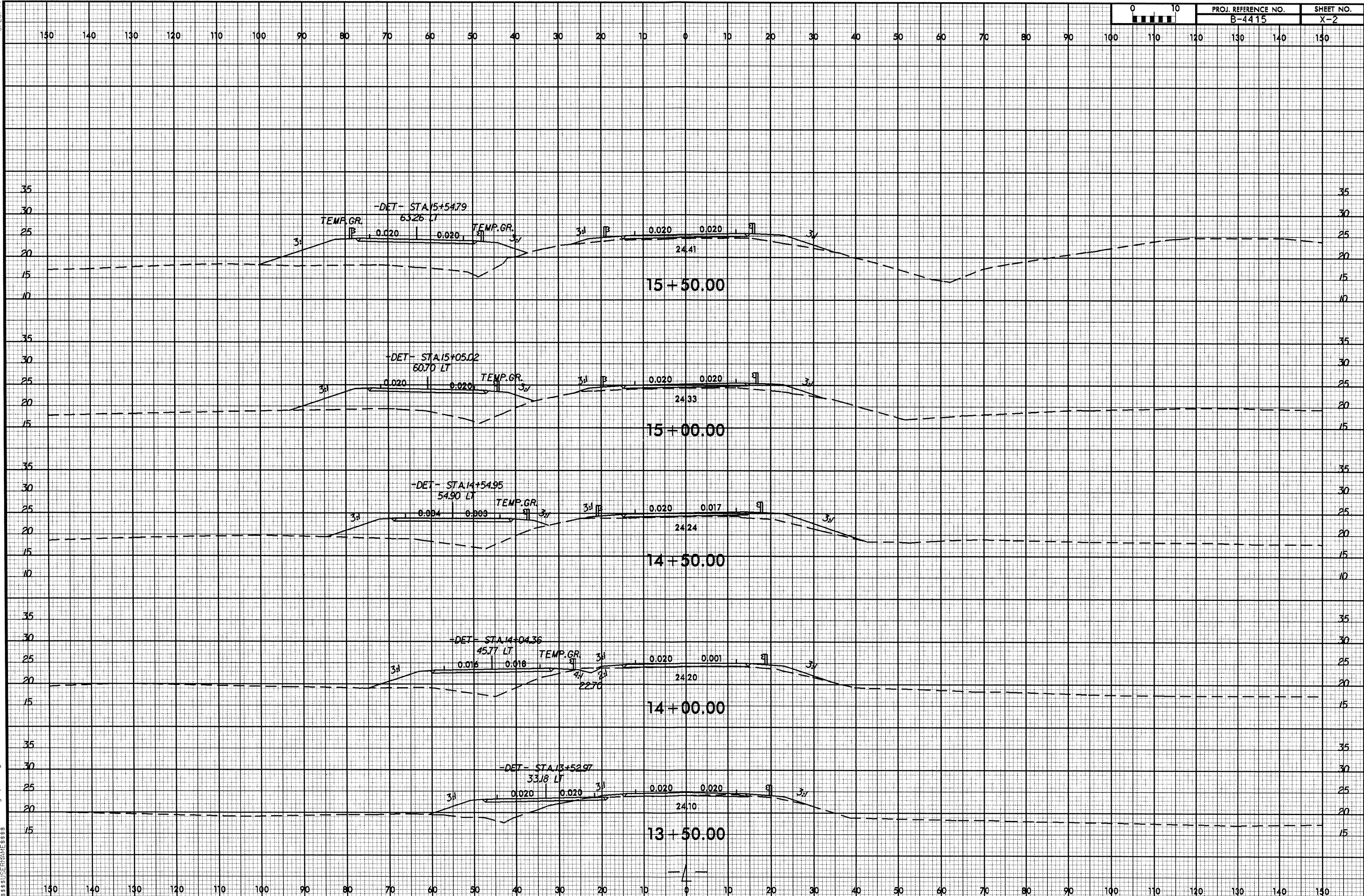
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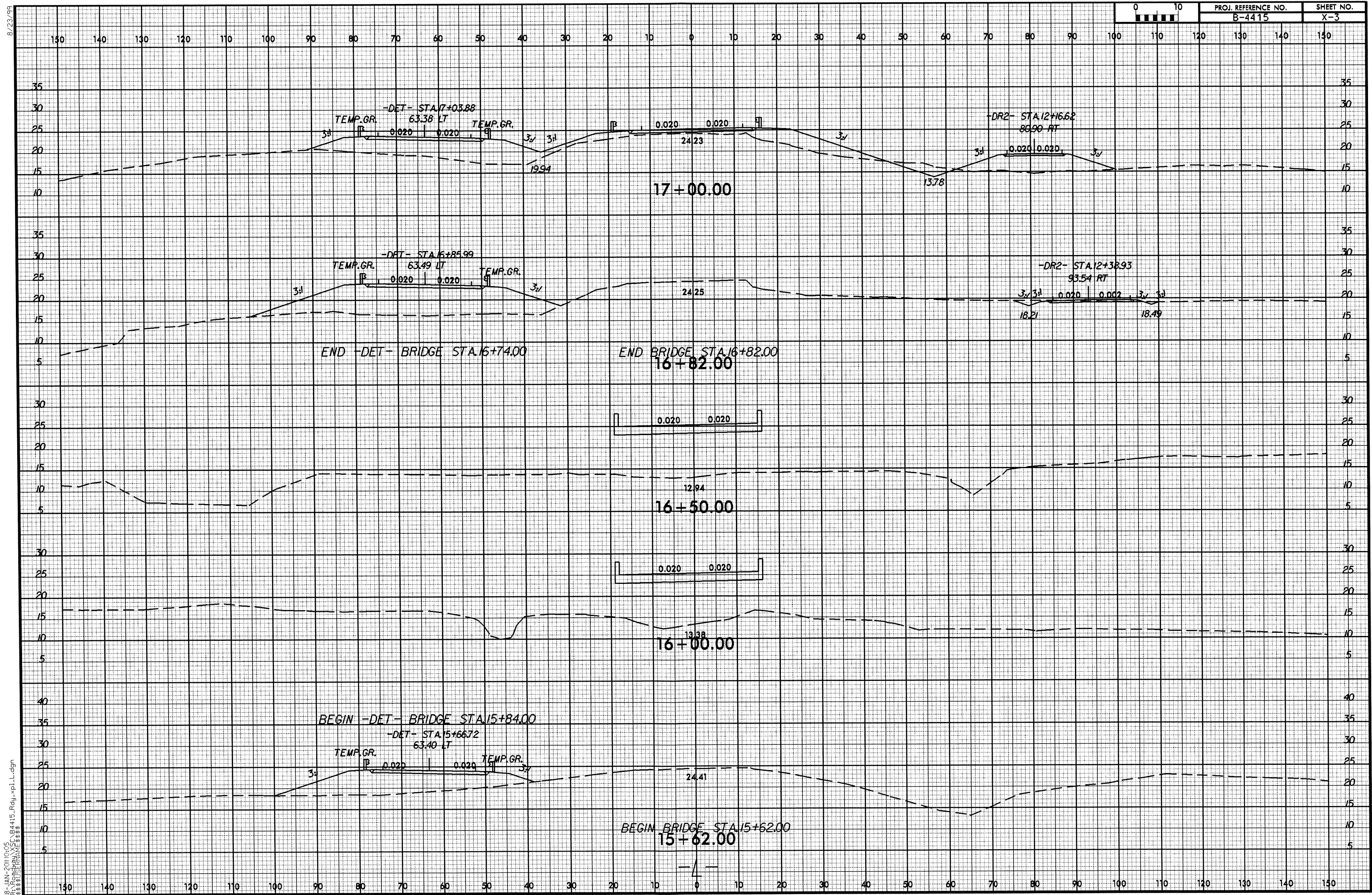


PROJ. REFERENCE NO.		SHEET NO.
B-4415		X-1

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

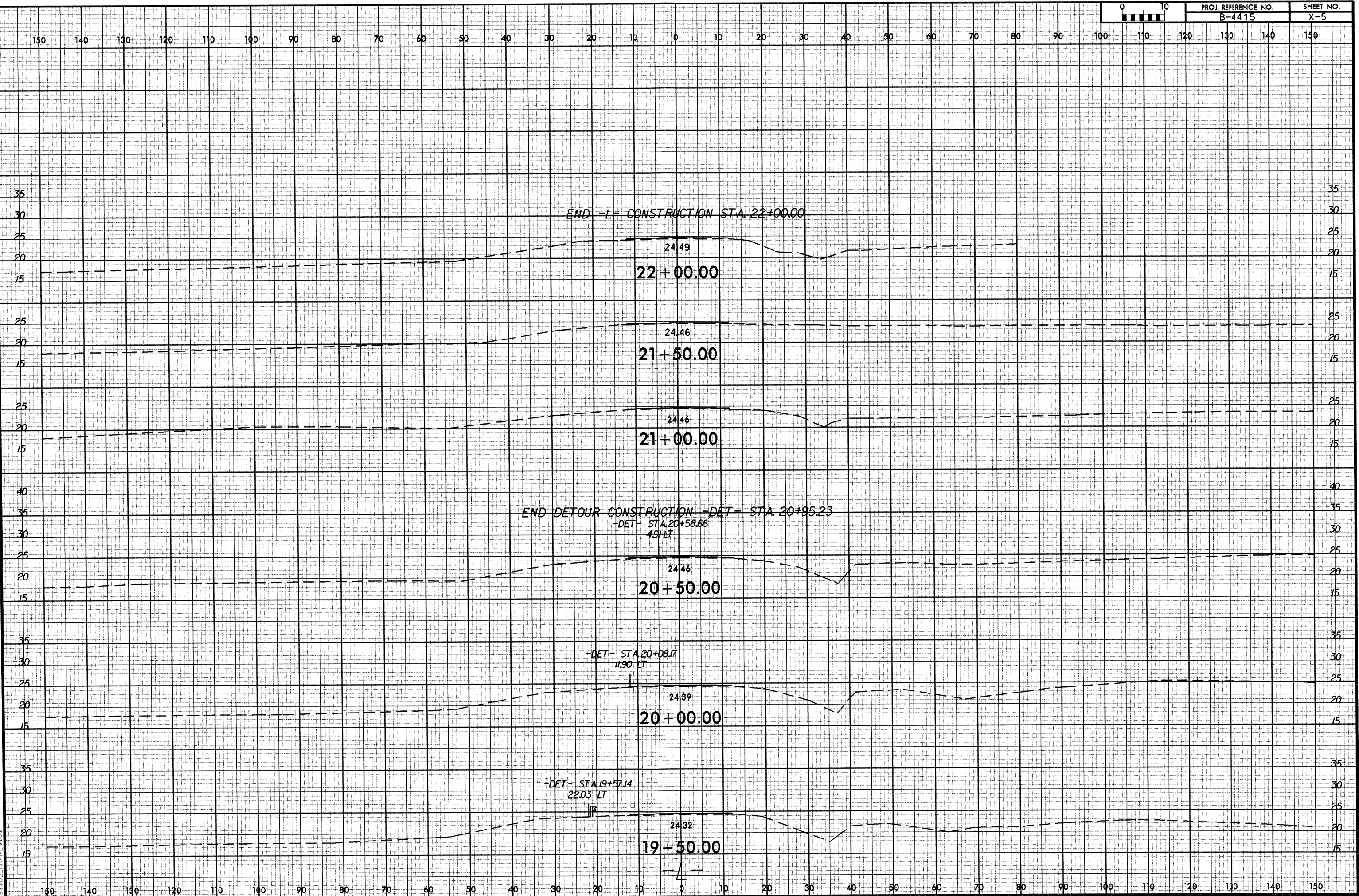
Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for Grading.





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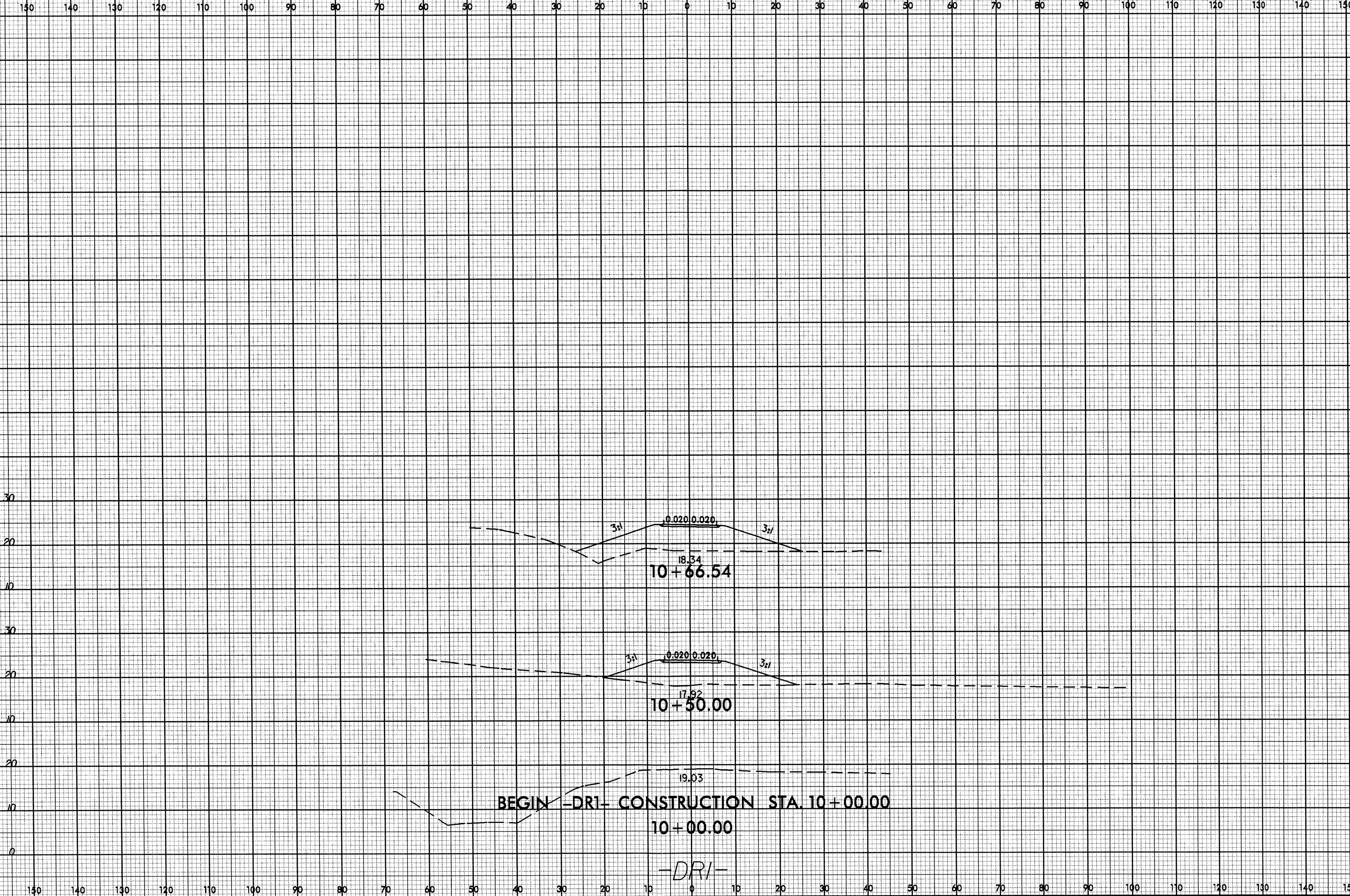
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5369 PSEMAN



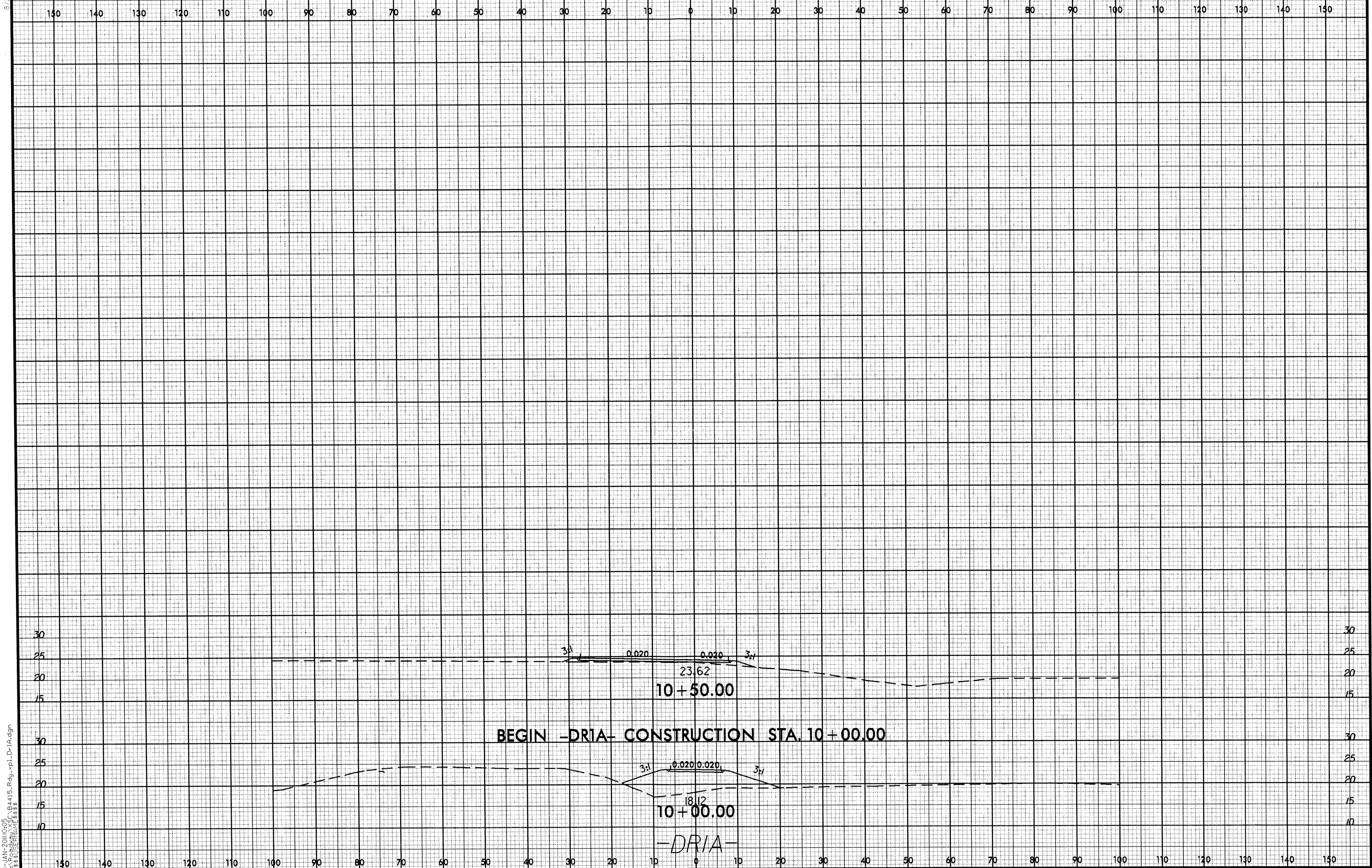
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	B-4415		X-6	



8/23/99



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