STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI
SECRETARY

April 4, 2011

U.S. Army Corps of Engineers
Regulatory Field Office
PO Box 1000
Washington, NC 27889-1000

Attention: Thomas Steffens
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 General Permit 198200031, Section 401 Water Quality Certification, and Neuse Riparian Buffer Authorization** for the proposed replacement of Bridges Nos. 35 & 36 over Little Contentnea Creek on SR 1343, Pitt & Greene Counties. TIP No. B-4531; Federal Aid Project No. BRZ-1343(1); Debit $240.00 from WBS 33751.1.1.

Please find enclosed the PCN form, stormwater management plan, permit drawings, buffer drawings, and half-size plan sheets for the above referenced project. A Categorical Exclusion (CE) was completed for this project in February 2009, and distributed shortly thereafter. Additional copies will be made available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridges Nos. 35 & 36 on SR 1343 over Little Contentnea Creek in Pitt & Greene Counties. The project involves replacement of the existing Bridge No. 35, an 86-foot bridge, with a 115-foot long bridge in approximately the same location and replacement of the existing Bridge No. 36, a 120-foot bridge, with a 170-foot long bridge in approximately the same location. There will be < 0.01 acre of permanent riparian wetland impacts due to construction of Bridge No. 35. In addition, there will be 6,701 sq. ft. of riparian buffer impacts due to construction of Bridge No. 36.

The let date for this project is January 17, 2012; however, the let date may advance as additional funds become available.

Regulatory approvals

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that these activities be authorized by a General Permit No. 198200031.

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 401 Water Quality Certification: We anticipate 401 General Certification number 3820 will apply to this project. All general conditions of the Water Quality Certification will be met. NCDOT is providing five copies of this application to the NCDWQ for their review and approval. Authorization to debit the $240 Permit Application Fee from WBS Element 33752.1.1 is hereby given.

Neuse Riparian Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Neuse Riparian Buffer Authorization.

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

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Tyler Stanton at tstanton@ncdot.gov or (919) 707-6156.

Sincerely,

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

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:	or General Permit (GP) number: 198200031	
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 Bridges 35 & 36 over Little Contentnea Creek on SR 1343
2b. County:	Pitt & Greene
2c. Nearest municipality / town:	Farmville
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P or state project no:	B-4531

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 27699-1598
3f. Telephone no..	(919) 212-5757
3g. Fax no..	(919) 212-5785
3h. Email address:	tstanton@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: 35.523576 (DD.DDDDDD) Longitude: - 77.524767 (-DD.DDDDDD)
1c. Property size:	6.9 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Little Contentnea Creek
2b. Water Quality Classification of nearest receiving water:	C; SW; NSW
2c. River basin:	Neuse
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: The primary natural communities found on the site are mesic mixed hardwood forest, coastal plain small stream swamp, and dry-mesic oak-hickory forest; the principal land uses in the project vicinity include timber, agriculture, and residential development.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.20	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 150	
3d. Explain the purpose of the proposed project: To replace two structurally deficient and functionally obsolete bridges.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing Bridge No. 35 (86-foot bridge with a 115-foot, 3-span bridge) and Bridge No. 36 (120-foot bridge with a 170-foot, 3 span bridge) on the existing alignment with an off-site detour. Standard road and bridge building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	☒ 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):	Agency/Consultant Company: ESI Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. The JD for Bridge 36 was issued by William Wescott on May 9, 2006 and expires on May 9, 2011; The JD for Bridge 35 was issued by Emily Jernigan on November 14, 2008 and expires November 14, 2013	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown
5b. If yes, explain in detail according to “help file” instructions.	
6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

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

☒ Wetlands ☐ Streams - tributaries ☒ Buffers

☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

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

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

2h. Comments:

3. Stream Impacts

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

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	0 Perm 0 Temp

3i. Comments: I

4. Open Water Impacts

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

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
			4f. Total open water impacts	0 Permanent 0 Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
	5f. Total							

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?	☐ Neuse ☐ Catawba	☒ Tar-Pamlico ☐ Randleman	☐ Other:

6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☒ P ☐ T	Bridge	Little Contentnea	☐ Yes ☒ No	3,918	2,783
B2 ☐ P ☐ T			☐ Yes ☐ No		
B3 ☐ P ☐ T			☐ Yes ☐ No		
		6h. **Total buffer impacts**		3,918	2,783

6i. Comments:

D. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.

The proposed bridges are 29 feet (Bridge 35) & 50 feet (Bridge 36) longer than the existing bridges; the proposed bridges will be at approximately the same grades as the existing structures; the utilization of an off-site detour; the implementation of Design Standards in Sensitive Watersheds.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

NCDOT Best Management Practices for Bridge Demolition, Removal and Construction will be followed, as well as those for Sedimentation and Erosion Control; adherence to an in-water work moratorium for anadromous fish from Feb. 15 to June 15; no deck drains allowed over stream; and installation of grass swale treatment outside of Buffer Zone 2.

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: Due to the minimal impacts to Waters of the U.S., no compensatory mitigation is 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:	acres
4f. Non-riparian wetland mitigation requested:	acres
4g. Coastal (tidal) wetland mitigation requested:	acres

4h. Comments:

5. Complete if Using a Permittee Responsible Mitigation Plan

5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.

6. **Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ**				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?			☐ Yes	☒ No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. **Total buffer mitigation required:**			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☒ Yes ☐ No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments: see attached	☒ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: see attached	
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? **N/A**	☐ Yes ☐ No
5b. Have all of the 401 Unit submittal requirements been met? **N/A**	☐ Yes ☐ No

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? NHP, USFWS, NCDOT field surveys		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☐ Yes	☒ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☒ Yes	☐ No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Flood maps		

Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	E. L. Fuske Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	April 4, 2011 Date

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

October 15, 2010

MEMORANDUM TO: File

FROM: Paul F Fisher, P.E.
Hydraulics Unit

SUBJECT Stormwater Management Plan
B-4531, Greene/Pitt Counties

The following items were incorporated into the Hydraulic design of this project for stormwater quality considerations:

-Deck Drains allowed only over rip rapped abutments.

-Grass Swale treatment outside Buffer Zone 2.

PFF

09/08/99

TIP PROJECT: B-4531

CONTRACT:

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$$$$USERNAME$$$$

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GREENE & PITT COUNTIES

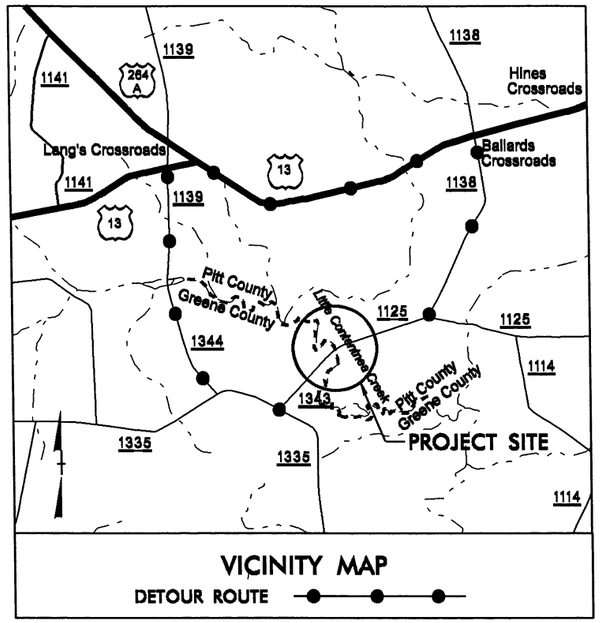
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4531	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33751.1.1	BRZ-1343(1)	PE
33751.2.1	BRZ-1343(1)	R/W, UTIL

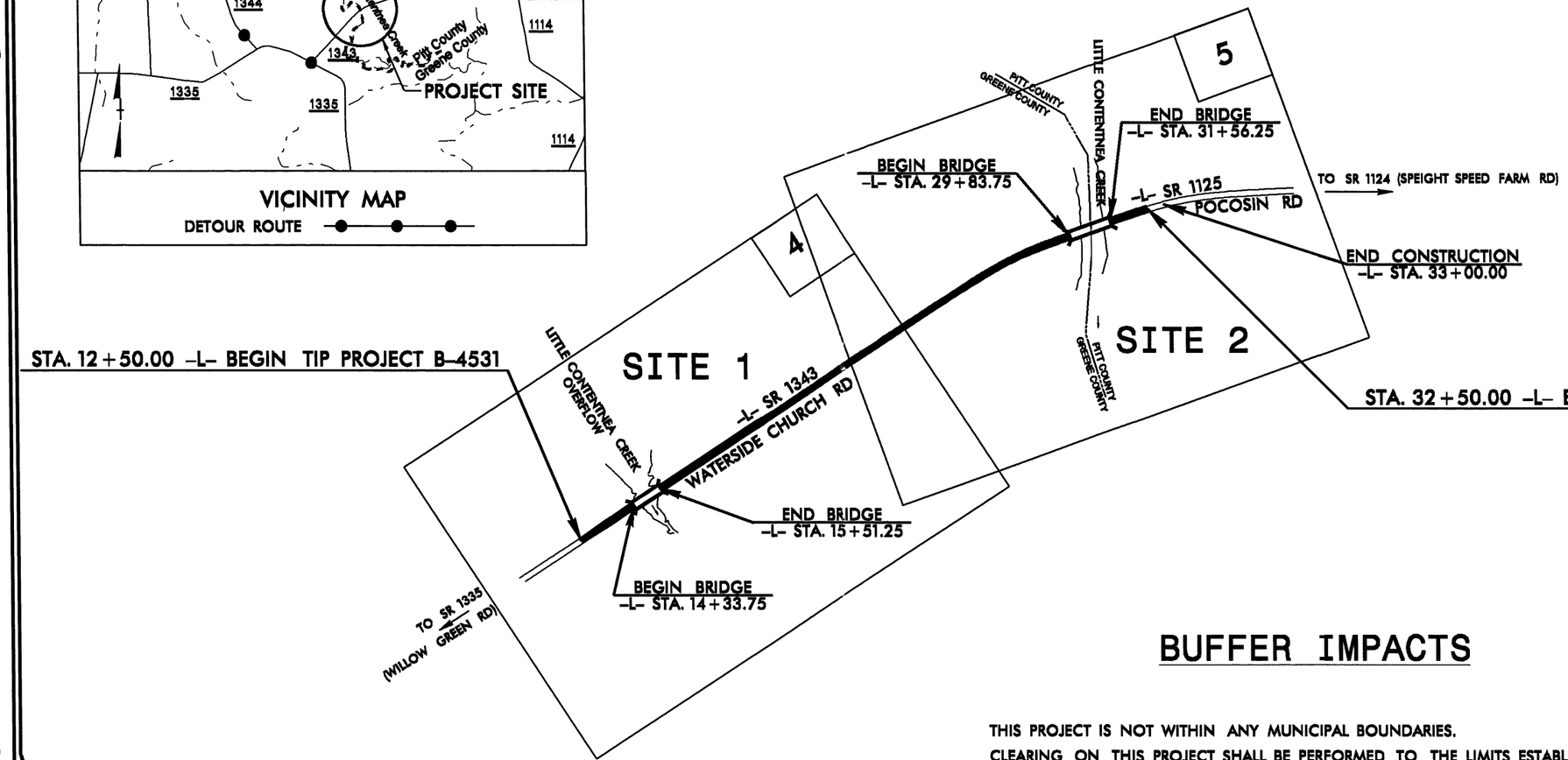
LOCATION: BRIDGES NO. 35 & NO. 36 OVER LITTLE CONTENTNEA CREEK & LITTLE CONTENTNEA CREEK OVERFLOW ON SR 1343 /SR 1125

Buffer Drawing
Sheet 1 of 6

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



VICINITY MAP
DETOUR ROUTE



BUFFER IMPACTS

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

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 2012 = 1967
ADT 2032 = 3004
DHV = 10 %
D = 60 %
T = 4 % *
V = 60 MPH
* TTST 1% DUAL 3%
FUNC CL - LOCAL RURAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4531	=	0.324 MILE
LENGTH OF STRUCTURE TIP PROJECT B-4531	=	0.055 MILE
TOTAL LENGTH OF TIP PROJECT B-4531	=	0.379 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 21, 2011

LETTING DATE: JANUARY 17, 2012

BRENDA MOORE, PE
PROJECT ENGINEER

KATRINA N. WASHINGTON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

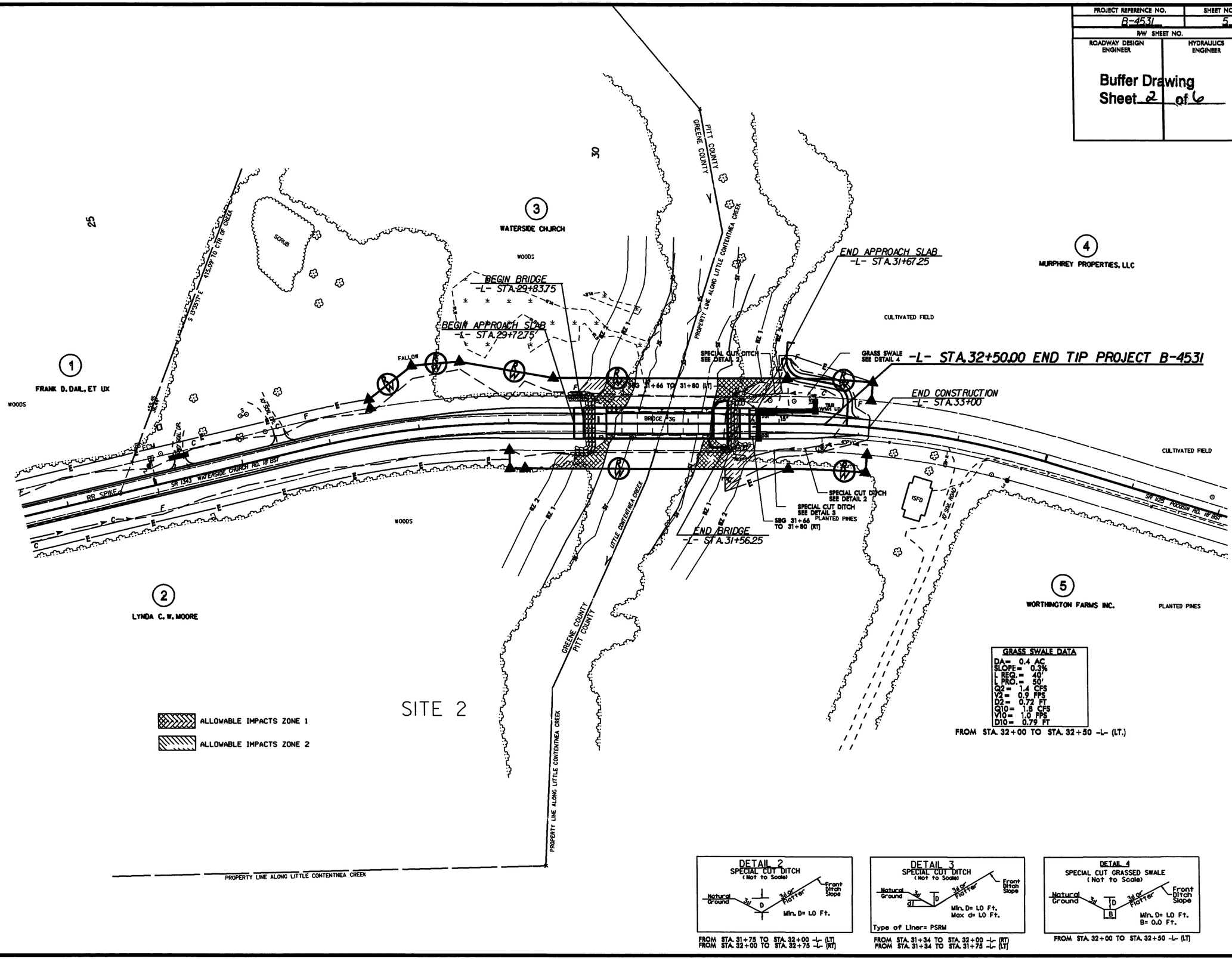
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
B-4531	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Buffer Drawing
Sheet 2 of 6



GRASS SWALE DATA	
DA=	0.4 AC
SLOPE=	0.3%
L REQ.=	40'
L PRO.=	50'
Q2=	1.4 CFS
V2=	0.9 FPS
D2=	0.72 FT
Q10=	1.8 CFS
V10=	1.0 FPS
D10=	0.79 FT

FROM STA. 32+00 TO STA. 32+50 -L- (LT.)

DETAIL 2
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 31+75 TO STA. 32+00 -L- (LT)
FROM STA. 32+00 TO STA. 32+75 -L- (RT)

DETAIL 3
SPECIAL CUT DITCH
(Not to Scale)

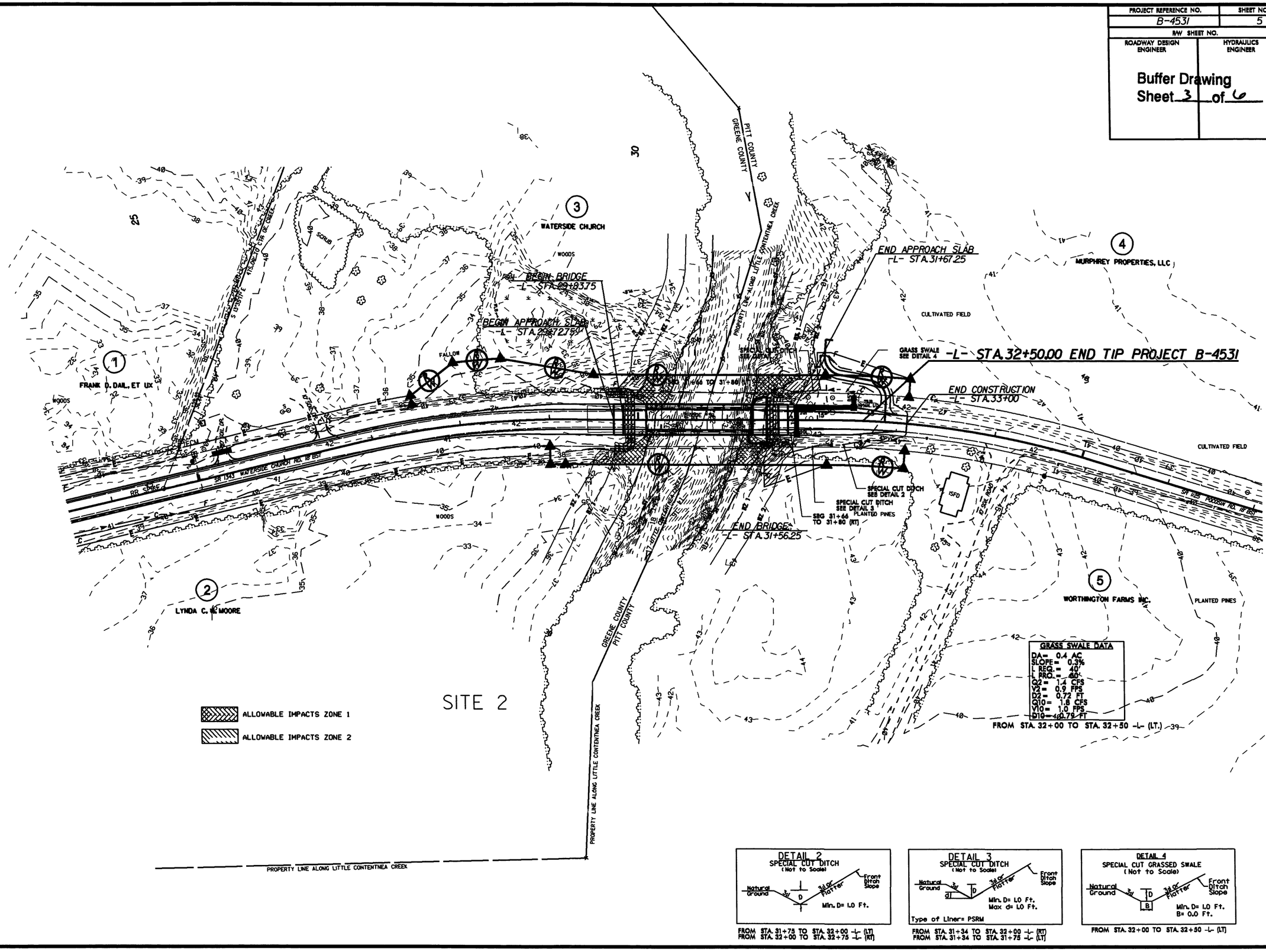
FROM STA. 31+34 TO STA. 32+00 -L- (RT)
FROM STA. 31+34 TO STA. 31+75 -L- (LT)

DETAIL 4
SPECIAL CUT GRASSED SWALE
(Not to Scale)

FROM STA. 32+00 TO STA. 32+50 -L- (LT)

PROJECT REFERENCE NO.	SHEET NO.
B-4531	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Buffer Drawing
Sheet 3 of 6



GRASS SWALE DATA

DA=	0.4 AC
SLOPE=	0.3%
L REQ.=	40'
L PRO.=	40'
Q2=	1.4 CFS
V2=	0.9 FPS
D2=	0.72 FT
Q10=	1.8 CFS
V10=	1.0 FPS
D10=	0.79 FT

FROM STA. 32+00 TO STA. 32+50 -L- (LT.)

DETAIL 2
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 31+75 TO STA. 32+00 -L- (LT)
FROM STA. 32+00 TO STA. 32+75 -L- (RT)

DETAIL 3
SPECIAL CUT DITCH
(Not to Scale)

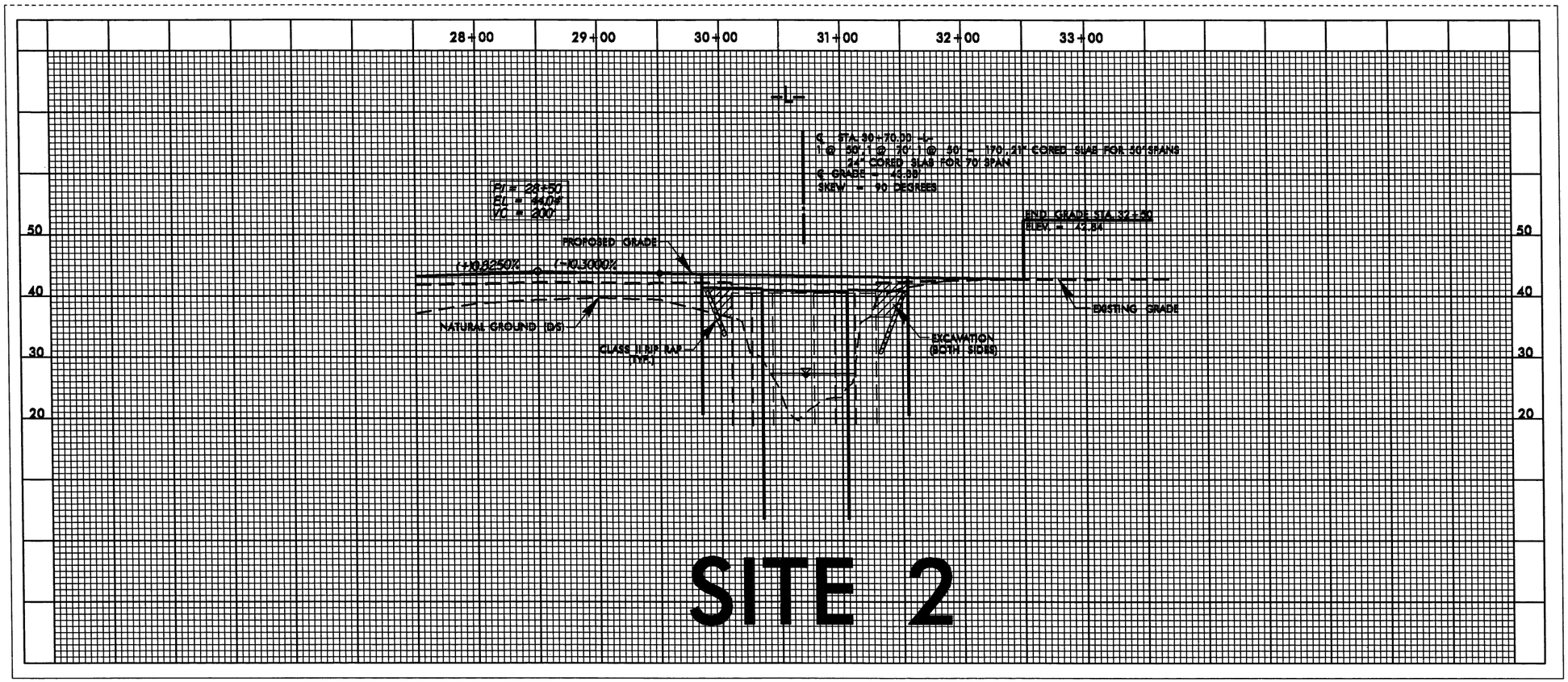
Type of Liner= PSRM

FROM STA. 31+34 TO STA. 32+00 -L- (RT)
FROM STA. 31+34 TO STA. 31+75 -L- (LT)

DETAIL 4
SPECIAL CUT GRASSED SWALE
(Not to Scale)

FROM STA. 32+00 TO STA. 32+50 -L- (LT)

Buffer Drawing
Sheet 4 of 6



BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	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)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
2	BRIDGE	30+69 -L-		X		3918	2783	6701					
TOTALS:						3918	2783	6701					

Buffer Drawing
Sheet 5 of 6

N C DEPT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GREENE & PITT COUNTIES
WBS - 33751 1 1 (B-4531)

2/14/2011
SHEET OF

Rev May 2006

Property Owner Contact Report					
Parcel #	**Owner Last Name/Business**	**First Name**	**Address**	**State**	**Zip Code**
3	**Waterside Church**		**1331 Forlines Rd.**	**NC**	**28590**
1	**Dail**	**Frank D.**	**6088 US Hwy. 13**	**NC**	**27828**
2	**Moore**	**Lynda C. W.**	**PO Box 295**	**NC**	**27828**
4	**Murphey Properties, LLC**		**4475 Ayden Golf Club Rd.**	**NC**	**28513**
5	**Worthington Farms, Inc.**		**3661 Ballards Crossroad Rd.**	**NC**	**27834**

09/08/99

TIP PROJECT: B-4531

CONTRACT:

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GREENE & PITT COUNTIES

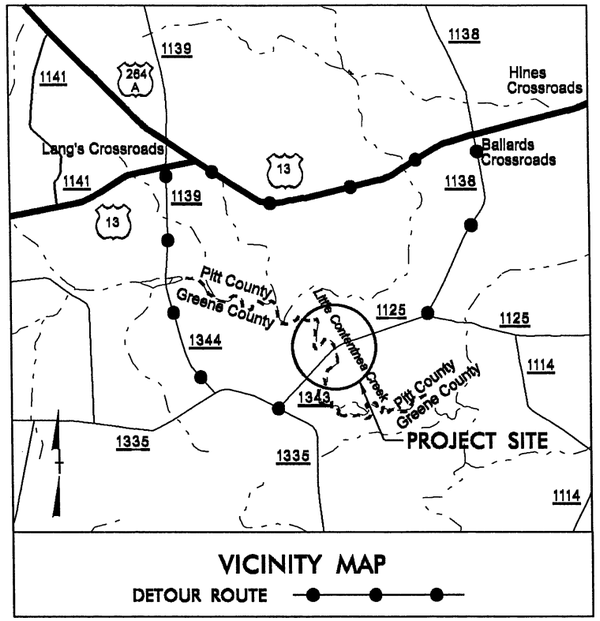
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4531	1	

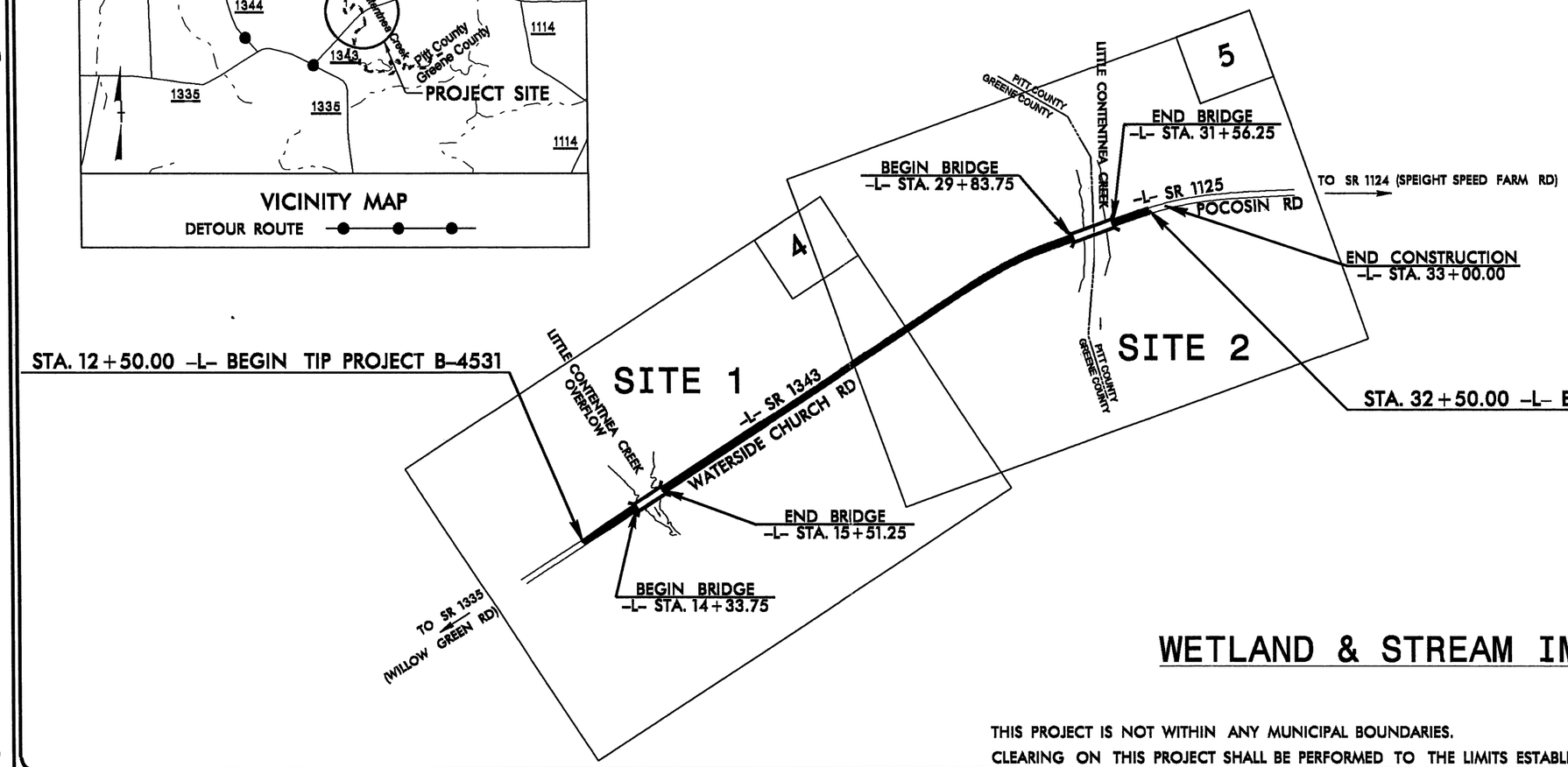
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33751.1.1	BRZ-1343(1)	PE
33751.2.1	BRZ-1343(1)	R/W, UTIL

LOCATION: BRIDGES NO. 35 & NO. 36 OVER LITTLE CONTENTNEA CREEK & LITTLE CONTENTNEA CREEK OVERFLOW ON SR 1343 /SR 1125

Permit Drawing
Sheet 1 of 7

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





WETLAND & STREAM IMPACTS

NAD 83/95

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

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 2012 = 1967
ADT 2032 = 3004
DHV = 10 %
D = 60 %
T = 4 % *
V = 60 MPH
* TTST 1% DUAL 3%
FUNC CL - LOCAL RURAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4531	=	0.324 MILE
LENGTH OF STRUCTURE TIP PROJECT B-4531	=	0.055 MILE
TOTAL LENGTH OF TIP PROJECT B-4531	=	0.379 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 21, 2011

LETTING DATE: JANUARY 17, 2012

BRENDA MOORE, PE
PROJECT ENGINEER

KATRINA N. WASHINGTON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

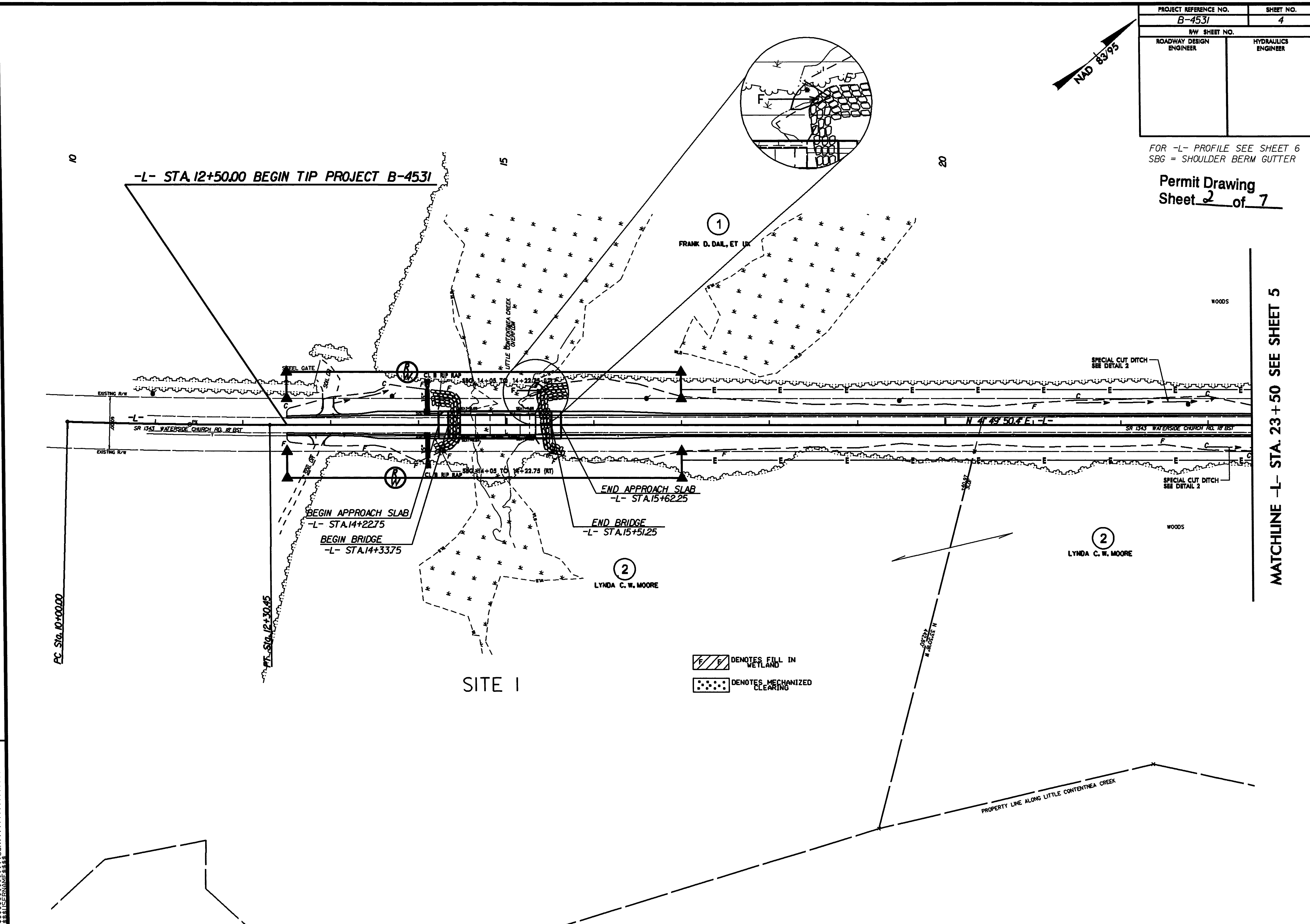
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

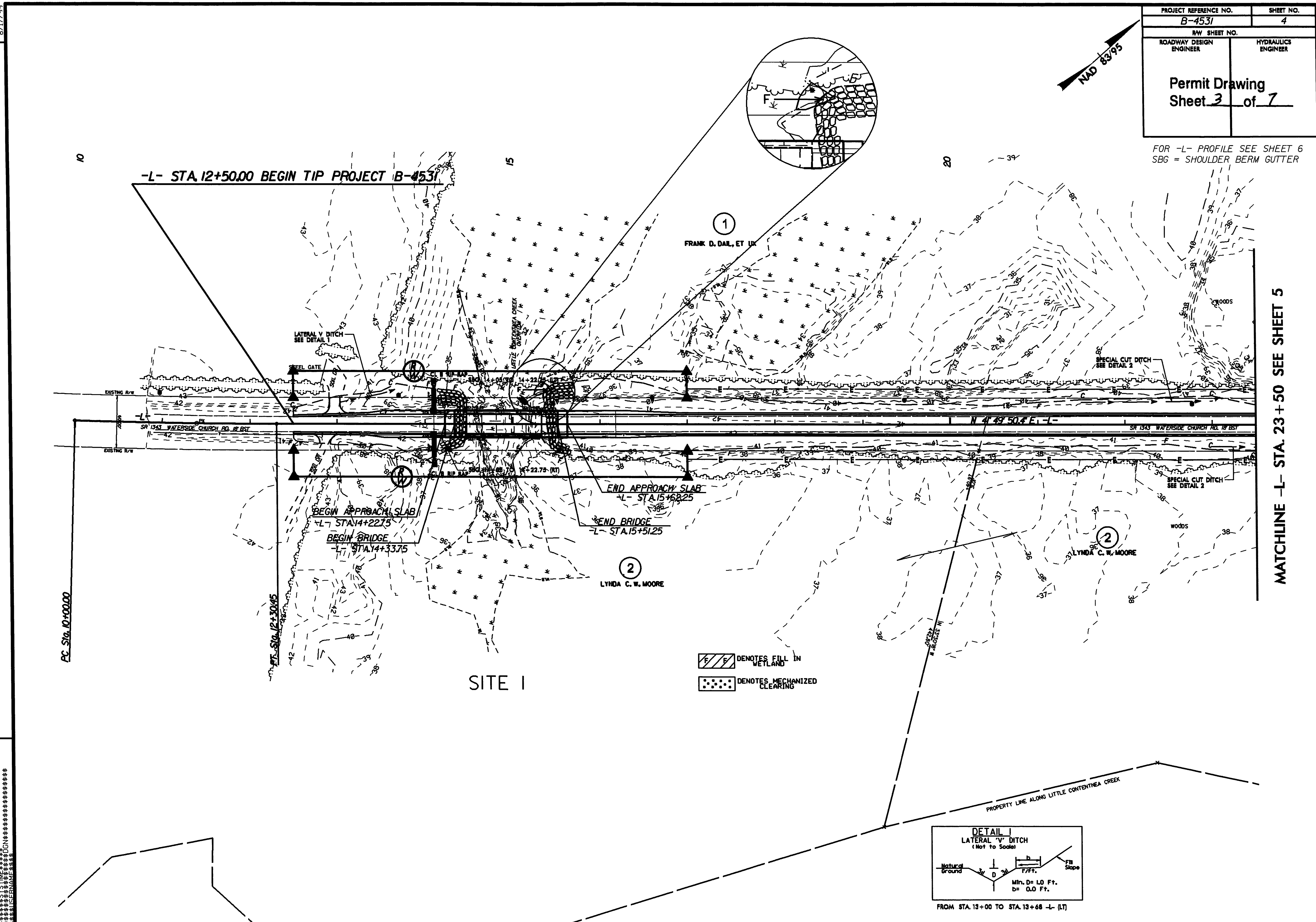
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER



PROJECT REFERENCE NO. B-4531
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NAD 83/95
FOR -L- PROFILE SEE SHEET 6
SBG = SHOULDER BERM GUTTER
Permit Drawing
Sheet 2 of 7
8/17/99
REVISIONS
10
15
20
-L- STA. 12+50.00 BEGIN TIP PROJECT B-4531
FRANK D. DAIL, ET UX
LITTLE CONTENTNEA CREEK OVERFLOW
STEEL GATE
EXISTING R/W
SR 1343 WATERSIDE CHURCH RD. 18' BST
CL B RIP RAP
SBG 14+05 TO 14+22.75 (LT)
SBG 14+05 TO 14+22.75 (RT)
N 41° 49' 50.4" E -L-
SPECIAL CUT DITCH SEE DETAIL 2
WOODS
BEGIN APPROACH SLAB -L- STA. 14+22.75
BEGIN BRIDGE -L- STA. 14+33.75
END APPROACH SLAB -L- STA. 15+62.25
END BRIDGE -L- STA. 15+51.25
LYNDA C. W. MOORE
PC Sta. 10+00.00
PT Sta. 12+30.45
N 33°30'18" W 442.80'
SITE 1
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
PROPERTY LINE ALONG LITTLE CONTENTNEA CREEK
MATCHLINE -L- STA. 23+50 SEE SHEET 5


PROJECT REFERENCE NO.
B-4531
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Permit Drawing
Sheet 3 of 7
NAD 83/95
FOR -L- PROFILE SEE SHEET 6
SBG = SHOULDER BERM GUTTER
8/17/99
REVISIONS
-L- STA. 12+50.00 BEGIN TIP PROJECT B-4531
1
FRANK D. DAIL, ET UX
LATERAL V DITCH
SEE DETAIL 1
STEEL GATE
LITTLE CONTENTNEA CREEK OVERFLOW
CL B RIP RAP
SBG 14+05 TO 14+22.75 (LT)
SBG 14+05 TO 14+22.75 (RT)
EXISTING R/W
SR 1343 WATERSIDE CHURCH RD. 18' BST
N 41° 49' 50.4" E -L-
SPECIAL CUT DITCH
SEE DETAIL 2
WOODS
BEGIN APPROACH SLAB
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-L- STA. 14+33.75
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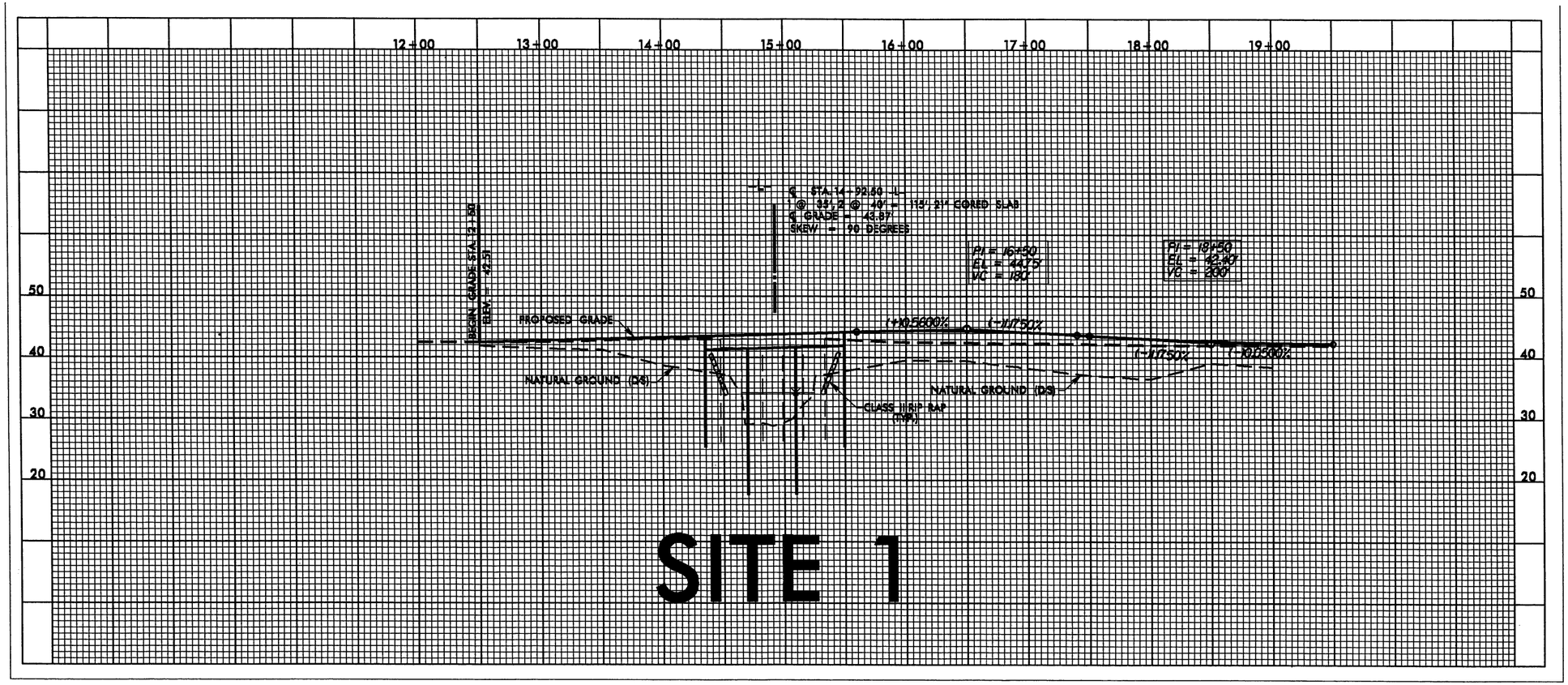
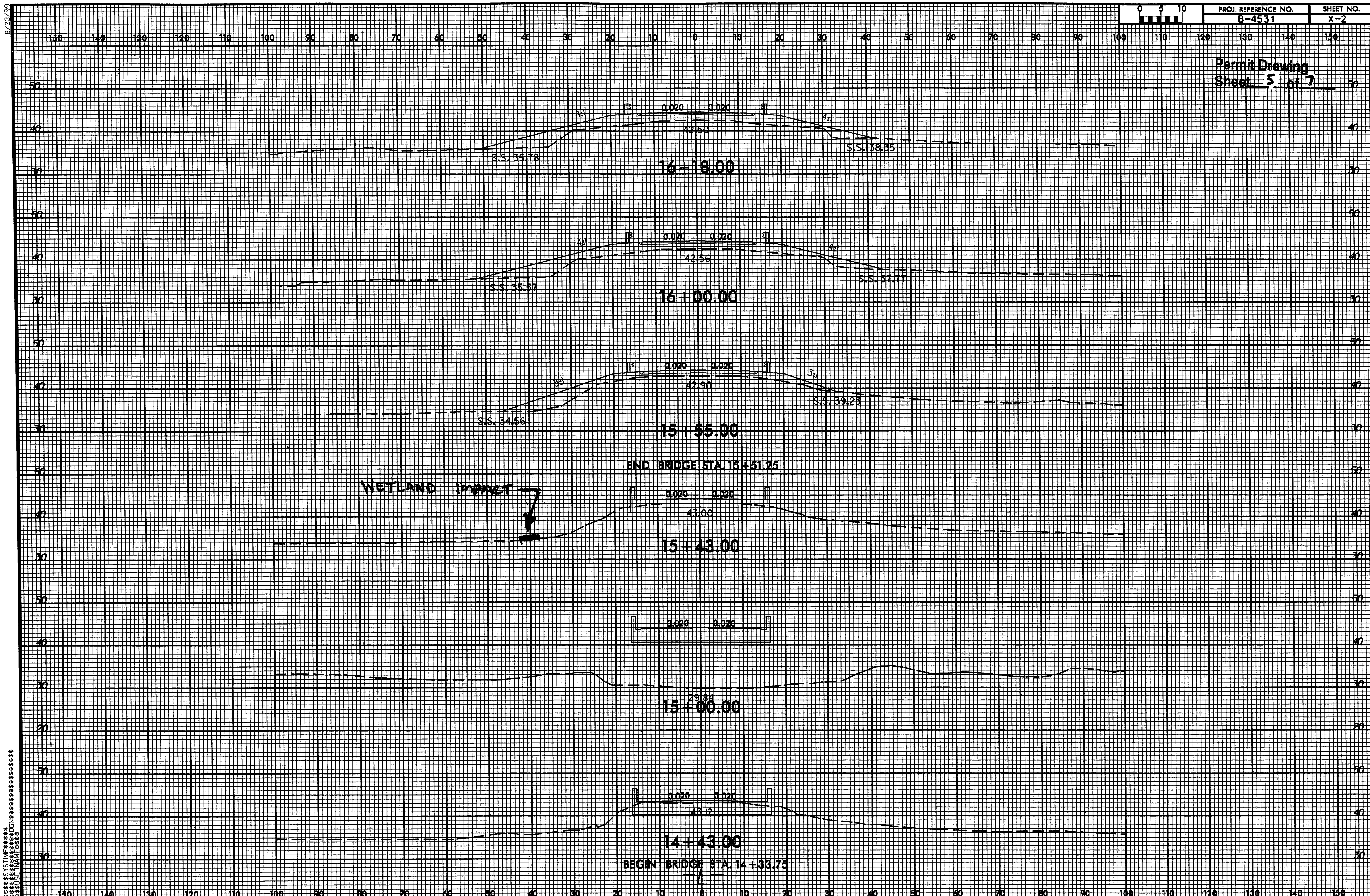
2
LYNDA C. W. MOORE
PC Sta. 10+00.00
PT Sta. 12+30.45
N 33°30'18" W
442.80'
MATCHLINE -L- STA. 23+50 SEE SHEET 5
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
SITE 1
PROPERTY LINE ALONG LITTLE CONTENTNEA CREEK
DETAIL 1
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D= 1.0 Ft.
b= 0.0 Ft.
FROM STA. 13+00 TO STA. 13+68 -L- (LT)

Permit Drawing
Sheet 4 of 7



PROJ. REFERENCE NO.	SHEET NO.
B-4531	X-2

Permit Drawing
Sheet 5 of 7



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4	Murphey Properties, LLC		4475 Ayden Golf Club Rd.	NC	28513
5	Worthington Farms, Inc.		3661 Ballards Crossroad Rd.	NC	27834

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	Sta. 14+93 -L-	Bridge	<0.01			<0.01						
TOTALS.			<0.01			<0.01						

Permit Drawing
Sheet 7 of 7

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GREENE & PITT COUNTIES
WBS - 33751 1 1 (B-4531)

SHEET 2/7/2011

ATN Revised 3/31/05

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GREENE & PITT COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4531	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
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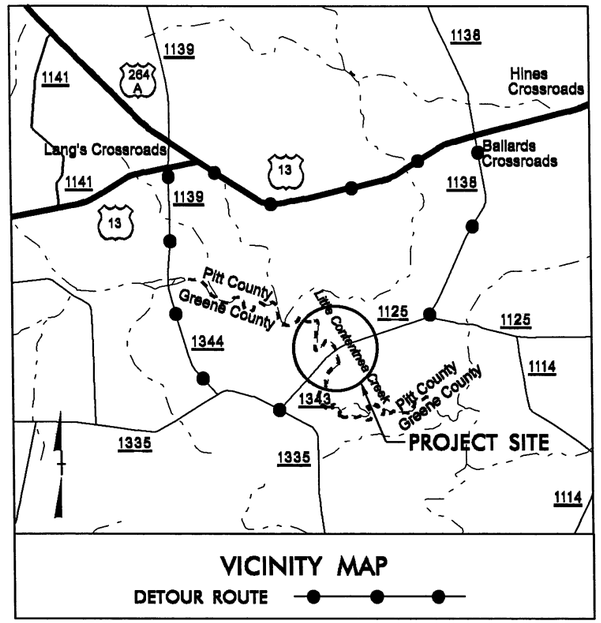
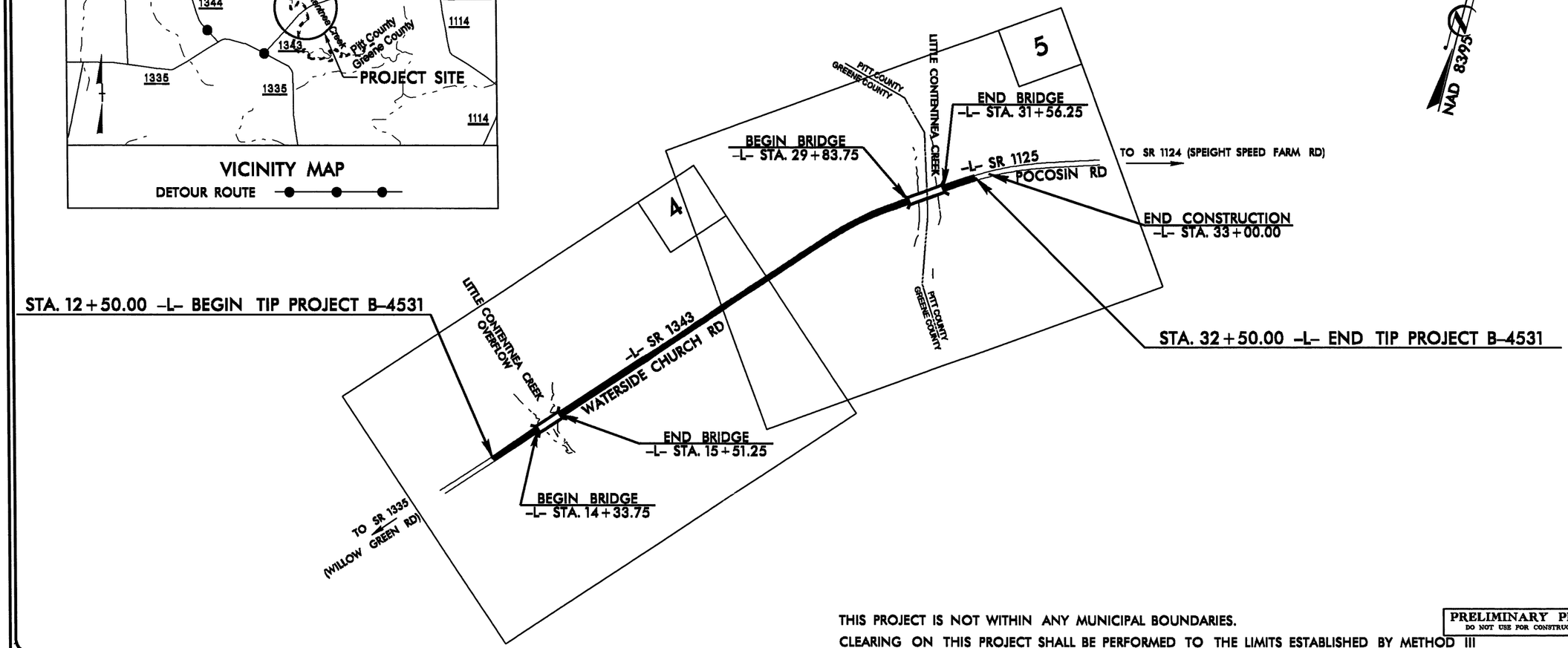
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURES





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

TIP PROJECT: B-4531

CONTRACT: C202748

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 2012 = 1967
ADT 2032 = 3004
DHV = 10 %
D = 60 %
T = 4 % *
V = 60 MPH
* TTST 1% DUAL 3%
FUNC CL - LOCAL RURAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4531	=	0.324 MILE
LENGTH OF STRUCTURE TIP PROJECT B-4531	=	0.055 MILE
TOTAL LENGTH OF TIP PROJECT B-4531	=	0.379 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 21, 2011

LETTING DATE: JANUARY 17, 2012

BRENDA MOORE, PE
PROJECT ENGINEER

KATRINA N. WASHINGTON, PE
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

16-FEB-2011 13:41
R:\Roadway\Proj\B453l_rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4531	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 — IP
- Property Corner
- Property Monument — CM
- 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
- 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 — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed 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

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.

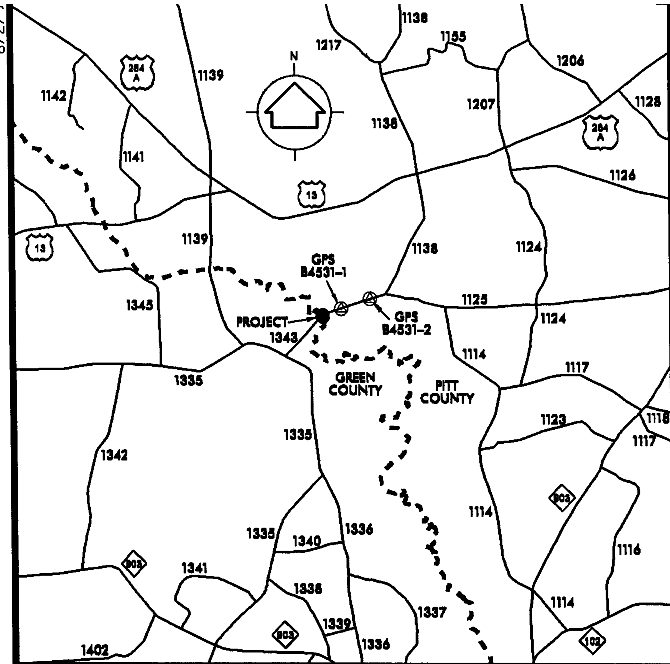
PROJECT REFERENCE NO.	SHEET NO.
B-4531	1-C

Location and Surveys

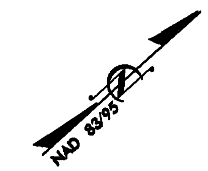
SURVEY CONTROL SHEET B-4531

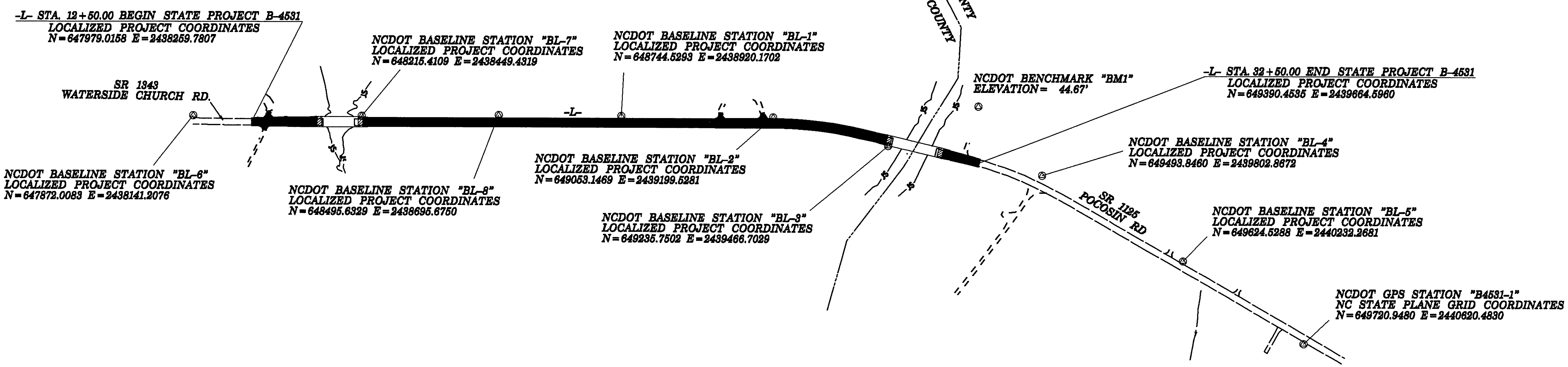
BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
6	BL-6	647872.0083	2438141.2076	41.79	10+90.87	15.61 LT
7	BL-7	648215.4109	2438449.4319	42.40	15+52.63	16.35 LT
8	BL-8	648495.6329	2438695.6750	40.70	19+25.65	19.75 LT
1	BL-1	648744.5293	2438920.1702	41.14	22+60.83	18.48 LT
2	BL-2	649053.1469	2439199.5281	41.72	26+77 10	16.15 LT
3	BL-3	649235.7502	2439466.7029	41.60	29+99.21	15.03 RT
4	BL-4	649493.8460	2439802.8672	42.07	34+18.41	27.35 LT
5	BL-5	649624.5288	2440232.2681	38.77	OUTSIDE PROJECT LIMITS	

BM1 ELEVATION - 44.67
N 649490 E 2439549
L STATION 32+12 147 LEFT
RR SPIKE IN 18" HARDWOOD



VICINITY MAP





NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
   HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   b4531_ls_control_090204.txt

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

◎ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4531-1"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 649720.948(ft) EASTING: 2440620.483(ft)
ELEVATION: 39.15(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999887750
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4531-1" TO -L- STATION 12+50.00 IS
S 53°34'36.7" W 2933.810(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

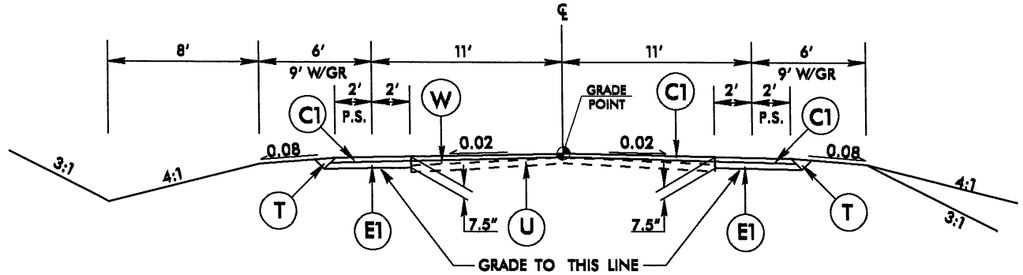
16-FEB-2011 13:41
R:\Roadway\Proj\b4531_ls_lc_110113.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4531	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

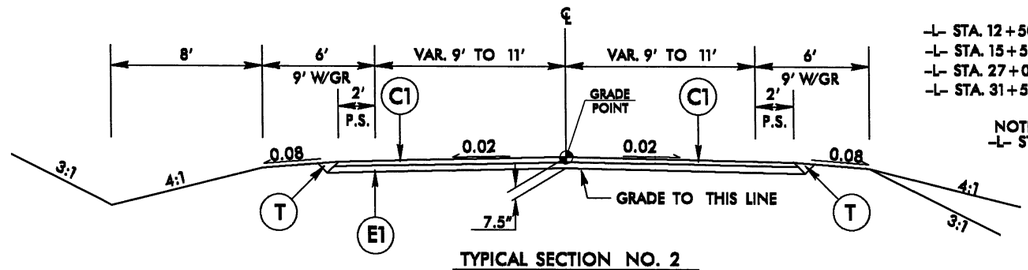
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
J	PROP. 6" AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2)

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



TYPICAL SECTION NO. 1

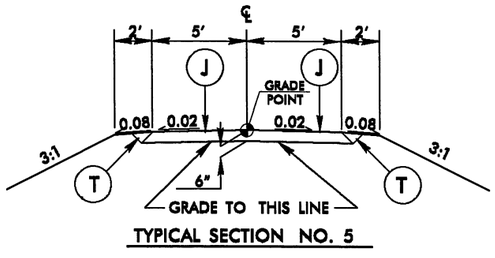
USE TYPICAL SECTION NO. 1
-L- STA. 18+00.00 TO STA. 27+00.00



TYPICAL SECTION NO. 2

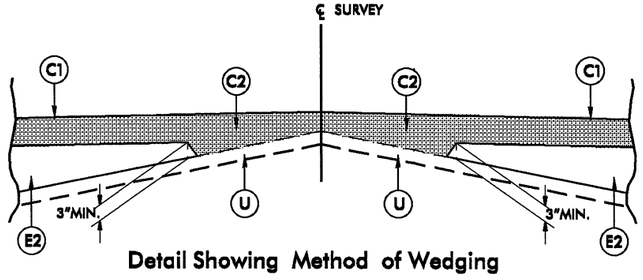
USE TYPICAL SECTION NO. 2
-L- STA. 12+50.00 TO STA. 14+33.75 (BEGIN BRIDGE)
-L- STA. 15+51.25 (END BRIDGE) TO STA. 18+00.00
-L- STA. 27+00.00 TO STA. 29+83.75 (BEGIN BRIDGE)
-L- STA. 31+56.25 (END BRIDGE) TO STA. 32+50.00

NOTE: RESURFACING ONLY FROM
-L- STA. 32+50.00 TO STA. 33+00.00

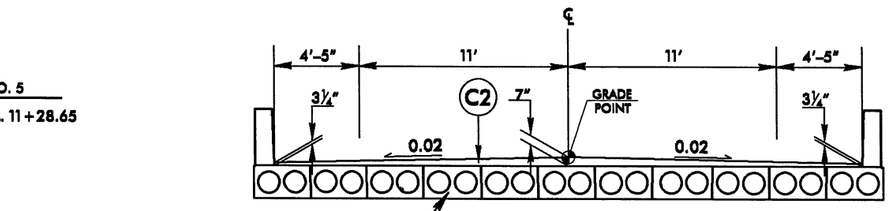


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
-D1- STA. 10+18.00 TO STA. 11+28.65



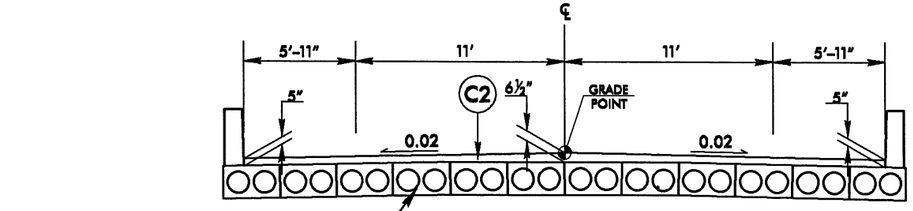
Detail Showing Method of Wedging



PROPOSED CORED SLAB BRIDGE
(STRUCTURE PAY ITEM)

TYPICAL SECTION NO. 3

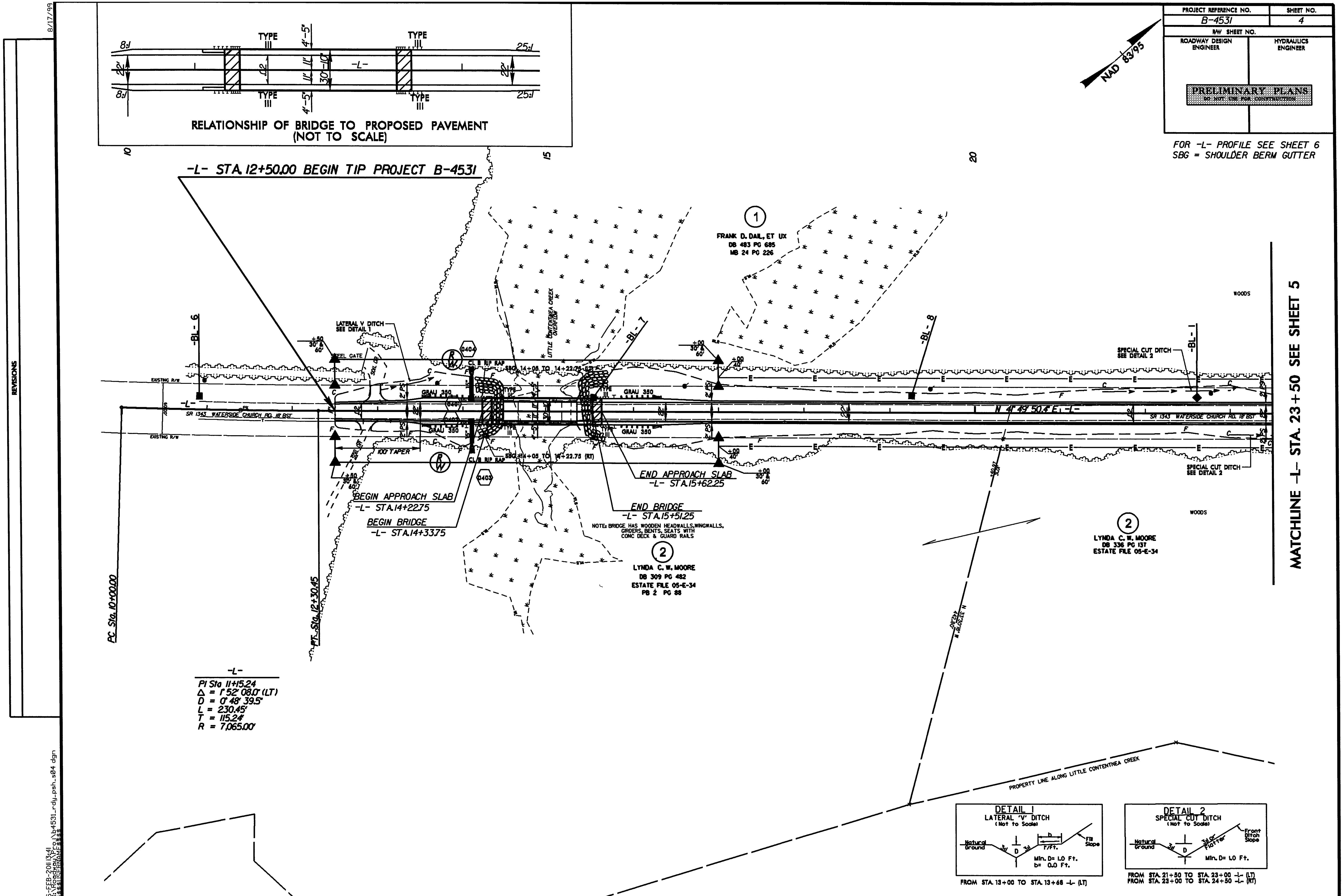
USE TYPICAL SECTION NO. 3
-L- STA. 14+33.75 TO STA. 15+51.25



PROPOSED CORED SLAB BRIDGE
(STRUCTURE PAY ITEM)

TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L- STA. 29+83.75 TO STA. 31+56.25



PROJECT REFERENCE NO. B-4531
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83/95
FOR -L- PROFILE SEE SHEET 6
SBG = SHOULDER BERM GUTTER
RELATIONSHIP OF BRIDGE TO PROPOSED PAVEMENT
(NOT TO SCALE)
-L- STA. 12+50.00 BEGIN TIP PROJECT B-4531
FRANK D. DAIL, ET UX
DB 483 PG 685
MB 24 PG 226
LATERAL V DITCH SEE DETAIL 1
SPECIAL CUT DITCH SEE DETAIL 2
SR 1343 WATERSIDE CHURCH RD. 18' BST
N 4° 49' 50.4" E -L-
BEGIN APPROACH SLAB -L- STA.14+22.75
BEGIN BRIDGE -L- STA.14+33.75
END APPROACH SLAB -L- STA.15+62.25
END BRIDGE -L- STA.15+51.25
NOTE: BRIDGE HAS WOODEN HEADWALLS, WINGWALLS, GIRDERS, BENTS, SEATS WITH CONC DECK & GUARD RAILS
LYNDA C. W. MOORE
DB 309 PG 482
ESTATE FILE 05-E-34
PB 2 PG 88
LYNDA C. W. MOORE
DB 336 PG 137
ESTATE FILE 05-E-34
WOODS
MATCHLINE -L- STA. 23+50 SEE SHEET 5
PC Sta. 10+00.00
PT Sta. 12+30.45
-L-
PI Sta 11+15.24
Δ = 1° 52' 08.0" (LT)
D = 0° 48' 39.5"
L = 230.45'
T = 115.24'
R = 7,065.00'
PROPERTY LINE ALONG LITTLE CONTENTNEA CREEK
DETAIL 1
LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1.0 Ft.
b= 0.0 Ft.
FROM STA. 13+00 TO STA. 13+68 -L- (LT)
DETAIL 2
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0 Ft.
FROM STA. 21+50 TO STA. 23+00 -L- (LT)
FROM STA. 23+00 TO STA. 24+50 -L- (RT)
REVISIONS
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4531	5

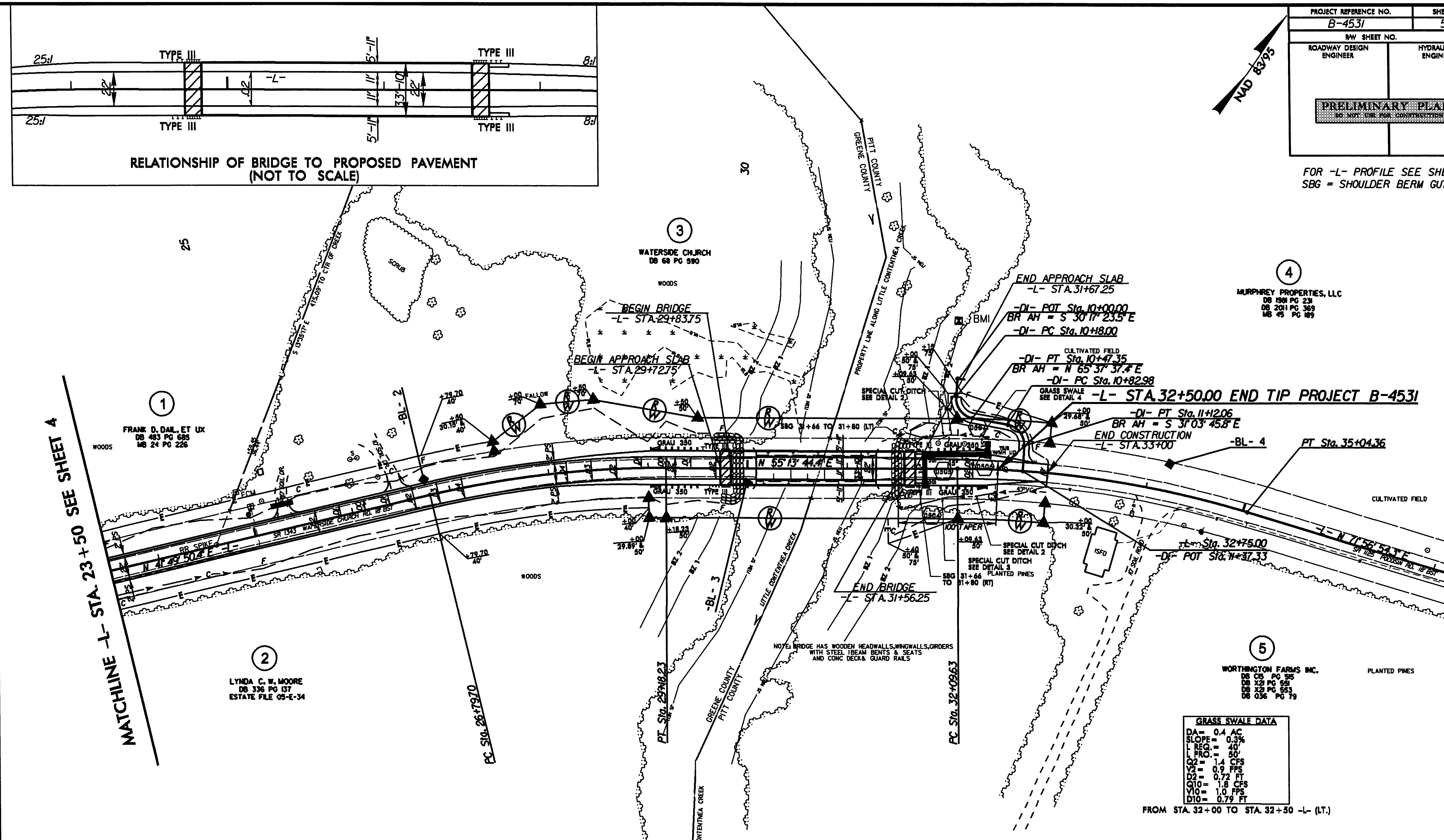
R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95

FOR -L- PROFILE SEE SHEET 6
SBG = SHOULDER BERM GUTTER

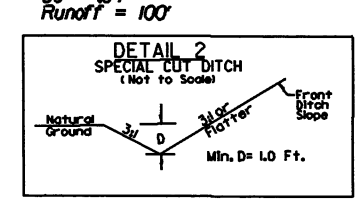


GRASS SWALE DATA

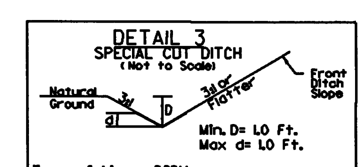
DA=	0.4 AC
SLOPE=	0.3%
L REQ.=	40'
L PRO.=	50'
Q2=	1.4 CFS
V2=	0.9 FPS
D2=	0.72 FT
Q10=	1.8 CFS
V10=	1.0 FPS
D10=	0.79 FT

FROM STA. 32+00 TO STA. 32+50 -L- (LT.)

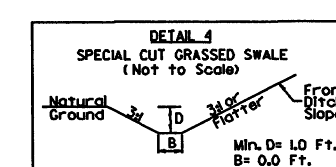
-L-	-L-	-DI-	-DI-
PI Sta 27+99.51	PI Sta 33+58.05	PI Sta 10+36.03	PI Sta 11+00.77
Δ = 13° 23' 54.0" (RT)	Δ = 16° 43' 09.9" (RT)	Δ = 84° 04' 59.1" (LT)	Δ = 83° 18' 36.8" (RT)
D = 5° 37' 02.0"	D = 5° 40' 22.3"	D = 286° 28' 44.0"	D = 286° 28' 44.0"
L = 238.52'	L = 294.73'	L = 29.35'	L = 29.08'
T = 119.81'	T = 148.42'	T = 18.03'	T = 17.79'
R = 1,020.00'	R = 1,010.00'	R = 20.00'	R = 20.00'
Se = .04			
Runoff = 100'			



FROM STA. 31+75 TO STA. 32+00 -L- (LT)
FROM STA. 32+00 TO STA. 32+75 -L- (RT)



FROM STA. 31+34 TO STA. 32+00 -L- (RT)
FROM STA. 31+34 TO STA. 31+75 -L- (LT)

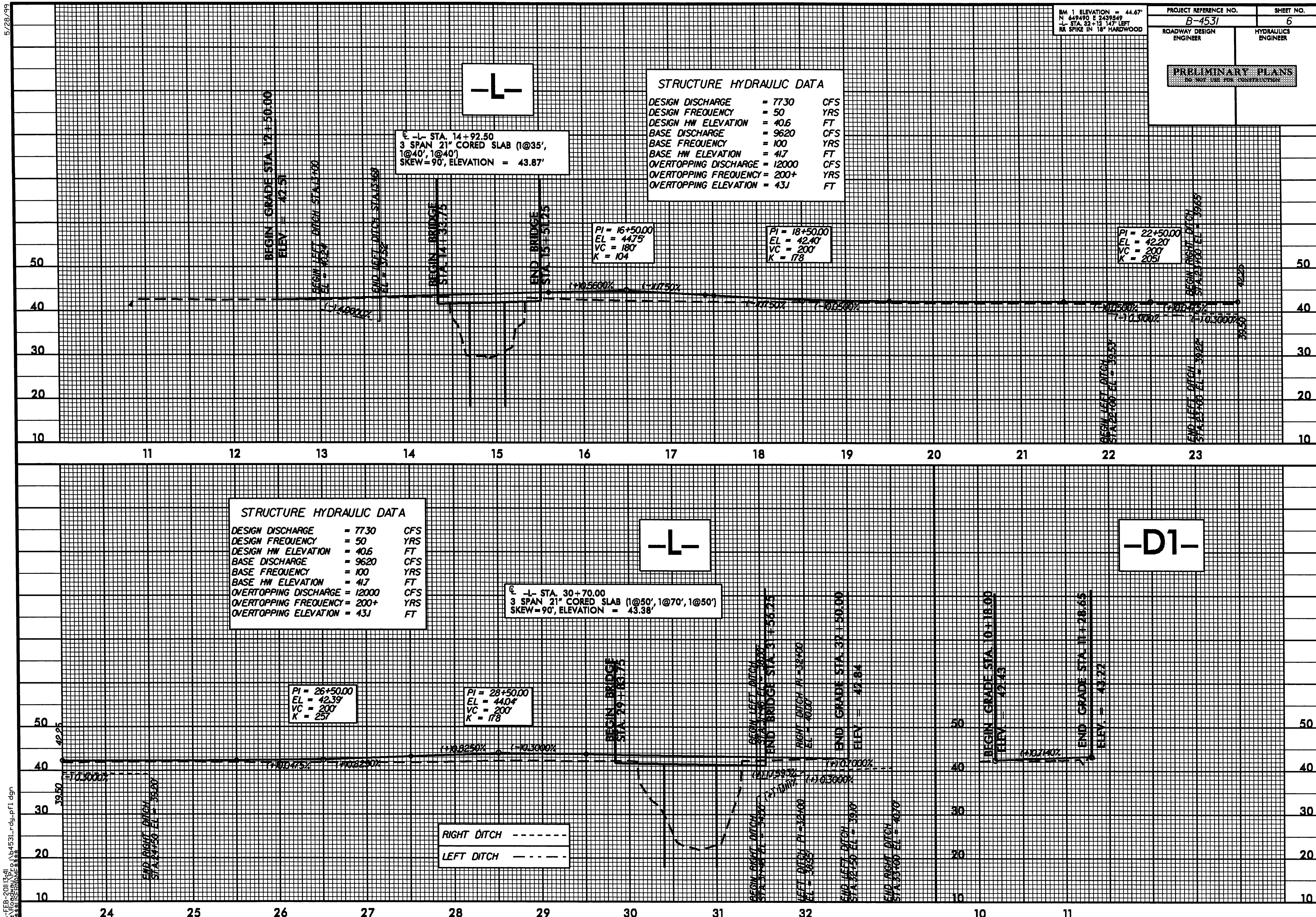


FROM STA. 32+00 TO STA. 32+50 -L- (LT)

REVISIONS

8/17/99

16-FEB-2011 13:41
R:\Roadway\Proj\b4531_rdy_psh.s05.dgn


BM 1 ELEVATION = 44.67'
N 649490 E 2439549
-L- STA. 32+12 147' LEFT
RR SPIKE IN 18" HARDWOOD
PROJECT REFERENCE NO.
B-4531
SHEET NO.
6
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
-L-
STRUCTURE HYDRAULIC DATA
DESIGN DISCHARGE = 7730 CFS
DESIGN FREQUENCY = 50 YRS
DESIGN HW ELEVATION = 40.6 FT
BASE DISCHARGE = 9620 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 41.7 FT
OVERTOPPING DISCHARGE = 12000 CFS
OVERTOPPING FREQUENCY = 200+ YRS
OVERTOPPING ELEVATION = 43.1 FT
℄ -L- STA. 14+92.50
3 SPAN 21" CORED SLAB (1@35', 1@40', 1@40')
SKEW=90°, ELEVATION = 43.87'
BEGIN GRADE STA. 12+50.00
ELEV = 42.51
BEGIN BRIDGE STA. 14+33.75
END BRIDGE STA. 15+51.25
PI = 16+50.00
EL = 44.75'
VC = 180'
K = 104
PI = 18+50.00
EL = 42.40'
VC = 200'
K = 178
PI = 22+50.00
EL = 42.20'
VC = 200'
K = 2051
(+)0.5600%
(-)1.1750%
(-)0.0500%
(+)0.0475%
(-)0.3000%
-L-
-D1-
℄ -L- STA. 30+70.00
3 SPAN 21" CORED SLAB (1@50', 1@70', 1@50')
SKEW=90°, ELEVATION = 43.38'
PI = 26+50.00
EL = 42.39'
VC = 200'
K = 257
PI = 28+50.00
EL = 44.04'
VC = 200'
K = 178
(+)0.8250%
(-)0.3000%
BEGIN BRIDGE STA. 29+83.75
END BRIDGE STA. 31+56.25
END GRADE STA. 32+50.00
ELEV = 42.84
BEGIN GRADE STA. 10+18.00
ELEV = 42.43
END GRADE STA. 11+28.65
ELEV = 43.22
RIGHT DITCH
LEFT DITCH
50
40
30
20
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
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31
32
10
11