



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

April 10, 2013

North Carolina Division of Water Quality
1650 Mail Service Center
Raleigh, NC 27699-1650

ATTN: Mr. David Wainwright
NCDOT Project Coordinator

SUBJECT: **Application for Jordan Lake Riparian Buffer Authorization, Section 401 Water Quality Certification and Notice of Use Nationwide Permit 13** for the proposed replacement of Bridge No. 108 over Terrell Creek on SR 1549 (Castle Rock Farm Road), Chatham County, Division 8., T.I.P. Project No. B-4730.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 108 over Terrell Creek on SR 1549 (Castle Rock Farm Road). There will be a total of 2,613 square feet of impact to the buffers. Of this, 893 square feet of impact due to the improvement and creations of ditches is mitigable. The remaining 1,720 square feet of buffer impact results from the bridge and road crossing. These impacts are considered allowable and no mitigation is proposed. There will be 15 linear feet of permanent stream impact to Terrell Creek due to bank stabilization at the outfall of a ditch. No mitigation is proposed for impacts to Terrell Creek.

Please see the enclosed copies of the Pre-Construction Notification (PCN), EEP acceptance letter, stormwater management plan, buffer permit drawings, stream and wetland permit drawings and roadway design plans for the subject project. A Programmatic Categorical Exclusion (PCE) was completed for this project in February 2012 and distributed shortly after completion. Additional copies are available upon request.

Due to minimal impacts, notification to the USACE is not required for the Nationwide Permit 13. Written concurrence from the USACE is not expected for this project.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6100
FAX: 919-212-5787
WEBSITE: WWW.NCDOT.GOV/

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

This project calls for a letting date of November 19, 2013 and a review date of October 1, 2013; however, the let date may advance as additional funding becomes available.

A copy of this notice will be posted on the NCDOT website at: <https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>. If you have any questions or need additional information, please contact Jason Dilday at either (919) 707-6111 or jldilday@ncdot.gov.

Sincerely,



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

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:	<input type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 13 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacement of Bridge 108 over Terrell Creek on SR 1549 (Castle Rock Farm Road)
2b. County:	Chatham
2c. Nearest municipality / town:	Siler City
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4730

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6111
3g. Fax no.:	(919) 212-5785
3h. Email address:	jldilday@ncdot.gov

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

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.815118 (DD.DDDDDD) Longitude: -79.289351 (-DD.DDDDDD)
1c. Property size:	1.8 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Terrell Creek
2b. Water Quality Classification of nearest receiving water:	WS-IV, NSW
2c. River basin:	Cape Fear
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: SR 1549 is a rural local route. Land use within the project vicinity consists primarily of agriculture and minor residential development.	
3b. List the total estimated acreage of all existing wetlands on the property: 0	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 500	
3d. Explain the purpose of the proposed project: To replace a functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a two span, 81-foot bridge with a single span, 95-foot bridge on the existing alignment with an off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

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

- 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 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
2g. Total wetland impacts					0 Permanent 0 Temporary

2h. Comments: There are no wetland impacts associated with this project.

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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank stabilization	Terrell Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	20	15
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts						15 If permanent

3i. Comments: Bank stabilization is at outfall of ditch.

4. Open Water Impacts

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

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
4f. Total open water impacts				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?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, permit ID no:
5i. Expected pond surface area (acres):			
5j. Size of pond watershed (acres):			
5k. Method of construction:			

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?		<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input checked="" type="checkbox"/> Other: Jordan	
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bridge Impact	Terrell Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	82	1183
B2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road Crossing Impact	Terrell Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	69	386
B3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Stormwater ditches	Terrell Creek	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	369	524
6h. Total buffer impacts				520	2093
6i. Comments:					

D. Impact Justification and Mitigation

1. Avoidance and Minimization

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

The proposed bridge is 14 feet longer than the existing bridge; the replacement bridge will be a single span, so no bents in the water; the proposed bridge will be at approximately the same grade and alignment as the existing structure; the new bridge will have no deck drains or direct discharge to Terrell Creek. The existing bridge will be removed without the need of workpads or other temporary structures in the water. 2:1 slopes will be utilized to limit impacts to the surrounding properties and buffers. An off-site detour will be used during construction.

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

NCDOT Best Management Practices for Bridge Demolition and Removal will be implemented during the removal of the existing bridge; Best Management Practices for the Protection of Surface Waters will be employed; Design Standards in Sensitive Watersheds will be employed.

2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?

Yes No
If no, explain

2b. If yes, mitigation is required by (check all that apply):

DWQ Corps

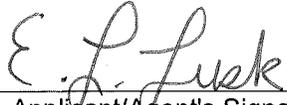
2c. If yes, which mitigation option will be used for this project?

Mitigation bank
 Payment to in-lieu fee program
 Permittee Responsible Mitigation

3. Complete if Using a Mitigation Bank				
3a. Name of Mitigation Bank: not applicable				
3b. Credits Purchased (attach receipt and letter)		Type	Quantity	
3c. Comments:				
4. Complete if Making a Payment to In-lieu Fee Program				
4a. Approval letter from in-lieu fee program is attached.		<input checked="" type="checkbox"/> Yes		
4b. Stream mitigation requested:		linear feet		
4c. If using stream mitigation, stream temperature:		<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold		
4d. Buffer mitigation requested (DWQ only):		1,893 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?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1	Stormwater ditches	369	3 (2 for Catawba)	1107
Zone 2	Stormwater ditches	524	1.5	786
6f. Total buffer mitigation required:				1893
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). Mitigation will be paid by use of NCEEP				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments: See attached permit drawings.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5b. Have all of the 401 Unit submittal requirements been met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.	
4. Sewage Disposal (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input checked="" type="checkbox"/> Raleigh	<input type="checkbox"/> Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? N.C. Natural Heritage Program database; USFWS-Raleigh Field Office website; biological surveys for protected species listed for Chatham County, which includes Cape Fear shiner, harperella and red-cockaded woodpecker. The species received a Biological Conclusions of "No Effect". It was determined that habitat for Cape Fear shiner and red-cockaded woodpecker does not exist in the study area. Habitat for harperella is found within the study area. A survey for the species on August 23, 2012 resulted in no specimens being found.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	4.10.13 Date



April 9, 2013

Mr. Gregory J. Thorpe, Ph.D.
Environmental Management Director
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

B-4730, Replace Bridge Number 108 over Terrell Creek on SR 1549, Chatham County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the buffer mitigation for the subject project. Based on the information supplied by you on March 19, 2013, the buffer impacts are located in CU 03030002 of the Cape Fear River basin (Haw Arm) in the Central Piedmont (CP) Eco-Region and are as follows:

Buffer	River Basin	CU Location	Eco-Region	Buffer Impacts (in square feet)		
				Zone 1	Zone 2	TOTAL
Impacts	Cape Fear – Haw Arm	03030002	CP	369.0	524.0	893.0

This mitigation acceptance letter replaces the mitigation acceptance letter issued on March 19, 2013. All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWQ's Buffer Authorization Certification, EEP will transfer funds from the NCDOT 2984 Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for TIP number B-4730. Subsequently, EEP will conduct a review of current NCDOT ILF Program mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from NCDOT ILF Program.

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

Sincerely,

James B. Stanfill
EEP Asset Manager Supervisor

Cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office
Ms. Amy Chapman, NC Division of Water Quality
File: B-4730 Revised

Restoring... Enhancing... Protecting Our State





General Project Information

Project No.:	B-4730	Project Type:	Bridge Replacement	Date:	12/16/2012
NCDOT Contact:	Marshall Clawson, PE	Contractor / Designer:	Sungate Design Group, P.A. (Brian Elam, PE)		
Address:	NCDOT Century Center 1000 Birch Ridge Dr. Raleigh, NC 27610	Address:	915 Jones Franklin Road Raleigh, NC 207606		
Phone:	919-707-6748	Phone:	919-859-2243		
Email:	mclawson@ncdot.gov	Email:	belam@sungatedesign.com		
City/Town:	Pittsboro	County(ies):	Chatham		
River Basin(s):	Cape Fear	CAMA County?	No		
Primary Receiving Water:	Terrells Creek	NCDWQ Stream Index No.:	16-31-(2.5)		
NCDWQ Surface Water Classification for Primary Receiving Water	Primary: Supplemental:	Water Supply IV (WS-IV)			
Other Stream Classification:		Nutrient Sensitive Waters (NSW)			
303(d) Impairments:	biological impairment				
Buffer Rules in Effect	Jordan Lake				

Project Description

Project Length (lin. Miles or feet):	0.12	Surrounding Land Use:	Rural, Agriculture
Project Built-Upon Area (ac.)	0.32	Proposed Project	Existing Site
Typical Cross Section Description:	Normal Crown 10' lanes with shoulder section		0.25 ac.
Average Daily Traffic (veh/hr/day):	Design/Future: 576		Existing: 336
General Project Narrative:	The project consists of removing and replacing existing Chatham County bridge #108 and improvements to the approaches. No deck drains will be used on the proposed bridge and storm water collected from the bridge will be discharged outside of buffer zone two. Further, 2:1 slopes have been utilized to limit impacts to the surrounding properties and buffers.		

09/28/13

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4730	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38503.1.1	BRZ-1549(6)	PE	
38503.2.1	BRZ-1549(6)	RW, UTIL	

CHATHAM COUNTY

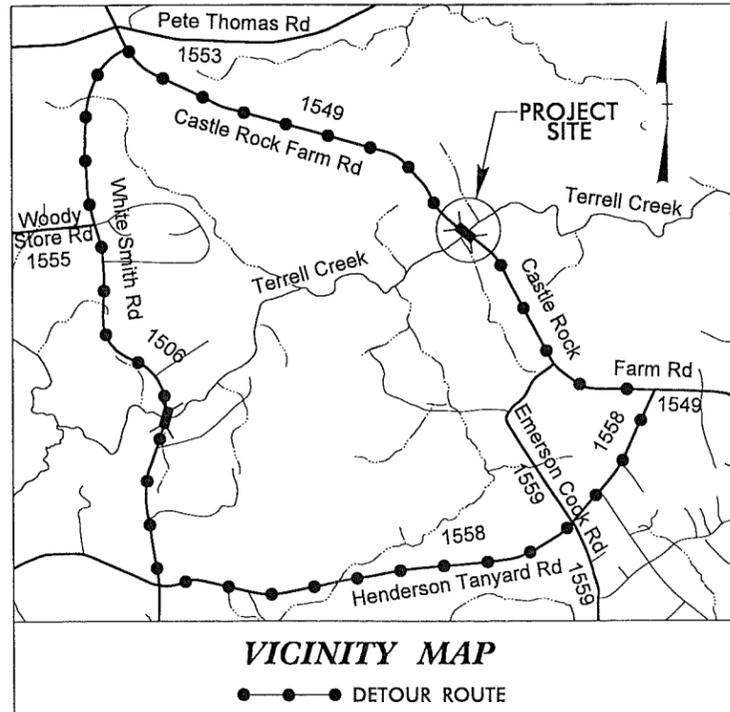
Buffer Drawing Sheet 1 of 3

LOCATION: BRIDGE NO. 108 OVER TERRELL CREEK ON SR 1549

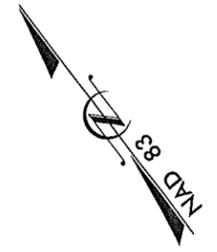
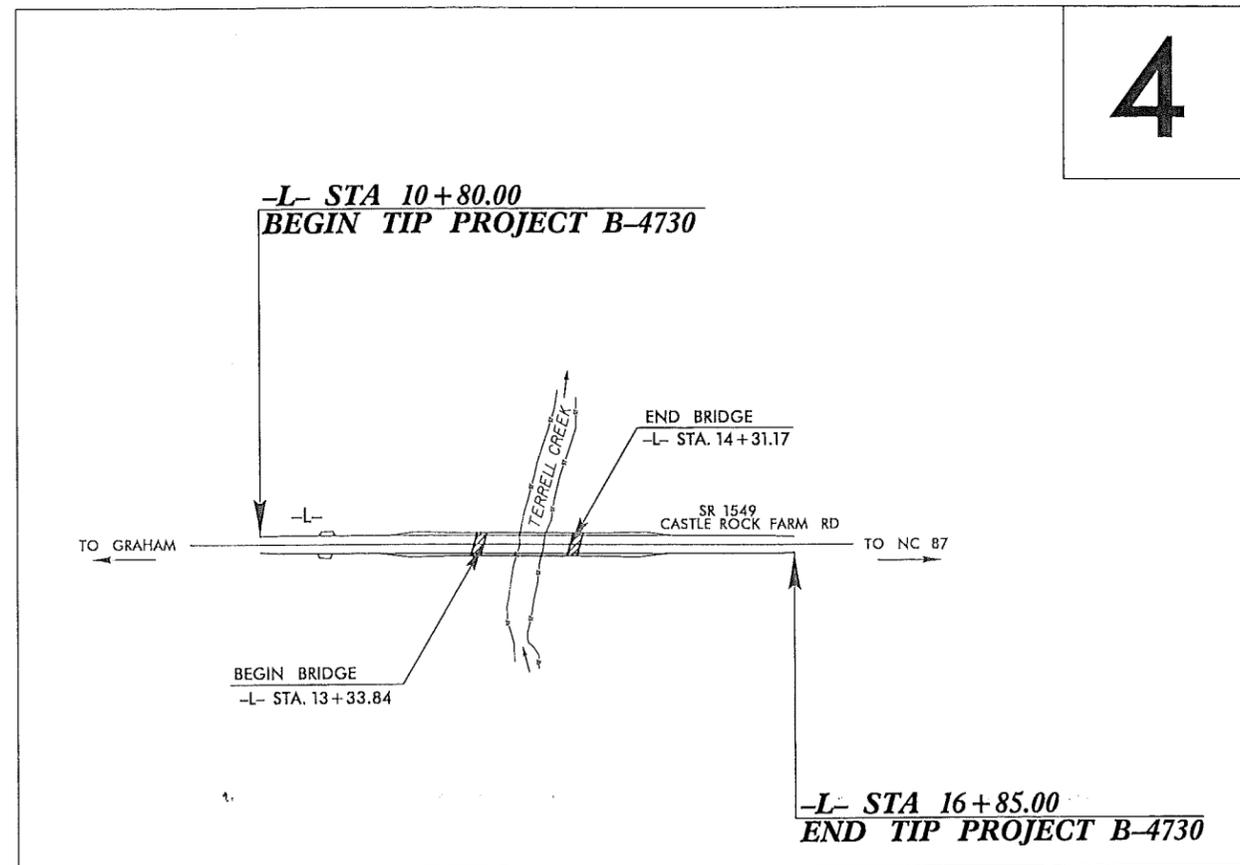
BUFFER IMPACTS PERMIT

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

CONTRACT: TIP PROJECT: B-4730



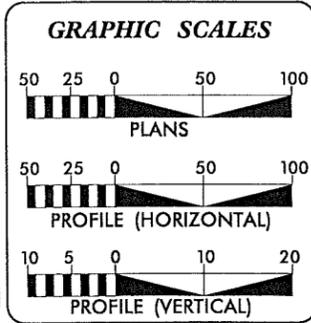
RW PLANS



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2013 =	336
ADT 2033 =	576
DHV =	9 %
D =	65 %
T =	4 % *
V =	60 MPH
* (TTST = 1% + DUAL 3%)	
FUNC CLASS =	RURAL LOCAL
SUBREGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4730	=	0.097 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4730	=	0.018 MILES
TOTAL LENGTH OF TIP PROJECT B-4730	=	0.115 MILES

PARSONS
RALEIGH, NORTH CAROLINA

Prepared for the North Carolina Department of Transportation in the office of:

3540 Centerville Drive
Suite 217
Raleigh, NC 27606
License No. P-0246
Phone 919-851-1545
Fax 919-851-2033

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	OCTOBER 25, 2012
LETTING DATE:	OCTOBER 15, 2013
NCDOT CONTACT:	BRENDA L. MOORE, PE ROADWAY DESIGN, ENGINEERING COORDINATION SECTION ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



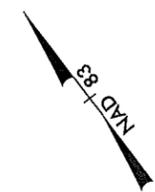
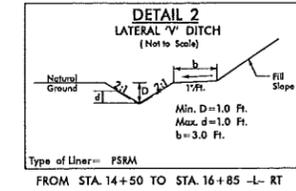
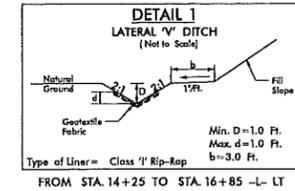
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\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

B/17/99

PLANS PREPARED BY:
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO. B-4730	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

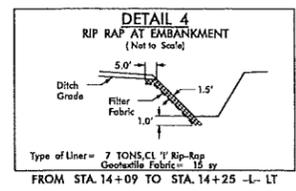
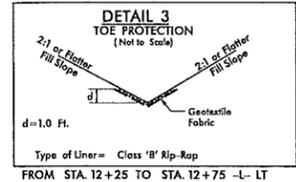
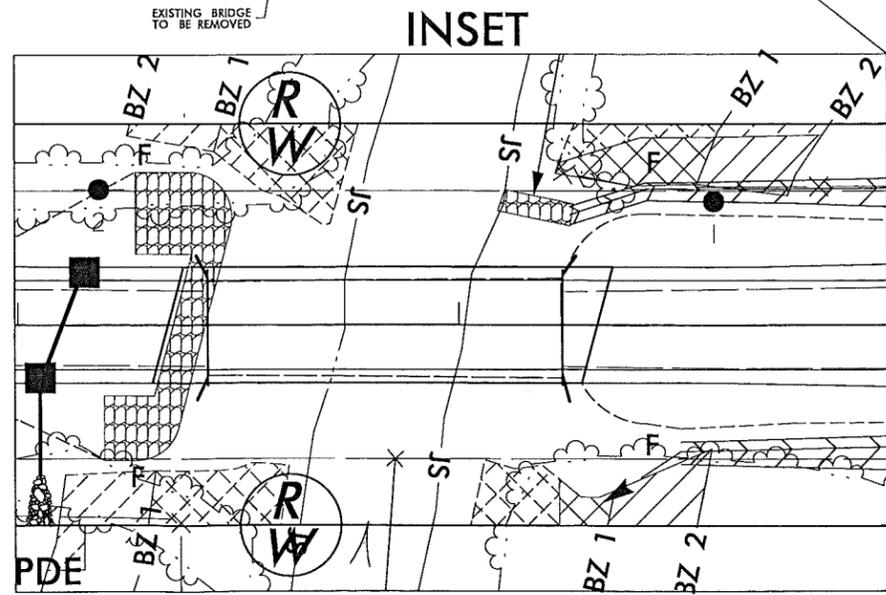
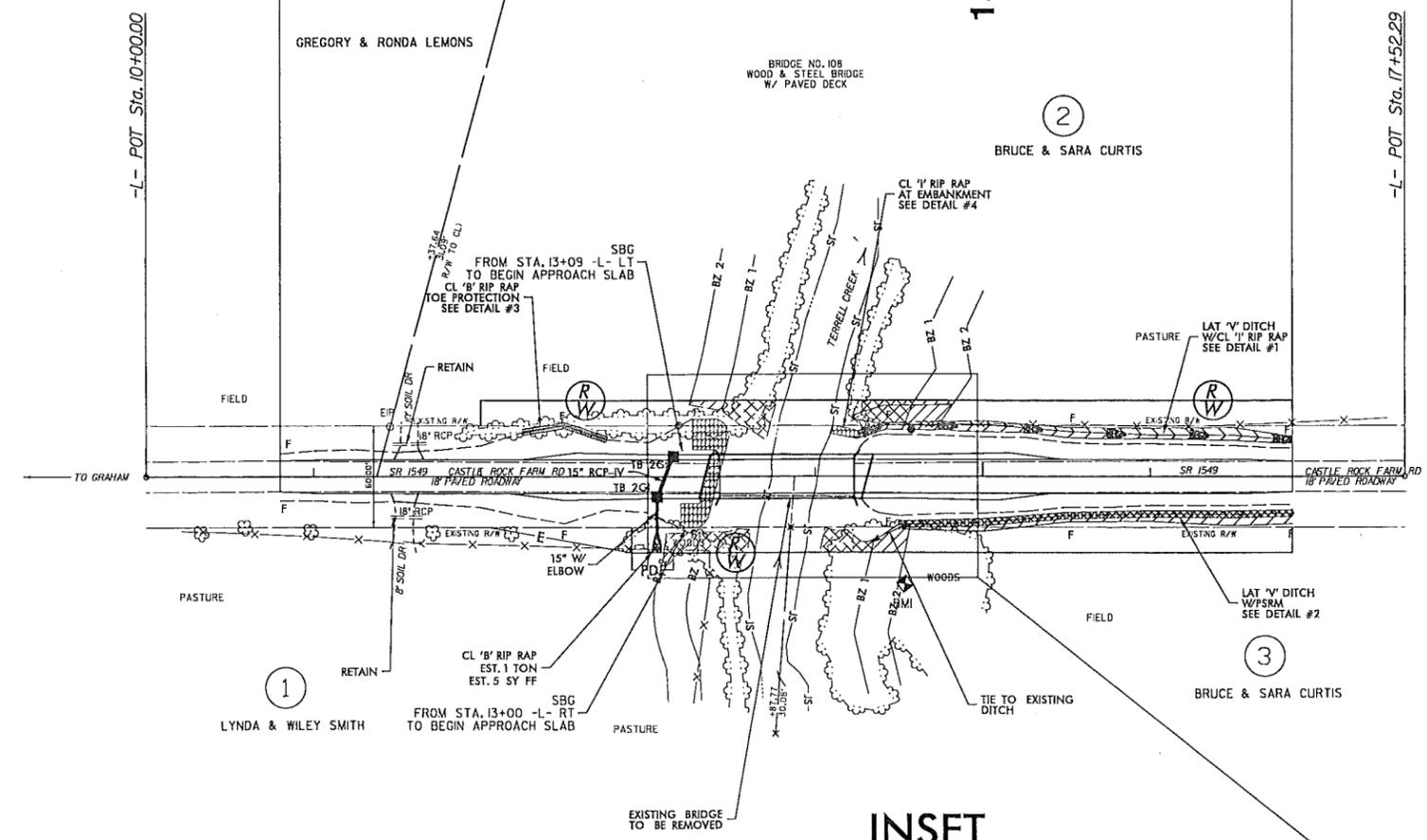
-  ALLOWABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACTS ZONE 2
-  MITIGABLE IMPACTS ZONE 1
-  MITIGABLE IMPACTS ZONE 2



BEGIN TIP PROJECT B-4730
-L- POT STA 10+80.00

END TIP PROJECT B-4730
-L- POT STA 16+85.00

Buffer Drawing
Sheet **2** of **3**



FOR -L- PROFILE SEE SHEET 5
FOR STRUCTURE PLANS SEE SHEETS S-? THROUGH S-?

66
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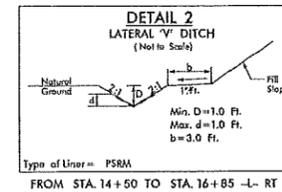
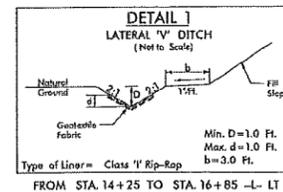
8/17/99

3/2/2013 8:47:30 Hyd.prm_wet_psh_04_stream.dgn

PLANS PREPARED BY:
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO. B-4730	SHEET NO. 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	

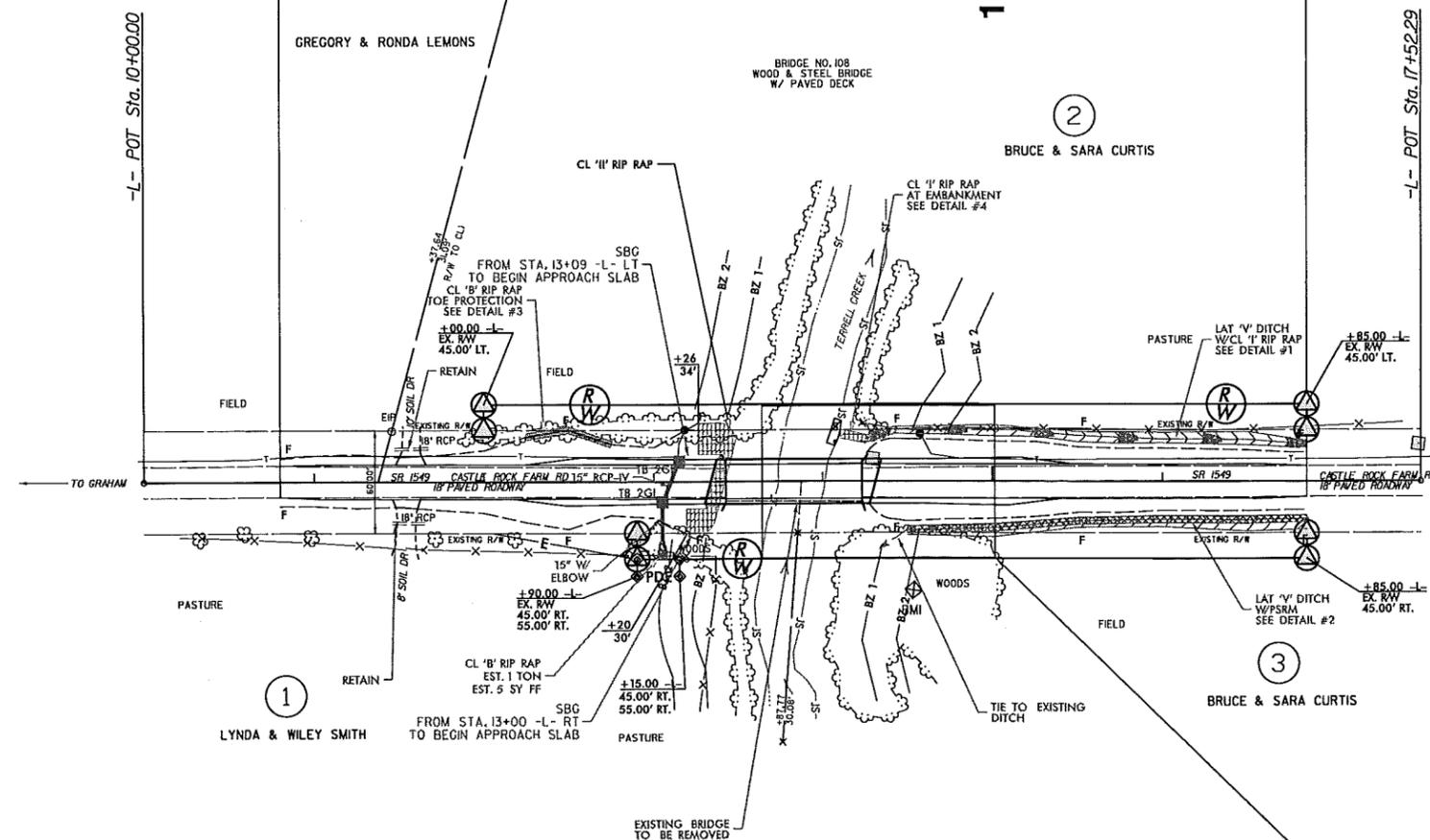
 DENOTES IMPACTS IN SURFACE WATER



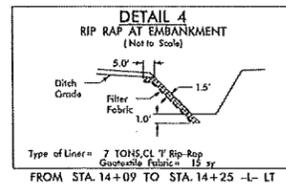
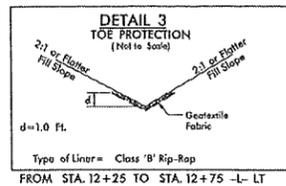
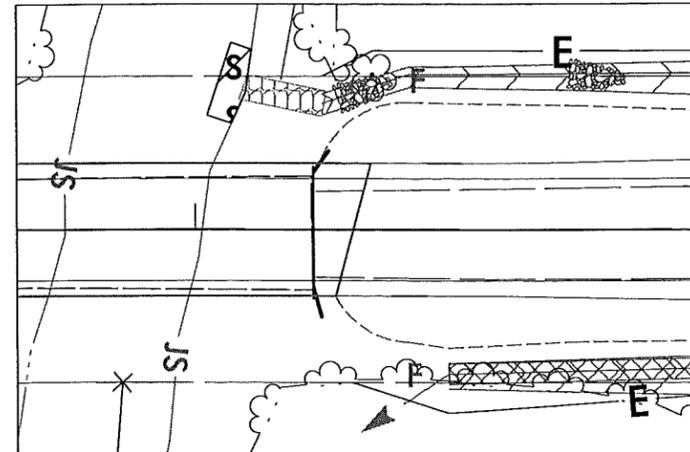
BEGIN TIP PROJECT B-4730
-L- POT STA 10+80.00

END TIP PROJECT B-4730
-L- POT STA 16+85.00

Permit Drawing
Sheet 2 of 5



BLOWUP



FOR -L- PROFILE SEE SHEET 5
FOR STRUCTURE PLANS SEE SHEETS S-? THROUGH S-?

84/18/11

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	⊙
Property Corner	-----
Property Monument	⊞
Parcel/Sequence Number	Ⓣ
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	W.B.
Proposed Wetland Boundary	W.B.
Existing Endangered Animal Boundary	E.A.B.
Existing Endangered Plant Boundary	E.P.B.
Known Soil Contamination: Area or Site	☒ ☠
Potential Soil Contamination: Area or Site	☒ ☠

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊙
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	W.B.
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 R/W Marker	⊙
Proposed Control of Access Line with Concrete C/A Marker	⊙
Existing Control of Access	⊙
Proposed Control of Access	⊙
Existing Easement Line	E
Proposed Temporary Construction Easement	E
Proposed Temporary Drainage Easement	TDE
Proposed Permanent Drainage Easement	PDE
Proposed Permanent Drainage / Utility Easement	DUE
Proposed Permanent Utility Easement	PUE
Proposed Temporary Utility Easement	TUE
Proposed Aerial Utility Easement	AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	⊙

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊙
Pavement Removal	⊞
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	⊙
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	A/G Water

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	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	SS
Designated SS Forced Main Line (S.U.E.*)	SS

MISCELLANEOUS:

Utility Pole	⊙
Utility Pole with Base	⊞
Utility Located Object	⊙
Utility Traffic Signal Box	⊞
Utility Unknown U/G Line	U/L
U/G Tank; Water, Gas, Oil	⊞
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	⊞
Geoenvironmental Boring	⊙
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

6/2/99

25-OCT-2010 DB:40
R:\PROJECTS\104730\104730-10.dgn
10/25/2010 10:40:00 AM

SURVEY CONTROL SHEET B-4730

PROJECT REFERENCE NO. B-4730	SHEET NO. 1C
Location and Surveys	

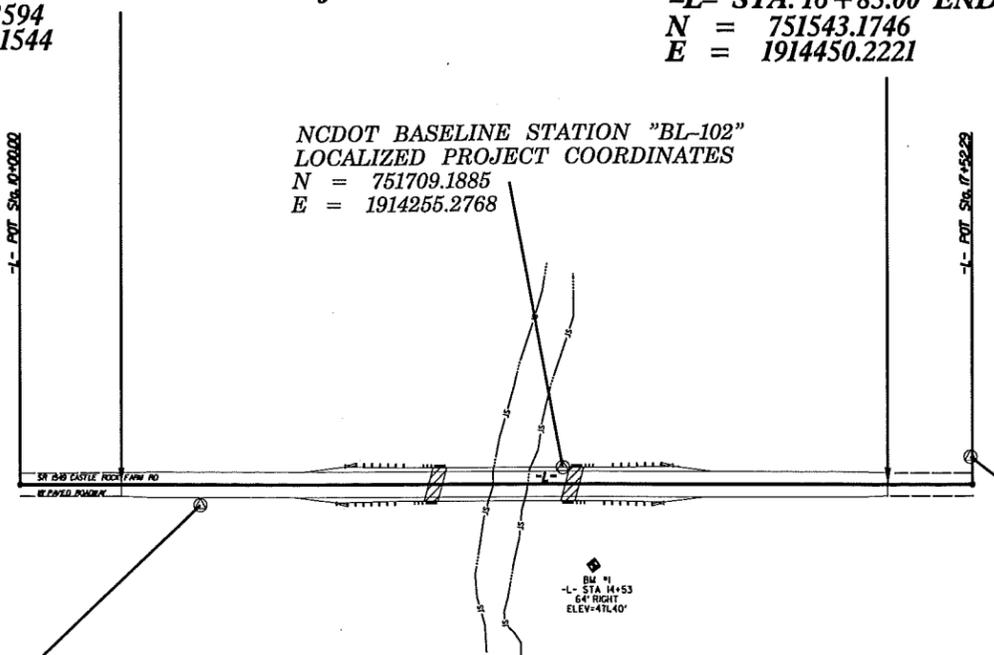
LOCALIZED PROJECT COORDINATES
 -L- STA. 10+80.00 BEGIN TIP PROJECT B-4730
 N = 751911.3594
 E = 1913970.1544

LOCALIZED PROJECT COORDINATES
 -L- STA. 16+85.00 END TIP PROJECT B-4730
 N = 751543.1746
 E = 1914450.2221

NCDOT BASELINE STATION "BL-102"
 LOCALIZED PROJECT COORDINATES
 N = 751709.1885
 E = 1914255.2768

NCDOT BASELINE STATION "BL-103"
 LOCALIZED PROJECT COORDINATES
 N = 751520.2604
 E = 1914515.5847

NCDOT GPS STATION "B4730-1"
 LOCALIZED PROJECT COORDINATES
 N = 751860.9860
 E = 1914009.9420



NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/ODOHPRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/odohpreconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4730_IS_CONTROL.TXT
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCS FOR MONUMENT "B4730-1" WITH NAD 83/CDRS96 STATE PLANE GRID COORDINATES OF NORTHING: 751860.9861 FT; EASTING: 1914009.9421 FT; ELEVATION: 472.1451 FT. THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999311. THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4730-1" TO -L- STATION 10+80.00 IS N 30° 18' 32.65" W 64.19'. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES. VERTICAL DATUM USED IS NAVD 88.

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4730-1	751860.9860	1914009.9420	472.14	11+42.23	15.76 RT
102	BL-102	751709.1885	1914255.2768	472.28	14+29.20	13.89 LT
103	BL-103	751520.2604	1914515.5847	481.87	17+58.01	21.58 LT

.....
 BM1 ELEVATION = 471.48
 N 751824 E 1914228
 L STATION 14+54.08 64 RIGHT

NOTE: DRAWING NOT TO SCALE

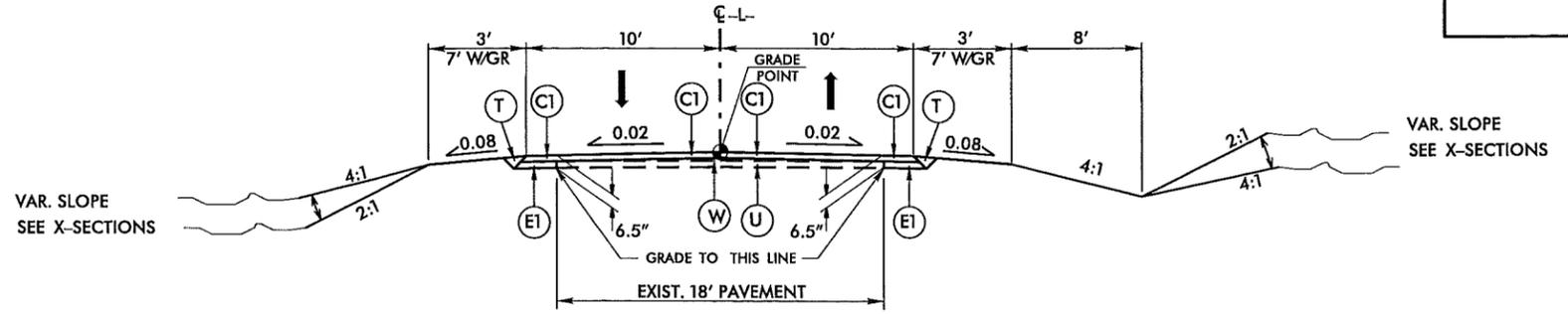
6/22/99

PAVEMENT SCHEDULE FINAL DESIGN	
C1	PROP. APPROX. 2 1/2" 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 1/2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL THIS SHEET.)

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

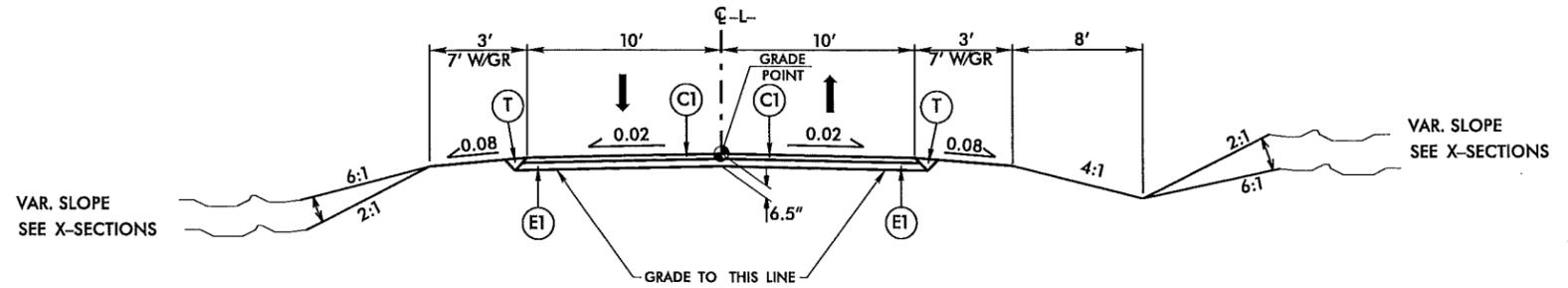
PLANS PREPARED BY:
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO. B-4730	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



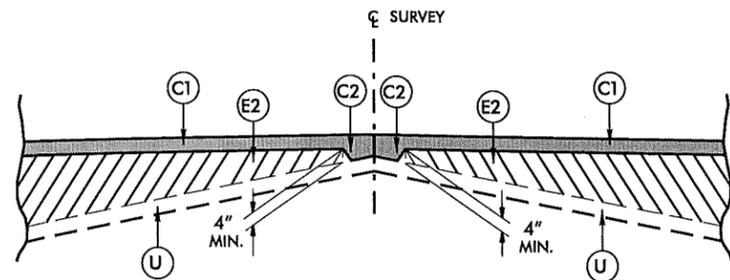
ROADWAY TYPICAL SECTION NO. 1

-L- STA. 10+80.00 TO STA. 12+00.00
-L- STA. 16+00.00 TO STA. 16+85.00
NOTE - PAVE TO THE FACE OF GUARDRAIL

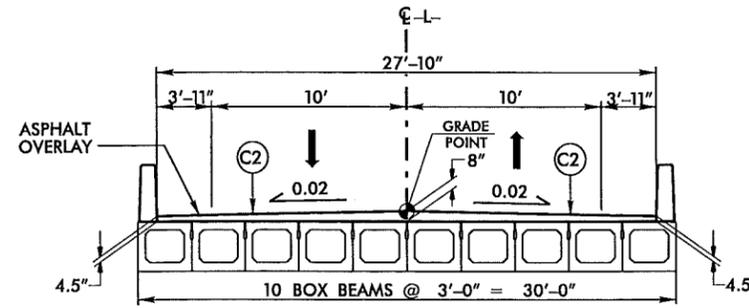


ROADWAY TYPICAL SECTION NO. 2

-L- STA. 12+00.00 TO STA. 13+33.84 (BEGIN BRIDGE)
-L- STA. 14+31.17 (END BRIDGE) TO STA. 16+00.00
NOTE - PAVE TO THE FACE OF GUARDRAIL



Detail Showing Method of Wedging



TYPICAL SECTION ON STRUCTURE

-L- STA. 13+33.84 (BEGIN BRIDGE) TO 14+31.17 (END BRIDGE)

25-OCT-2012 08:40
R:\Roadway\Projects\B-4730.Rd\tyip.dgn

5/14/09

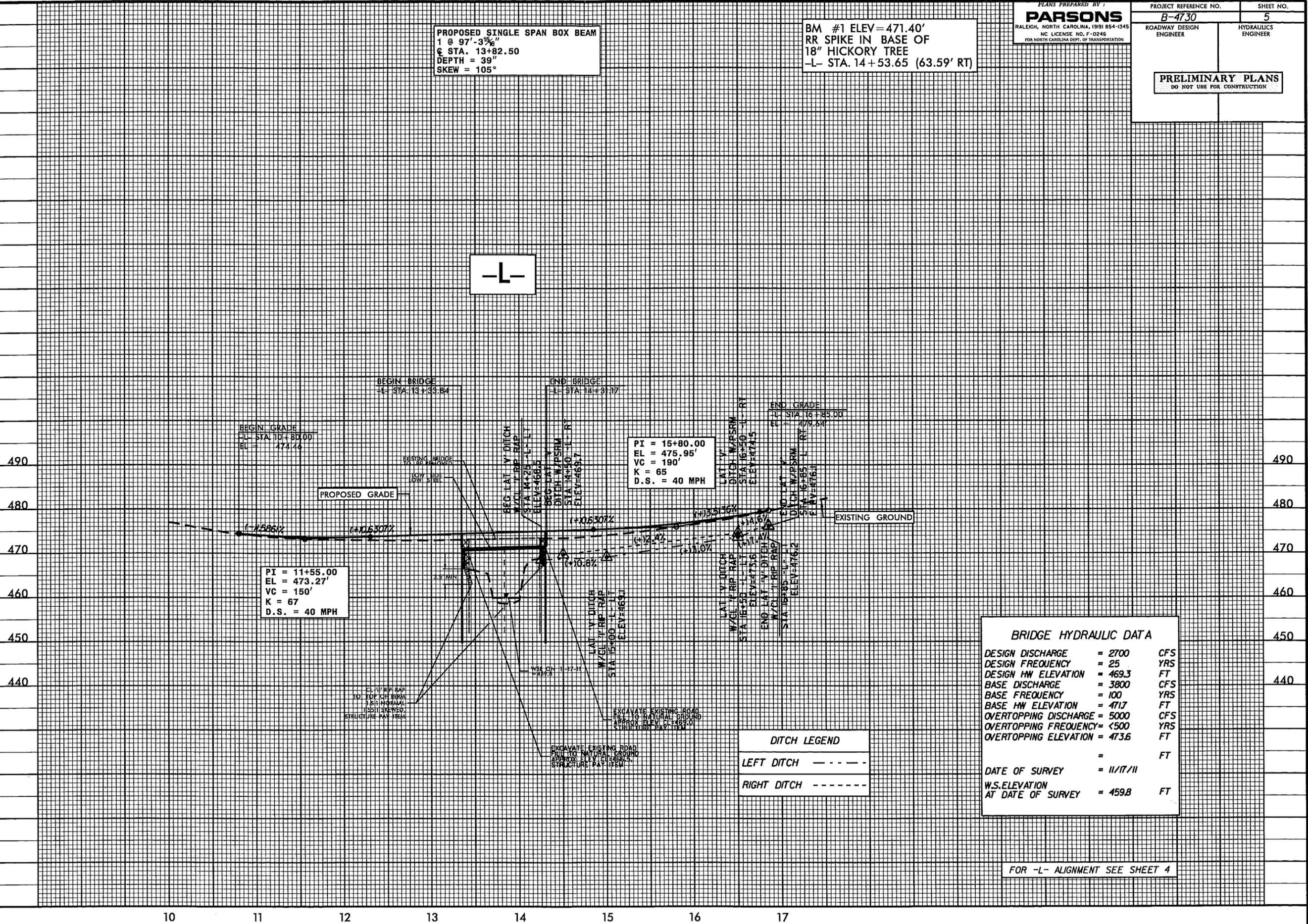
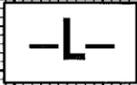
25-OCT-2012 08:41 B-4730.Rdy.psh.05.dgn
\$\$\$\$
\$\$\$\$

PROPOSED SINGLE SPAN BOX BEAM
1 @ 97'-3 1/2"
C STA. 13+82.50
DEPTH = 39"
SKEW = 105°

BM #1 ELEV = 471.40'
RR SPIKE IN BASE OF
18" HICKORY TREE
-L- STA. 14+53.65 (63.59' RT)

PLANS PREPARED BY:
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO. B-4730	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



PI = 11+55.00
EL = 473.27'
VC = 150'
K = 67
D.S. = 40 MPH

PI = 15+80.00
EL = 475.95'
VC = 190'
K = 65
D.S. = 40 MPH

BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= 2700	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 469.3	FT
BASE DISCHARGE	= 3800	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 471.7	FT
OVERTOPPING DISCHARGE	= 5000	CFS
OVERTOPPING FREQUENCY	= <500	YRS
OVERTOPPING ELEVATION	= 473.6	FT
	=	FT
DATE OF SURVEY	= 11/17/11	
W.S. ELEVATION AT DATE OF SURVEY	= 459.8	FT

DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----

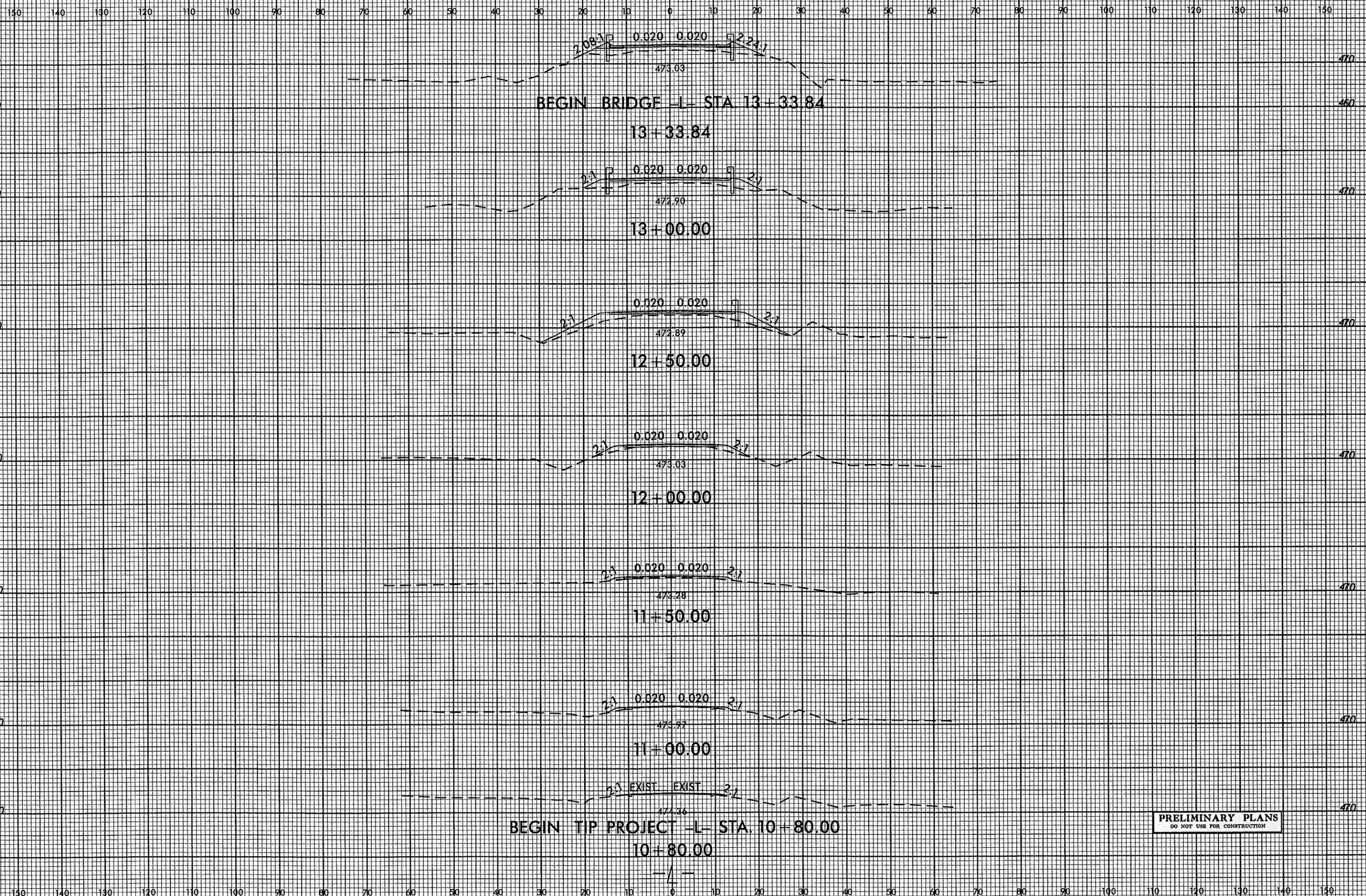
FOR -L- ALIGNMENT SEE SHEET 4

10 11 12 13 14 15 16 17

B/23/99



PROJ. REFERENCE NO. B-4730 SHEET NO. X-1



BEGIN BRIDGE -L- STA 13 - 33.84

13+33.84

13+00.00

12+50.00

12+00.00

11+50.00

11+00.00

BEGIN TIP PROJECT -L- STA 10+80.00

10+80.00

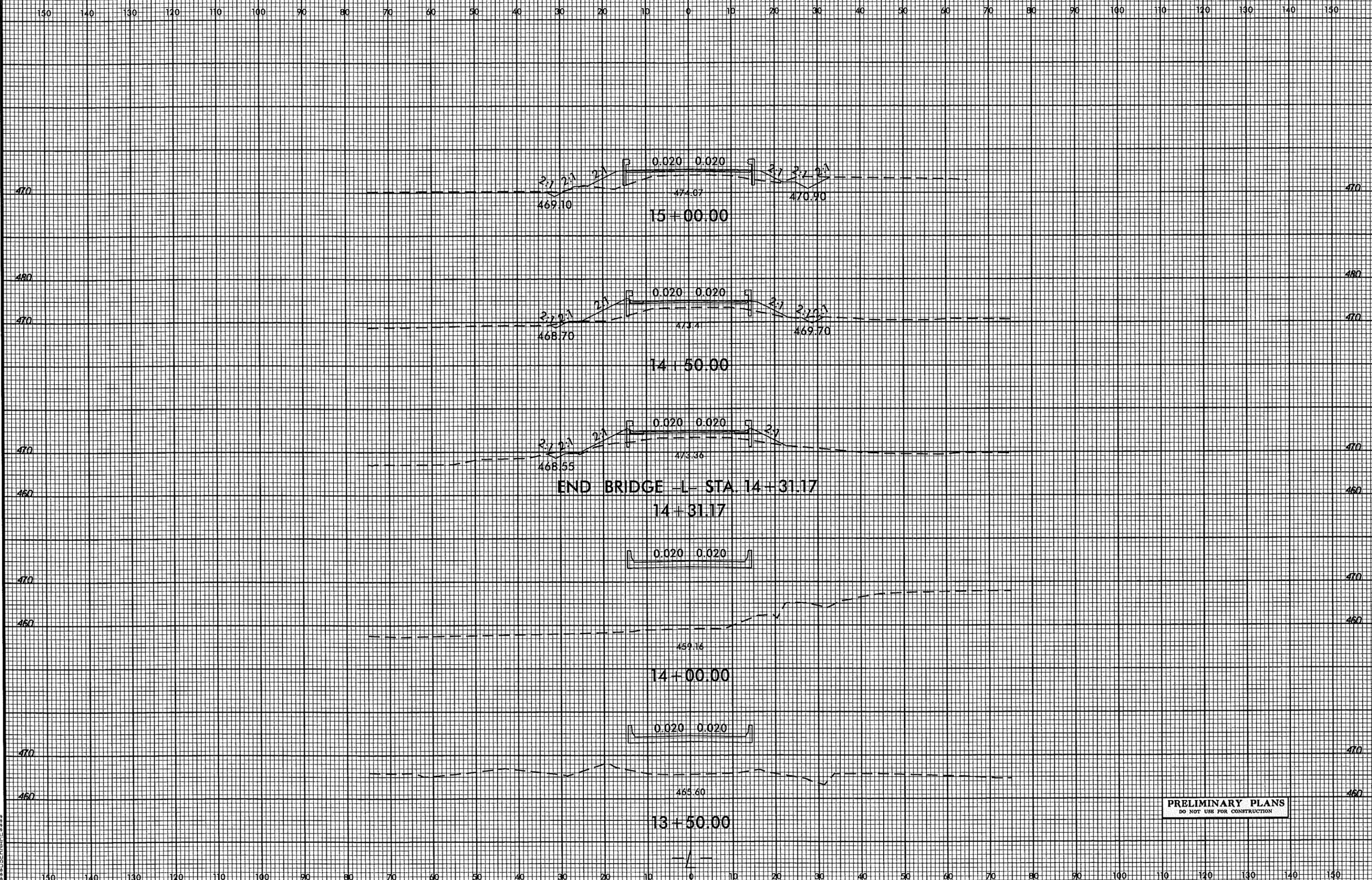
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

25-OCT-2012 08:47:33 B-4730-Roadway-33.dgn

8/23/99



PROJ. REFERENCE NO. B-4730 SHEET NO. X-2



END BRIDGE - L - STA. 14+31.17

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

25-OCT-2010 08:49:13 B-4730-Rdy-1.dgn

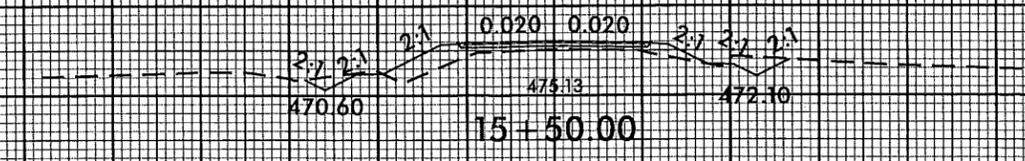
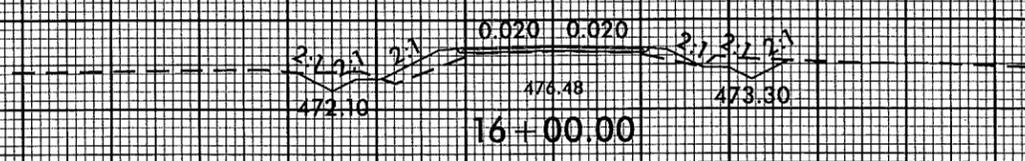
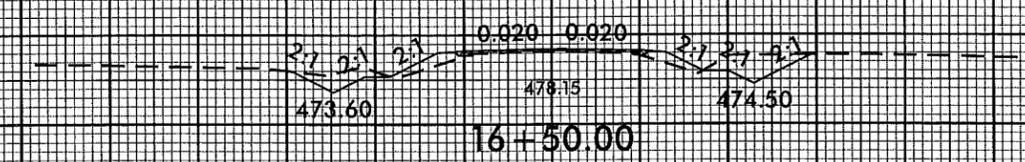
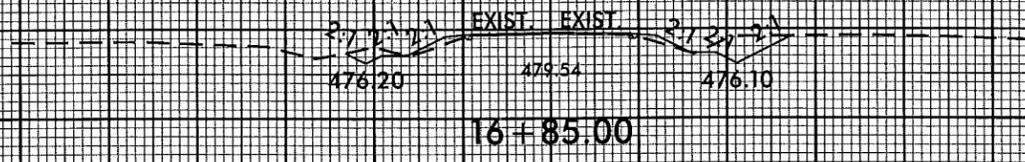
8/23/99



PROJ. REFERENCE NO. B-4730 SHEET NO. X-3

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

END TIP PROJECT -L- STA. 16+85.00



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

25 OCT 2002 08:42
S:\36555\36555\4730_RdL_xpl.dgn

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150